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Forest Statistics for New Jersey--1987

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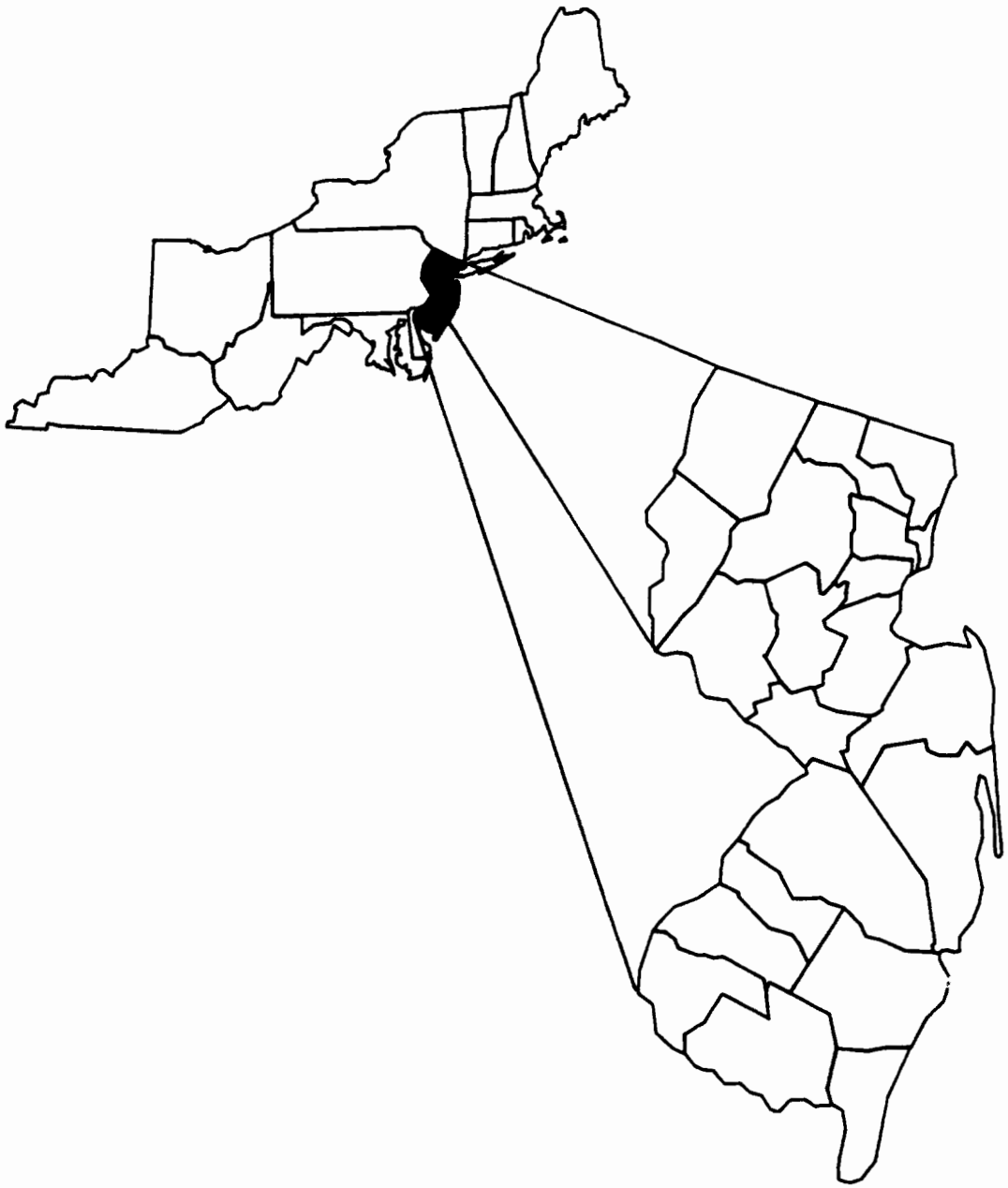

ABSTRACT

A statistical report on the third forest survey of New Jersey conducted in 1986-1987 by the Forest Inventory and Analysis Unit, Northeastern Forest Experiment Station. Statistics for forest area, numbers of trees, timber volume, tree biomass, average annual growth, and timber products output are displayed at the state, and when appropriate county levels. The current inventory indicates that the state has approximately 2.3 billion cubic feet of growing-stock volume, or 127.8 million tons of net green weight of live trees, on 1.9 million acres of timberland.

FOREWORD

The third inventory of New Jersey was under the overall direction of John R. Peters, Project Leader of the Forest Inventory and Analysis Unit. Charles T. Scott was responsible for the design of the inventory, sample selection, and administered the survey process. David J. Alerich supervised the interpretation of aerial photos and training of field crews. He was assisted by Douglas M. Griffith and Joseph G. Reddan. Members of the field staff were:

Randy Bauman
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Dawn M. DiGiovanni applied FINSYS (Forest INventory SYStem), a generalized data processing system, to the specific needs of the New Jersey inventory and produced summary tables for the state and counties. Rosemary K. Venit rewrote parts of the FINSYS table generating routine.

Robert L. Nevel, Jr., Richard H. Widmann, and Eric H. Wharton, with the assistance of the New Jersey Department of Environmental Protection, Division of Parks and Forestry, collected and compiled the data on timber products output and timber removals.

Carmela Hyland performed administrative and secretarial services. Dorelle Smith typed the text for this report.

The Forest Inventory and Analysis Unit thanks the landowners of New Jersey for their cooperation and assistance during this inventory.

Forest Statistics for New Jersey--1987

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Highlights

Forest Area

* New Jersey, with 2.007 million acres of forest land, is 42 percent forested.

* Ninety-three percent of New Jersey's forest land, 1.864 million acres, is classified as timberland (formerly known as commercial forest land).

* Oak/hickory is the dominant forest-type group occupying 47 percent of the timberland and accounting for 58 percent of the growing-stock volume.

* Seventy-five percent of New Jersey's timberland is privately owned.

Wildlife Habitat

* Tree mast in New Jersey is essentially an acorn resource.

* Red maple is the most common live tree species having observed cavities.

* Blueberries (*Vaccinium* spp.) are the most common understory woody-stemmed species.

Biomass

* The net green weight of all live trees on timberland is 127.8 million tons or 68.5 tons per acre. Softwoods account for 31.6 million tons or 16.9 tons per acre; hardwoods account for 96.2 million tons or 51.6 tons per acre.

* Seventy-six million tons, or 59 percent of the net green weight of all live trees, is in growing-stock material. Of the remaining 51.8 million tons of all-live-tree weight, 54 percent is in growing-stock tops, 39 percent in saplings, and 7 percent in cull trees.

* An additional 2.7 million tons of biomass is contained in salvable dead trees.

Timber Volume

* Growing stock volume is 2.3 billion cubic feet, an average of 1,242 cubic feet per acre.

* Sawtimber volume is 5.6 billion board feet, an average of 2,989 board feet per acre.

* Red maple is the top hardwood species with 266 million cubic feet or 12 percent of growing stock volume.

* Pitch pine is the top softwood species, with 323 million cubic feet or 14 percent of growing stock volume.

* Sawtimber stands contain just over 63 percent of the growing-stock volume.

* Average annual net growth of growing-stock volume is 2.2 percent of the inventory.

Introduction

Under the authority of the McSweeny-McNary Forest Research Act of 1928 and subsequent acts, including the Renewable Resources Planning Act of 1974 and the Renewable Resources Research Act of 1978, the USDA Forest Service conducts periodic forest inventories of all states to provide up-to-date information on the forest resource of the Nation. The initial inventory of New Jersey's resources was conducted in 1955. The second inventory was completed in 1971. This report presents the forest resource data from the third inventory completed in 1987. This inventory involved a cooperative effort of the New Jersey Department of Environmental Protection, Division of Parks and Forestry; Cook College of Rutgers University; the USDA Soil Conservation Service; and the Northeastern Forest Experiment Station.

The Forest Inventory and Analysis Unit of the Northeastern Forest Experiment Station supervised the inventory on all forest land, developed the resource tables, and prepared this report. Employees of Cook College, Rutgers University collected the field data.

The sampling procedure utilized aerial photography, the remeasurement of a sample of the ground plots established in the earlier inventories, and establishment of new ground plots. This required classification of 14,095 new points into land-use and cubic-foot volume classes on aerial photographs. Each photo-interpretation point was compared to the aerial photographs from the 1971 inventory and assigned to a change class based on harvesting or land-use changes (Scott 1986). A subsample of 341 (124 forest and 217 nonforest) new ground plot locations was chosen from the new photo points, and a subsample of 300 (126 forest and 174 nonforest) plots from earlier inventories was chosen for remeasurement. Thus, 641 plots were measured, an average of one plot for every 7,456 acres. The data collected were summarized using the FINSYS computer system developed at the Northeastern Forest Experiment Station.

The reinventory of New Jersey's forest resources required several associated studies and considerable analysis. Reports on the State's private forest-land owners and its primary forest products industry are being prepared.

The forest area, numbers of trees, timber volume, biomass, and growth statistics in this report are only a summary of the information collected. Other information or additional summaries may be developed. **For information about these, contact the Forest Inventory and Analysis Unit, USDA Forest Service, 370 Reed Road, Broomall, PA 19008 (phone 215-690-3037).**

The four eastern Forest Experiment Stations have agreed to include a set of 25 core tables in each of their state resource bulletins. The format of any one of these tables will be identical for all 37 states in the Stations' territories. Rather than being grouped as a set, core tables are interspersed throughout this publication according to their level of data and content. A list of the core table numbers and their corresponding numbers as presented in this publication follows the index of tables.

Reliability of the Estimates

The data in this report were based on a carefully designed sample of forest conditions throughout New Jersey. However, because the field crews did not measure every tree or every acre in the state, the data are estimates. The reliability of the estimating procedure can be judged by two important statistical measures: accuracy and precision. Among statisticians, accuracy refers to the success of estimating the true value, precision refers to the clustering of sample values about their own averages or to the variation among repeated samples. We are primarily interested in the accuracy of the inventory, but in most cases we can only estimate its precision.

Although accuracy cannot be measured exactly, it can be checked. Preliminary tables are sent to other agencies and to outside experts familiar with the resources of New Jersey. If questions arise, the data are reviewed and reanalyzed to resolve the differences. Also, great care is taken to keep sources of procedural error to a minimum by careful training of both field and office personnel, frequent inspection of field and office work, and application of the most reliable inventory methods.

Because of the care exercised in the inventory process, estimates of precision afford a reasonable measure of the inventory's adequacy. The precision of each estimate is described by its sampling error. Sampling errors are given for most of the table subtotals in this report. The others are available upon request.

Briefly, here is an example of how the sampling error is used to indicate reliability: The estimate of timberland for New Jersey is 1,864,300 acres. Its sampling error is 2.3 percent, or 42,900 acres. This means that if there are no errors in the procedure and the inventory is repeated in the same way, the odds are 2 to 1 (66 percent probability) that the estimate would be between 1,821,400 and 1,907,200 acres (1,864,300 +/- 42,900). Similarly, the odds are 19 to 1 (95 percent probability) that the estimate would be within 85,800 acres. The state estimates have the smallest sampling errors and therefore are the most precise or reliable. County estimates are less reliable. For example, the sampling error for timberland at the state level is 2.3 percent; while the sampling error for Salem County is 13.8 percent. Thus, county level estimates are often considerably less reliable than state level estimates. In general, as the size of the estimate decreases in relation to the total, the sampling error, expressed as a percentage of the estimate, increases.

$$SE = SE_T (T/X)^{1/2}$$

where:

SE = approximate sampling error in percent of the estimate X
X = estimate for a table cell
T = estimated table total (sum over all cells in table)
SE_T = sampling error of estimated table total

For most of the tables both the last column and last row are labeled "SE". These represent the sampling errors of the column and row totals. The last sampling error given, SE_T, is for the table total, T. Any estimate with a sampling error of 50 percent or more is not significantly different from zero, and those estimates with errors between 25 and 50 percent are suspect. Therefore, any estimates that have errors exceeding 25 percent should be used with caution.

Comparison Between Inventories

To evaluate the condition of the forest resource, it is useful to compare the current estimates with those from the previous inventory. However, for the comparisons to be valid, the procedures used in the two inventories must be similar. As a result of our ongoing efforts to improve the efficiency of the inventory, we have made several changes in procedures and definitions since 1971.

Because these changes make the direct comparison of the 1987 estimates with those published by Ferguson and Mayer (1974) inappropriate, tables which directly estimate the change between inventories are provided for trend analysis. Tables of change estimates at the county level could not be provided because plots were selected at the state level in 1971; therefore, individual counties did not have enough plots to develop statistically sound data.

The changes that have had an effect on the results of our computations follow:

Most of the five northeastern counties (Bergen, Essex, Husdon, Passaic, and Union) were not included in the 1971 inventory. Only the western portion of Passiac was sampled. In the 1987 inventory, all five counties were sampled as a group. This added about 58,000 acres of timberland to the inventory. Tables of estimated change between inventories do not reflect the changes in the five-county area except in the western portion of Passaic.

The current definition of timberland includes areas that are influenced by either rural or urban development. In 1971, some of this area may have been classified as nonforest land with tree cover (Ferguson and Mayer, 1974, Table 1). Thus the current area of timberland may be raised due to this definitional change.

A major change was made in the design of the plots established in 1986-87. In addition to the traditional data gathered to estimate forest area and tree volumes, information was collected to describe forest wildlife habitat, forest soils, and forest tree biomass.

New volume equations were developed for both growing stock and sawtimber (Scott 1979, 1981). These equations are derived by nonlinear regression techniques; while in 1971 linear regression was used. The nonlinear method is used because it yields estimates with smaller errors between predicted and actual values.

In 1971, tree heights were either ocularly estimated or predicted by equation. During the 1987 inventory, heights were ocularly estimated on all trees and measured with an instrument on a subsample of trees. This subsample was used to improve the ocular estimates, resulting in more accurate volume estimates.

Stand size is a classification of forest land based on the size of the trees that dominate an area, for example, seedling/sapling, poletimber, sawtimber, or non-stocked. In the 1971 inventory only growing-stock trees were considered in determining stand size; the 1987 procedure considers all live trees. This change caused a shift in acres among classes, especially between seedling/sapling and poletimber.

The procedures used to determine forest type have also been modified. In 1971, plots on which red maple made up the plurality of stocking were put into the elm/ash/red maple group. In 1987, such plots were examined more closely, and according to their moisture class and the other species present, placed in either the northern hardwoods group (red maple/northern hardwoods), oak/hickory group (red maple/central hardwoods) or elm/ash/red maple group.

The basic building block for estimating forest area and timber volume has been changed from the state level, to the county level. In the past, the statistics were developed at the state level and prorated to the county level on the basis of distribution of photo-interpretation points. Direct development of county-level data helps users interested in more precise local data, but can make comparisons with past county estimates developed by the proration technique uncertain.

A variety of other changes were made which should result in a more accurate and detailed description of the total forest resource of New Jersey without affecting the comparisons between surveys. The 1987 inventory of New Jersey was used to test a variety of new survey procedures. This research was part of a cooperative effort between Dr. Edwin J. Green, Cook College, Rutgers University and the Northeastern Forest Experiment Station. We anticipate publishing these expanded data and new procedures in the near future.

Definitions of Terms

Acceptable tree. (a) Live sawtimber trees that do not qualify as preferred trees but are not cull trees. (b) Live poletimber trees that prospectively will not qualify as preferred trees, but are not now or prospectively cull trees.

Accretion. The estimated net growth on growing-stock trees that were measured during the previous inventory, divided by the number of growing seasons between inventories. It does not include the growth on trees that were cut during the period, nor those trees that died.

Agricultural/herbaceous land. Land with herbaceous plant cover, both grasses and/or forbs, including cropland, pasture land, and natural grass lands.

Aquatic edge. An edge condition created when a terrestrial land use abuts a lake, pond, river, stream, or major wetland.

Basal-area class. A classification of forest land in terms of basal area (cross sectional area of a tree stem at breast height in square feet per acre) of all live trees of all sizes.

Board foot. A unit of lumber measurement 1 foot long, 1 foot wide, and 1 inch thick, or its equivalent.

Board-foot stand-volume class. A classification of forest land in terms of net board-foot volume of sawtimber trees per acre.

Bog/Marsh/Swamp. Land that has less than 10.0 percent stocking with live trees; and which characteristically supports low, generally herbaceous or shrubby vegetation, and which is intermittently covered with water during all seasons; includes tidal areas that are covered with salty or brackish water during high tides.

Browse. Forage resource; defined here as current twig growth of woody-stemmed plants occurring between 1 and 8 feet in height.

Browse-utilization class. Four levels of browse use; none, light (1-10 percent available), moderate (11-40), and heavy (greater than 40 percent).

Cabin log. A relatively slender roundwood product that is cut to standard sizes; meets specifications of strength, straightness, and soundness; and is finished for use in constructing cabins, barns, and other buildings.

Coarse residues. Manufacturing residues suitable for chipping, such as slabs, edgings, and veneer cores.

Commercial species. Tree species presently or prospectively suitable for industrial wood products. Excludes species of typically small size, poor form, or inferior quality, such as hawthorn or sumac.

Condition class. Classification of trees based on live or dead and condition of top of the tree (i.e. intact, broken, dead).

Cord. See Standard cord.

County and municipal lands. Lands owned by counties and local public agencies or municipalities or leased to them for 50 years or more.

Cropland. Land that currently supports agricultural crops including silage and feed grains, bare farm fields resulting from cultivation of harvest, and maintained orchards.

Cubic-foot stand-volume class. A classification of forest land in terms of net cubic-foot volume of all live trees per acre.

Cull tree. A rough tree or a rotten tree.

Cull increment. The net volume of growing-stock trees on the previous inventory that became rough or rotten trees in the current inventory, divided by the number of growing seasons between inventories.

Cultural land. Land with human development as the major land cover; includes industrial, commercial, and residential land uses.

Diameter at breast height (d.b.h.). The diameter outside bark of a standing tree measured at 4-1/2 feet above the ground.

Distribution. Number of plots where a given species occurs expressed as a percentage of the total number of plots.

Dry weight. The weight of wood and bark, oven-dry basis. It is usually expressed in pounds or tons.

Farmer-owned lands. Lands owned by farm operators, whether part of the farmstead or not. Excludes land leased by farm operators from nonfarm owners.

Federal lands. Lands (other than National Forests) administered by Federal agencies.

Fine residues. Manufacturing residues not suitable for chipping, such as sawdust and shavings.

Forest industry lands. Lands owned by companies or individuals that operate primary wood-using plants.

Forest land. Land that is at least 10 percent stocked with trees of any size, or that formerly had such tree cover and is not currently developed for a nonforest use. The minimum area for classification of forest land is 1 acre.

Forest type. A classification of forest land based on the species that form a plurality of live tree basal area stocking.

Forest-type group. A combination of forest types that share closely associated species or site requirements. The many forest types in New Jersey were combined into the following major forest-type groups (the descriptions apply to forests in New Jersey):

a. *White/red pine*--forests in which white pine, hemlock, or red pine make up the plurality of the stocking, singly or in combination; common associates include maple, oak, and yellow-poplar.

b. *Spruce/fir*--forests in which red spruce, northern white-cedar, balsam fir, white spruce, black spruce, or tamarack, singly or in combination, make up a plurality of the stocking; common associates include paper birch, red maple, aspen, white pine, hemlock, and sugar maple.

c. *Loblolly/shortleaf pine group*--forests in which loblolly, shortleaf or other southern yellow pines (except longleaf or slash pine) singly or in combination, comprise a plurality of the stocking; common associates include oaks, red maple, and blackgum.

d. *Oak/pine*--forests in which northern red oak or white ash, singly or in combination, make up a plurality of the stocking but where pines or eastern red-cedar contributes 25 to 50 percent of the stocking; Virginia and loblolly pine, southern red oak, hickory, and blackgum are associates.

e. *Oak/hickory*--forests in which upland oaks, red maple (when associated with central hardwoods), or hawthorn, singly or in combination, make up a plurality of the stocking and in which white pine makes up less than 25 percent of the stocking; common associates include hard pine, ash, yellow-poplar, beech, blackgum, sugar maple, and red maple.

f. *Oak/gum/cypress*--bottomland forests in which wet-site oaks, sweetgum, or baldcypress, singly or in combination, comprise a plurality of the stocking and in which pines comprise less than 25 percent of the stocking; common associates include American elm, red maple, blackgum, and green ash.

g. *Elm/ash/red maple*--forests in which black ash, elm, red maple (when growing on wet sites), willow, or green ash, singly or in combination, make up a plurality of the stocking; common associates include bottomland oaks, blackgum, river birch, and silver maple.

h. *Northern hardwoods*--forests in which sugar maple, beech, yellow birch, red maple (when associated with northern hardwoods), pin cherry, or black cherry, singly or in combination, make up a plurality of the stocking; common associates include red maple, northern red oak, hemlock, white ash, and basswood.

Fuelwood. Round, split, or chipped woody material (with or without bark) that is converted to household, commercial, or industrial energy.

Geographic unit. A county or a group of counties, within a state, large enough to provide an adequate sample that will yield statistically reliable estimates of timberland area, volume, and components of change.

Green ton. A unit of measure of green weight equivalent to 2,000 pounds or 907.1848 kilograms.

Green ton stand-volume class. A classification of forest land in terms of net green weight of the aboveground components of all live trees per unit area. It is usually expressed in green tons per acre.

Green weight. The weight of wood and bark as it would be if it had been recently cut. It is usually expressed in pounds or tons.

Gross growth. The sum of accretion and ingrowth.

Growing-stock trees. Live trees of commercial species classified as sawtimber, poletimber, saplings, or seedlings; that is, all live trees of commercial species except rough and rotten trees.

Growing-stock volume. Net volume, in cubic feet, of growing-stock trees 5.0 inches d.b.h. and larger from a 1-foot stump to a minimum 4.0-inch top diameter outside bark of the central stem, or to the point where the central stem breaks into limbs. Net volume equals gross volume, less deduction for cull.

Hardwoods. Dicotyledonous trees, usually broad-leaved and deciduous.

Harvested cropland. All land from which crops were harvested or hay was cut and all land in orchards, citrus groves, vineyards, and nursery and greenhouse products.

Idle farmland. Former cropland or pasture that has not been tended within the last 2 years and that has less than 10 percent stocking with live trees, (established seedlings or larger trees) regardless of species.

Importance value. Average of relative density and relative frequency of a species.

Improved/maintained pasture. Land that is currently used and maintained for grazing (not including grazed cropland).

Indian lands. (a) Lands held in trust by the United States or States for Indian tribes or individual Indians. (b) Lands owned in fee by Indian tribes whether subject to Federal or State restrictions against alienation or not.

Industrial and commercial land. Supply yards, parking lots, factories, etc.

Industrial products. All roundwood products except fuelwood.

Ingrowth. The estimated net volume of growing-stock trees that became 5.0 inches d.b.h. or larger during the period between inventories, divided by the number of growing seasons between inventories.

International 1/4-inch rule. A log rule or formula for estimating the board-foot volume of logs. The mathematical formula is:

$$(0.22D^2 - 0.71D)(0.904762)$$

for 4-foot sections, where D=diameter inside bark at the small end of the log section. This rule is used as the USDA Forest Service standard log rule in the Eastern United States.

Land area. (a) Bureau of Census: The area of dry land and land temporarily or partly covered by water, such as marshes, swamps, and river flood plains; streams, sloughs, estuaries, and canals less than 1/8 statute mile wide; and lakes, reservoirs, and ponds less than 40 acres in area. (b) Forest Inventory and Analysis: same as (a) except that the minimum width of streams, etc., is 120 feet, and the minimum size of lakes, etc., is 1 acre.

Land use edge. A condition created by the juxtaposition of two differing land uses.

Lesser woody stem. Shrub or vine species, or tree species stem that is less than 5.0 inches d.b.h.

Logging residues. The unused portions of growing-stock trees harvested or killed in the process of logging.

Manufacturing plant residues. Wood materials that are generated when round timber (roundwood) is converted into wood products. This includes slabs, edgings, trimmings, bark, miscuts, sawdust, shavings, veneer cores and clippings, and pulp screening. If these residues are used, they are referred to as plant byproducts.

Mast. Seed produced by woody-stemmed, perennial plants, generally refers to soft (fruit) and hard (nuts) mast.

Mining and waste land. Surface mining, gravel pits, dumps.

Miscellaneous private lands. Privately owned lands other than forest industry and farmer-owned lands.

Mortality. The estimated net volume of growing-stock trees at the previous inventory that died from natural causes before the current inventory,

divided by the number of growing seasons between inventories.

National Forest lands. Federal lands legally designated as National Forests or purchase units and other lands administered as part of the National Forest System by the USDA Forest Service.

Net change. The difference between the current and previous inventory estimates of growing-stock volume, divided by the number of growing seasons between inventories. Components of net change are ingrowth plus accretion, minus mortality, minus cull increment, minus removals.

Net green weight. The green weight of woody material less the weight of all unsound (rotten) material.

Net growth. The change, resulting from natural causes, in growing-stock volume during the period between inventories, divided by the number of growing seasons. Components of net growth are ingrowth plus accretion, minus mortality, minus cull increment.

Noncensus water. Streams/rivers between 120 feet and 1/8 mile in width, and bodies of water between 1 and 40 acres in size. The Bureau of the Census classifies such water as land.

Noncommercial forest land. Productive-reserved, unproductive forest land, and Christmas tree plantations.

Noncommercial species. Tree species of typically small size, poor form, or inferior quality that normally do not develop into trees suitable for industrial wood products.

Nonforest land. Land that has never supported forests, or land formerly forested but now in nonforest use such as cropland, pasture, residential areas, and highways.

Nonsalvable dead tree. A dead tree with most or all of its bark missing that is at least 5.0 inches in diameter at breast height and is at least 10 feet in height.

Nonstocked area. A stand-size class of forest land that is stocked with less than 10 percent of full stocking with all live trees.

Other cropland. Includes cropland used for cover crops; legumes, soil-improvement.

Other farmland. All nonforest land on a farm excluding cropland, pasture, and idle farmland; includes farm lanes, stock pens, and farmsteads.

Ownership class. A classification of forest land based upon ownership and nature of business or control of decision-making for the land. It encompasses all types of legal entities having ownership interest in the land, whether public or private.

Pasture land. Includes any pasture land other than cropland and woodland pasture. Can include lands which had applied lime fertilizer, seed, improved by irrigation, drainage, or control of weeds and brush.

Pastured cropland. Includes rotation pasture and grazing land that would have been used for crops without additional improvement.

Piling (piles). Relatively slender structural roundwood products that are cut to the maximum length possible (within top circumference and other specifications of strength, straightness, and soundness) that when nearly buried in the ground provide vertical or lateral support for buildings, foundations, bridges, docks, and other structures.

Plant byproducts. Wood products, such as pulp chips, recycled from manufacturing plant residues.

Poletimber stand. A stand-size class of forest land that is stocked with at least 10 percent of full stocking with all live trees with half or more of such stocking in poletimber or sawtimber trees or both, and in which the stocking of poletimber exceeds that of sawtimber.

Poletimber tree. Live trees of commercial species meeting regional specifications of soundness and form and at least 5.0 inches in d.b.h., but smaller than sawtimber trees.

Preferred tree. A high-quality tree, from a lumber viewpoint, that would be favored in cultural operations. General characteristics include grade 1

butt log (if sawtimber size), good form, good vigor, and freedom from serious damage.

Productive-reserved forest land. Forest land sufficiently productive to qualify as timberland, but withdrawn from timber utilization through statute, administrative designation, or exclusive use for Christmas tree production.

Primary manufacturing plant. A plant that converts round timber into wood products such as woodpulp, lumber, veneer, cooperage, and dimension products.

Pulpwood. Roundwood converted into 4- or 5-foot lengths or chips, and chipped plant byproducts that are prepared for manufacture into woodpulp.

Recreation site. Parks, campgrounds, playing fields, tracks, etc.

Relative density. Number of individuals of a given species as a percentage of the total of all species.

Relative frequency. Frequency of a given species as a percentage of the total of all frequencies (Frequency = total number of plots where a given species occurs / total number of plots).

Removals. The net growing-stock volume harvested or killed in logging, cultural operations--such as timber stand improvement--or land clearing, and also the net growing-stock volume neither harvested nor killed but growing on land that was reclassified from timberland to noncommercial forest land during the period between inventories. This volume is divided by the number of growing seasons.

Rights-of-way. Highways, pipelines, powerlines, canals.

Rotten tree. A live tree of commercial species that does not contain at least one 12-foot sawlog or two noncontiguous sawlogs, each 8 feet or longer, now or prospectively, and does not meet regional specifications for freedom from defect primarily because of rot; that is, more than 50 percent of the cull volume in the tree is rotten.

Rough tree. (a) The same as a rotten tree, except that a rough tree does not meet regional specifications for freedom from defect primarily because of roughness or poor form; also (b) a live tree of noncommercial species.

Roundwood products. Logs, bolts, total tree chips, or other round timber generated by harvested trees for industrial or consumer uses.

Salvable dead trees. A tree at least 5.0 inches in diameter at breast height that has recently died and still has intact bark. The tree may be standing, fallen, windthrown, knocked down, or broken off.

Sampling error. A measure of the reliability of an estimate, expressed as a percentage of the estimate. The sampling errors given in this report correspond to one standard deviation and are calculated as the square root of the variance, divided by the estimate, and multiplied by 100.

Saplings. Live trees 1.0 inch through 4.9 inches d.b.h.

Sapling-seedling stand. A stand-size class of forest land that is stocked with at least 10 percent of full stocking with all live trees with half or more of such stocking in saplings or seedlings or both.

Sawlog. A log meeting regional standards of diameter, length, and freedom from defect, including a minimum 8-foot length and a minimum diameter inside bark of 6 inches for softwoods and 8 inches for hardwoods. (See specifications under Log-Grade Classification).

Sawlog portion. That part of the bole of a sawtimber tree between the stump and the sawlog top; that is, the merchantable height.

Sawlog top. The point on the bole of a sawtimber tree above which a sawlog cannot be produced. The minimum sawlog top is 7.0 inches diameter outside bark (d.o.b.) for softwoods and 9.0 inches d.o.b. for hardwoods.

Sawtimber stand. A stand-size class of forest land that is stocked with at least 10 percent of full stocking with all live trees with half or more of such stocking in poletimber or sawtimber trees or

both, and in which the stocking of sawtimber is at least equal to that of poletimber.

Sawtimber trees. Live trees of commercial species at least 9.0 inches d.b.h. for softwoods or 11.0 inches for hardwoods, containing at least one 12-foot sawlog or two noncontiguous 8-foot sawlogs, and meeting regional specifications for freedom from defect.

Sawtimber volume. Net volume in board feet, by the International 1/4-inch rule, of sawlogs in sawtimber trees. Net volume equals gross volume less deductions for rot, sweep, and other defects that affect use for lumber.

S. E. A measure of the reliability of an estimate, expressed as a percentage of the estimate. The sampling errors given in this report correspond to one standard deviation and are calculated as the square root of the variance, divided by the estimate, and multiplied by 100.

Seedlings. Live trees less than 1.0-inch d.b.h. and at least 1 foot in height.

Shrub. Woody-stemmed perennial plant, generally with no well-defined main stem and less than 12 feet in height at maturity; defined by species.

Shrub land. Land with shrub and/or tree cover and an obvious herbaceous understory; average canopy height of less than 25 feet and crown closure of less than 70 percent.

Single-family/custom house. House sheltering one family and immediately adjacent managed land.

Snag. Standing dead tree, with most or all of its bark missing that is at least 5.0 inches in diameter and at least 10 feet tall (does not include salvable dead).

Softwoods. Coniferous trees, usually evergreen and having needles or scalelike leaves.

Stand. A group of forest trees growing on forest land.

Stand area class. The area, contiguous to the plot, that is of the same overall stand size and major type group (hardwood, softwood, or uniform mixture of both).

Stand-size class. A classification of forest land based on the size class (that is, seedlings, saplings, poletimber, or sawtimber) of all live trees in the area.

Standard cord. A unit of measure for stacked bolts of wood, encompassing 128 cubic feet of wood, bark, and air space. Fuelwood cord estimates can be derived from cubic-foot estimates of growing stock by applying an average factor of 80 cubic feet of solid wood per cord. For pulpwood, a conversion of 85 cubic feet of solid wood per cord is used because pulpwood is more uniform.

Standard-lumber log grade. A classification of the quality of sawtimber volume based on standard sawlog grades for hardwoods, white pine, and southern pine. (Note: Red pine was graded using the southern pine guidelines. All specifications are shown under Log-Grade Classification).

State lands. Lands owned by the State or leased to the State for 50 years or more.

Stocking. The degree of occupancy of land by trees, measured by basal area and/or number of trees in a stand compared to the basal area and/or number of trees required to fully use the growth potential of the land (or the stocking standard). In the Eastern United States this standard is 75 square feet of basal area per acre for trees 5.0 inches d.b.h. and larger, or its equivalent in numbers of trees per acre for seedlings and saplings.

Two categories of stocking are used in this report: all live trees and growing-stock trees. The relationships between the classes and the percentage of the stocking standard are: nonstocked = 0 to 9, poorly stocked = 10 to 59, moderately stocked = 60 to 99, fully stocked = 100 to 129, and overstocked = 130 to 160.

Strip mine. Area devoid of vegetation due to current or recent general excavation.

Stump. The main stem of a tree from ground level to 1 foot above ground level, including the wood and bark.

Timberland. Forest land producing or capable of producing crops of industrial wood (more than 20 cubic feet per acre per year) and not withdrawn from timber utilization. Formerly known as commercial forest land.

Timber products. Roundwood (round timber) products and manufacturing plant byproducts harvested from growing-stock trees on timberland; from other sources, such as cull trees, salvable dead trees, limbs, tops and saplings; and from trees on noncommercial forest and nonforest lands.

Timber removals. The growing-stock or sawtimber volume of trees removed from the inventory for roundwood products, plus logging residues, volume destroyed during land clearing, and volume of standing trees on land that was reclassified from timberland to noncommercial forest land (See Table 46).

Top. The wood and bark of a tree above the merchantable height (or above the point on the stem 4.0 inches in diameter outside bark). It generally includes the uppermost stem, branches, and twigs of the tree, but not the foliage.

Tract/multiple family. Multiple individual residential units or attached units (e.g. apartment buildings, condominiums) and immediately adjacent managed land.

Transportation right-of-way. Land associated with highways and railroads.

Tree class. A classification of the quality or condition of trees for sawlog production. Tree class for sawtimber trees is based on their present condition. Tree class for poletimber trees is a prospective determination--a forecast of their potential quality when they reach sawtimber size (11.0 inches d.b.h. for hardwoods, 9.0 inches d.b.h. for softwoods).

Trees. Woody plants that have well-developed stems and are usually more than 12 feet in height at maturity.

Unproductive forest land. Forest land that is incapable of producing 20 cubic feet per acre per year of industrial wood under natural conditions, because of adverse site conditions.

Unused manufacturing residues. Plant residues that are dumped or destroyed and not recovered for plant byproducts.

Upper-stem portion. That part of the main stem or fork of a sawtimber tree above the sawlog top to a diameter of 4.0 inches outside bark, or to the point where the main stem or fork breaks into limbs.

Utility right-of-way. Land associated with pipeline and electric transmission lines; identified only if vegetative cover differs from adjacent land use.

Veneer log or bolt. A roundwood product from which veneer is sliced or sawn that usually meets certain minimum standards of diameter, length, and defect.

Volume suitable for pulpwood. The sound volume (only rotten cull excluded) of growing-stock and rough trees.

Windbreak/hedgerow. Linear areas, less than 120 feet in width; with predominantly tree and/or shrub vegetation.

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Oaks of the Northeast

Species Group	Common Name
Select White Oaks	
Q. alba	white oak
Q. bicolor	swamp white oak
Q. macrocarpa	bur oak
Q. michauxii	swamp chestnut oak
Q. muehlenbergii	chinkapin oak
Select Red Oaks	
Q. falcata var. *pagodaefolia*	cherrybark oak
Q. rubra	northern red oak
Q. shumardii	shumard oak
Other White Oaks	
Q. lyrata	overcup oak
Q. prinus	chestnut oak
Q. stellata var. *stellata*	post oak
Other Red Oaks	
Q. coccinea	scarlet oak
Q. ellipsoidalis	northern pin oak
Q. falcata	southern red oak
Q. ilicifolia	bear oak
Q. imbricaria	shingle oak
Q. laurifolia	laurel oak
Q. marilandica	blackjack oak
Q. nigra	water oak
Q. palustris	pin oak
Q. phellos	willow oak
Q. velutina	black oak

Tree Species of New Jersey (as encountered on field plots)

Scientific Name ***	Common Name(s)	Occurrence **
	Softwoods	
Chamaecyparis thyoides (L.)B.S.P.	Atlantic white-cedar	vc
Juniperus virginiana L.	eastern redcedar	c
Larix spp. Mill.	larch	vr
Pinus echinata Mill.	shortleaf pine	c
P. resinosa Ait.	red pine	vr
P. rigida Mill.	pitch pine	vc
P. strobus L.	eastern white pine	r
P. virginiana Mill.	Virginia pine	r
Tsuga canadensis (L.) Carr.	eastern hemlock	r
	Hardwoods	
Acer negundo L.*	boxelder	r
A. rubrum L.	red maple	vc
A. saccharinum L.	silver maple	r
A. saccharum Marsh.	sugar maple	c
A. spicatum Lam.	mountain maple	vr
Ailanthus altissima (Mill.)Swingle*	ailanthus	vr
Betula alleghaniensis Britton	yellow birch	r
B. lenta L.	sweet birch (black)	c
B. nigra L.	river birch	r
B. papyrifera Marsh.	paper birch	vr
B. populifolia Marsh.*	gray birch	r
Carpinus caroliniana Walt.*	American hornbeam	vr
Carya spp. Nutt.	hickory	c
Celtis occidentalis L.	hackberry	vr
Cornus spp. L.	dogwood	c
Fagus grandifolia Ehrh.	American beech	c
Fraxinus americana L.	white ash	c
F. nigra Marsh.	black ash	vr
F. pennsylvanica Marsh.	green ash	r
Gleditsia triacanthos L.	honeylocust	r
Ilex opaca Ait.	American holly	r
Juglans cinerea L.	butternut	r
Liquidambar styraciflua L.	sweetgum	c
Liriodendron tulipifera L.	yellow-poplar (tulip tree)	c
Madura pomifera (Raf.) Schneid.	osage-orange	r
Magnolia spp. L.	magnolia	r
M. virginiana L.	sweetbay	vr
Malus spp. Mill.	apple	vr
Nyssa sylvatica Marsh.	blackgum	c
Ostrya virginiana (Mill.)K. Koch*	eastern hophornbeam	r
Platanus occidentalis L.	sycamore	r
Populus deltoides Bartr. ex Marsh.	eastern cottonwood	vr
P. grandidentata Michx.	bigtooth aspen	r
P. tremuloides Michx.	quaking aspen	c

Tree Species of New Jersey (continued)

Scientific Name ***	Common Name(s)	Occurrence **
Prunus pensylvanica L. f.*	pin cherry	r
P. serotina Ehrh.	black cherry	c
Quercus alba L.	white oak	vc
Q. bicolor Willd.	swamp white oak	r
Q. coccinea Muenchh.	scarlet oak	c
Q. falcata Michx.	southern red oak	r
Q. palustris Muenchh.	pin oak	r
Q. phellos L.	willow oak	r
Q. prinus L.	chestnut oak	c
Q. rubra L.	northern red oak	c
Q. stellata Wangenh.	post oak	r
Q. velutina Lam.	black oak	vc
Robinia pseudoacacia L.	black locust	r
Salix nigra Marsh.	black willow	r
Sassafras albidum (Nutt.) Nees*	sassafras	c
Tilia americana L.	American basswood	r
Ulmus americana L.	American elm	vr
U. rubra Muhl.	slippery elm	c

*** Names according to: Little, Elbert L., Jr. Checklist of United States Trees (native and naturalized). Agric. Handb. 541 Washington, DC: U.S Department of Agriculture, Forest Service; 1979. 375 p.
**Occurrence is based on the proportion of the species among all live trees 5.0 inches d.b.h. or larger encountered on forest survey field plots: vr = very rare (0.05%), r = rare (0.05 to 0.49%), c = common (0.5 to 4.9%), and vc = very common (>5.0%).
*Noncommercial species.

Ecological Importance and Relative Distribution of Lesser Woody-Stemmed Species, New Jersey

Species	Relative Density	Relative Frequency	Importance Value	Distribution
Atlantic white-cedar	.78	.85	.82	7.21
Eastern redcedar	.31	.90	.61	7.63
Larch	.01	.05	.03	.43
Shortleaf pine	.04	.65	.35	5.51
Red pine	.01	.05	.03	.43
Pitch pine	1.18	5.90	3.54	50.01
Eastern white pine	.01	.35	.18	2.97
Virginia pine	.04	.35	.20	2.97
Eastern hemlock	.01	.35	.18	2.97
Boxelder	.04	.05	.05	.43
Red maple	2.02	6.55	4.29	55.51
Sugar maple	.25	1.55	.90	13.14
Mountain maple	.01	.05	.03	.43
Ailanthus	.01	.10	.06	.85
Alder species	.01	.05	.03	.43
Serviceberry	.07	.45	.26	3.82
Bog rosemary	.49	.05	.27	.43
Evergreen bearberry*	.00	.00	.00	2.55
Chokeberry species	.03	.10	.07	.85
Azalea species	.55	.55	.55	4.67
Barberry	.31	.45	.38	3.82
Yellow birch	.02	.40	.21	3.39
Sweet birch	.52	2.00	1.26	16.95
River birch	.01	.10	.06	.85
Paper birch	.01	.10	.05	.85
Gray birch	.25	.50	.38	4.24
American hornbeam	.21	.55	.38	4.67
Hickory species	.16	1.85	1.01	15.68
Bitternut hickory	.03	.55	.29	4.67
Pignut hickory	.01	.35	.18	2.97
Shagbark hickory	.02	.60	.31	5.09
Mockernut hickory	.01	.15	.08	1.28
American chestnut	.03	.30	.17	2.55
American bittersweet*	.00	.00	.00	1.70
Hackberry	.01	.05	.03	.43
Sweetfern	.26	.15	.21	1.28
Flowering dogwood	.19	1.00	.60	8.48
Alternate-leaved dogwood	.02	.05	.04	.43
Panicled dogwood	.56	.70	.63	5.94
Red-osier dogwood	.64	.35	.50	2.97
Hawthorn species	.09	.50	.30	4.24
American hazelnut	.11	.10	.11	.85
American beech	.31	1.15	.73	9.75

Ecological Importance and Relative Distribution of Lesser Woody-Stemmed Species, New Jersey (continued)

Species	Relative Density	Relative Frequency	Importance Value	Distribution
Ash species	.01	.05	.03	.43
White ash	.91	3.45	2.18	29.24
Black ash	.01	.05	.03	.43
Green ash	.01	.30	.16	2.55
Creeping snowberry*	.00	.00	.00	7.63
Teaberry*	.00	.00	.00	20.34
Witch-hazel	.30	.95	.62	8.06
American holly	.13	.80	.47	6.78
Butternut	.01	.30	.16	2.55
Black walnut	.01	.55	.28	4.67
Sheep laurel	4.17	1.85	3.01	15.68
Mountain laurel	2.02	1.50	1.76	12.72
Common spicebush	1.99	2.00	2.00	16.95
Sweetgum	.23	1.40	.82	11.87
Yellow-poplar	.07	1.35	.71	11.45
Bush honeysuckle	.16	.45	.31	3.82
Vine honeysuckle*	.00	.00	.00	17.38
Osage-orange	.01	.10	.06	.85
Sweetbay	.34	.80	.57	6.78
Apple species	.05	.20	.13	1.70
Partridgeberry*	.00	.00	.00	3.82
Black tupelo	.25	2.85	1.55	24.16
Eastern hophornbeam	.02	.15	.09	1.28
Virginia creeper*	.00	.00	.00	20.34
American sycamore	.01	.20	.11	1.70
Balsam poplar	.01	.05	.03	.43
Bigtooth aspen	.02	.40	.21	3.39
Quaking aspen	.02	.20	.11	1.70
Cherry species	.19	.40	.30	3.39
Pin cherry	.03	.15	.09	1.28
Black cherry	.57	2.50	1.54	21.19
Chokecherry	.01	.05	.03	.43
White oak	.85	4.85	2.85	41.11
Swamp white oak	.01	.20	.11	1.70
Scarlet oak	.32	2.10	1.21	17.80
Southern red oak	.03	.60	.32	5.09
Scrub, bear oak	3.45	2.25	2.85	19.07
Bur oak	.01	.05	.03	.43
Blackjack oak	.49	.75	.62	6.36
Pin oak	.03	.55	.29	4.67
Willow oak	.01	.05	.03	.43
Chestnut oak	.53	2.15	1.34	18.23
Northern red oak	.31	2.70	1.51	22.89
Post oak	.10	.40	.25	3.39

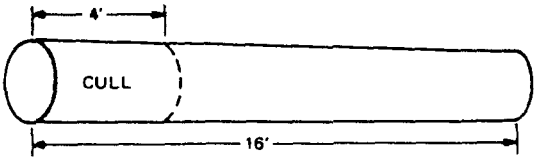
Ecological Importance and Relative Distribution of Lesser Woody-Stemmed Species, New Jersey (continued)

Species	Relative Density	Relative Frequency	Importance Value	Distribution
Black oak	.93	4.75	2.84	40.26
Rhododendron species	.01	.05	.03	.43
Smooth sumac	.10	.20	.15	1.70
Staghorn sumac	.02	.15	.09	1.28
Poison ivy*	.00	.00	.00	19.50
Currant species	.23	.05	.14	.43
Black locust	.01	.10	.06	.85
Rose species	.50	.70	.60	5.94
Rubus species	2.82	2.30	2.56	19.50
Black willow	.03	.10	.07	.85
American elderberry	.01	.05	.03	.43
Sassafras	.55	2.65	1.60	22.46
Greenbrier*	.00	.00	.00	36.02
Spirea species	.81	1.05	.93	8.90
American basswood	.01	.30	.16	2.55
Elm species	.00	.05	.03	.43
American elm	.03	.25	.14	2.12
Slippery elm	.08	1.30	.69	11.02
American cranberry	.00	.00	.00	.85
Blueberry	57.08	8.20	32.64	69.50
Viburnum species	.02	.05	.04	.43
Maple-leaved viburnum	3.09	1.55	2.32	13.14
Arrowwood	.17	.40	.29	3.39
Blackhaw	.03	.20	.12	1.70
Grape*	.00	.00	.00	8.90
Unknown dwarf shrub*	.00	.00	.00	.43
Unknown deciduous shrub	6.18	3.60	4.89	30.51
Unknown evergreen shrub	.43	.85	.64	7.21
Unknown tree	.10	.60	.35	5.09

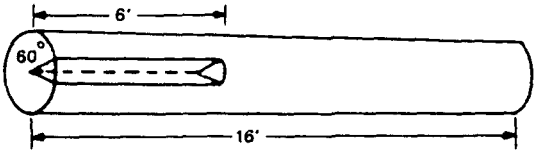
*Dwarf shrubs and vines are not included in Relative Density, Relative Frequency, and Importance Value calculations.

Methods of determining scaling deduction.

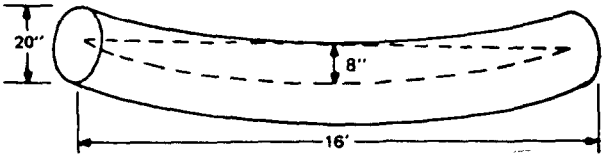
(Examples based on a 16-foot log with 20-inch scaling diameter)



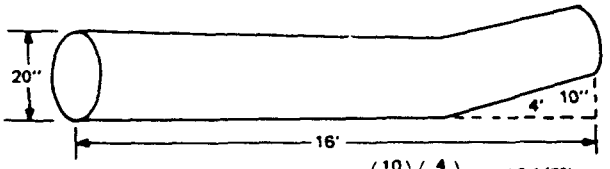
Defect section (rule 1): Percent deduction = $\frac{4}{16}$ = 25%



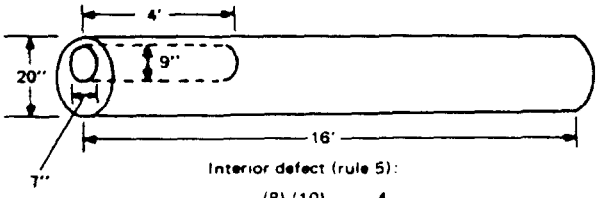
Defect section (rule 2): Percent deduction = $\left(\frac{6}{16}\right)\left(\frac{60}{360}\right)$ = 6-1/4%



Sweep (rule 3): Percent deduction = $\frac{8-2}{20}$ = 30%



Crook (rule 4). Percent deduction = $\left(\frac{10}{20}\right)\left(\frac{4}{16}\right)$ = 12-1/2%



Interior defect (rule 5):

Percent deduction = $\frac{(8)(10)}{(20-1)^2} \times \frac{4}{16}$ = 5-5/9%

In practice each ellipse axis can be divided by (20−1)

Thus $\frac{8}{19}$ = .4, $\frac{10}{19}$ 5, and (.4) (.5) $\left(\frac{4}{16}\right)$ = 5%

From: Grosenbaugh, L.R. 1952. Shortcuts for cruisers and scalers. U.S. Dep. Agric. For. Serv. South. For. Exp. Stn. Occas. Pap. 126.

STANDARD GRADES FOR HARDWOOD FACTORY LUMBER LOGS

Grading Factors		Log grades							
		F1			F2				F3
Position in tree		Butts only	Butts & uppers		Butts & Uppers				Butts & uppers
Scaling diameter, inches		13-15[a]	16-19	20+	11+[b]	12+			8+
Length without trim, feet		10+			10+	8-9	10-11	12+	8+
Required clear cuttings[c] of each of 3 best faces[d]	Min. length, feet	7	5	3	3	3	3	3	2
	Max. number	2	2	2	2	2	2	3	No limit
	Min. proportion of log length required in clear cutting	5/6	5/6	5/6	2/3	3/4	2/3	2/3	1/2
Maximum sweep & crook allowance	For logs with less than 1/4 of end in sound defects	15%			30%				50%
	For logs with more than 1/4 of end in sound defects	10%			20%				35%
Maximum scaling	deduction	40%[e]			50%[f]				50%

End defects although not visible in standing trees, are important in grading cut logs. Instructions for dealing with this factor are contained in Forest Prod. Lab. Rpt. D 1737.

[a]Ash and basswood butts can be 12 inches if they otherwise meet requirements for small #1's.
[b]Ten-inch logs of all species can be #2 if they otherwise meet requirements for small #1's.
[c]A clear cutting is the portion of a face, extending the width of the face, that is free of defects.
[d]A face is 1/4 of the surface of the log as divided lengthwise.
[e]Otherwise #1 logs with 41-60% deductions can be #2.
[f]Otherwise #2 logs with 51-60% deductions can be #3.

From: Vaughan, C. L., A. C. Wollin, K. A. McDonald, and E. H. Bulgrin. 1966. Hardwood log grades for standard lumber. USDA For. Serv. Res. Pap. FPL-63.

STANDARD SPECIFICATIONS FOR HARDWOOD CONSTRUCTION LOGS.[a]

Position in tree		Butt & upper
Min. diameter, small end		8 inches +
Min. length, without trim		8 feet
Clear cuttings		No requirements.
Sweep allowance, absolute		1/4 diameter small end for each 8 feet of length.
Sound surface defects	Single knots	Any number, if no one knot has an average diameter above the callus in excess of 1/3 of log diameter at point of occurrence.
	Whorled knots	Any number if sum of knot diameters above the callus does not exceed 1/3 of log diameter at point of occurrence.
	Holes	Any number provided none has a diameter over 1/3 of log diameter at point of occurrence, and none extends over 3 inches into included timber.[b]
Unsound surface defects		Same requirements as for sound defects if they extend into included timber.[b] No limit if they do not.
End defects	Sound	No requirements.
	Unsound	None allowed; log must be sound internally, but will admit 1 shake not to exceed 1/4 the scaling diameter and a longitudinal split not extending over 5 inches into the contained timber.

[a]These specifications are minimum for the class. If, from a group of logs, factory logs are selected first, thus leaving only non-factory logs from which to select construction logs, then the quality range of the construction logs so selected is limited, and the class may be considered a grade. If selection for construction logs is given first priority, then it may be necessary to subdivide the class into grades.
[b]Included timber is always square, and dimension is judged from small end.

From: Rast, E. D., D. L. Sonderman, and G. L. Gammon. 1973. A guide to hardwood log grading (Revised). USDA For. Serv. Gen. Tech. Rep. NE-1.

EASTERN WHITE PINE SAWLOG GRADE SPECIFICATIONS

GRADING FACTOR	LOG GRADE 1	LOG GRADE 2	LOG GRADE 3	LOG GRADE 4
(1) MINIMUM SCALING DIAMETER (inches)	14[1]	6	6	6
(2) MINIMUM LOG LENGTH (feet)	10[2]	8	8	8
(3) MAXIMUM WEEVIL INJURY (number)	None	None	2 injuries[3]	No limit
(4) MINIMUM FACE REQUIREMENTS	Two full length or four 50% length good faces.[4] (In addition, log knots on balance of faces shall not exceed size limitations of grade 2 logs.)	No GOOD FACES REQUIRED. Maximum diameter of log knots on three best faces: SOUND RED KNOTS not to exceed 1/6 scaling diameter and 3 inch maximum; DEAD OR BLACK KNOTS including overgrown knots not to exceed 1/12 scaling diameter and 1½ inch maximum.	SOUND RED KNOTS not to exceed 1/3 scaling diameter and 5 inch maximum. DEAD OR BLACK KNOTS including overgrown knots not to exceed 1/6 scaling diameter and 2½ inch maximum.	Includes all logs not qualifying for No. 3 or better and judged to have at least one-third of their gross volume in sound wood suitable for manufacture into standard lumber
(5) MAXIMUM SWEEP OR CROOK ALLOWANCE (percent)	20	30	40	66⅔
(6) MAXIMUM TOTAL SCALING DEDUCTION (percent)	50	50	50	66⅔

After the tentative log grade is established from face examination, the log will be reduced in grade whenever the following defects are evident

(7) CONKS, PUNK KNOTS, AND PINE BORER DAMAGE ON BARK SURFACE[5]

Degrade one grade if present on one face.
Degrade two grades if present on two faces
Degrade three grades if present on three or more faces

(8) LOG END DEFECTS RED ROT, RING SHAKE, HEAVY STAIN AND PINE BORER DAMAGE OUTSIDE HEART CENTER OF LOG[5]

Consider log as having a total of 8 quarters (4 on each end) and degrade as indicated below:
Degrade one grade if present in 2 quarters of log ends.
Degrade two grades if present in 3 or 4 quarters of log ends.
Degrade three grades if present in 5 or more quarters of log ends.

[1] 12 and 13 inch logs with four full length good faces are acceptable
[2] 8 foot logs with four full length good faces are acceptable
[3] 8 foot No. 3 logs limited to one weevil injury
[4] Minimum 50% length good face must be at least 6 feet
[5] Factors 7 and 8 are not cumulative (total degrade based on more serious of the two). No log to be degraded below grade 4 if net scale is at least one-third gross log scale

From: Ostrander, M. D., and R. L. Brisbin, 1971. Sawlog grades for eastern white pine. USDA For. Serv. Res. Pap. NE-205.

SOUTHERN PINE SAWLOGS

Grade 1. Logs with 3 or 4 clear faces.[1] Code 1.

Grade 2. Logs with 1 or 2 clear faces. Code 2.

Grade 3. Logs with no clear faces. Code 3.

After the tentative log grade is established from above, the log will be degraded one grade for each of the following, except that no log can be degraded below grade 3.

1. *Sweep.* Degrade any tentative 1 or 2 log one grade if sweep amounts to 3 or more inches and equals or exceeds one third (1/3) the diameter inside bark at small end. This is the final grade if there is no evidence of heart rot.

2. *Heart rot.* Degrade any tentative 1 or 2 log one grade if conk, massed hyphae, or other evidence of advanced heart rot is found anywhere in it.

[1] A face is one-fourth of the circumference in width extending full length of the log. Clear faces are those free of: knots measuring more than one-half inch in diameter, overgrown knots of any size, holes more than one-fourth inch in diameter. The faces may be rotated if necessary to obtain the maximum number of clear ones.

From: Schroeder, J. G., R. A. Campbell, and R. C. Rodenbach. 1968. Southern pine sawlogs for yard and structural lumber. USDA For. Serv. Res. Pap. SE-39.

Metric Equivalents

1 acre = 4,046.86 square meters
1 acre = 0.404686 hectares
1,000 acres = 404.686 hectares
1,000,000 acres = 404,686 hectares
1 board foot = 0.00348 cubic meters
1 board foot = 3,480 cubic centimeters
1,000 board feet = 3.48 cubic meters
1,000,000 board feet = 3,480 cubic meters
1 cubic foot = 0.028317 cubic meters
1,000 cubic feet = 28.317 cubic meters
1,000,000 cubic feet = 28,317 cubic meters
1 cord (wood, bark, and air space) = 3.6246 cubic meters
1 cord (solid wood, pulpwood) = 2.4069 cubic meters
1 cord (solid wood, other than pulpwood) = 2.2654 cubic meters
1,000 cords (pulpwood) = 2,406.9 cubic meters
1,000 cords (other products) = 2,265.4 cubic meters
1 inch = 2.54 centimeters or 0.0254 meters
1 foot = 30.48 centimeters or 0.3048 meters
1 mile = 1.609 kilometers
1 square foot = 929.03 square centimeters
1 square foot = 0.0929 square meters
1 square foot per acre basal area = 0.229568 square meters per hectare
1 ton = 907.1848 kilograms
1,000 tons = 907.1848 metric tons
Breast height = 1.4 meters above ground level

Although 1,000 board feet is theoretically equivalent to 2.36 cubic meters, this is true only when a board foot is actually a piece of wood with a volume 1/12 of cubic foot. The International 1/4-inch log rule is used by the USDA Forest Service in the East to estimate the product potential in board feet. The reliability of the estimate obtained by conversion will vary with the size of the log measured. The conversion given here, 3.48 cubic meters, is based on the cubic volume of a log 16 feet long and 15 inches in diameter inside bark (d.i.b.) at the small end. This conversion could be used for average comparisons when accuracy of 10 percent is acceptable. Because the board foot unit is not a true measure of wood volume and because products other than dimension lumber are becoming important, this unit may eventually be phased out and replaced by the cubic meter.

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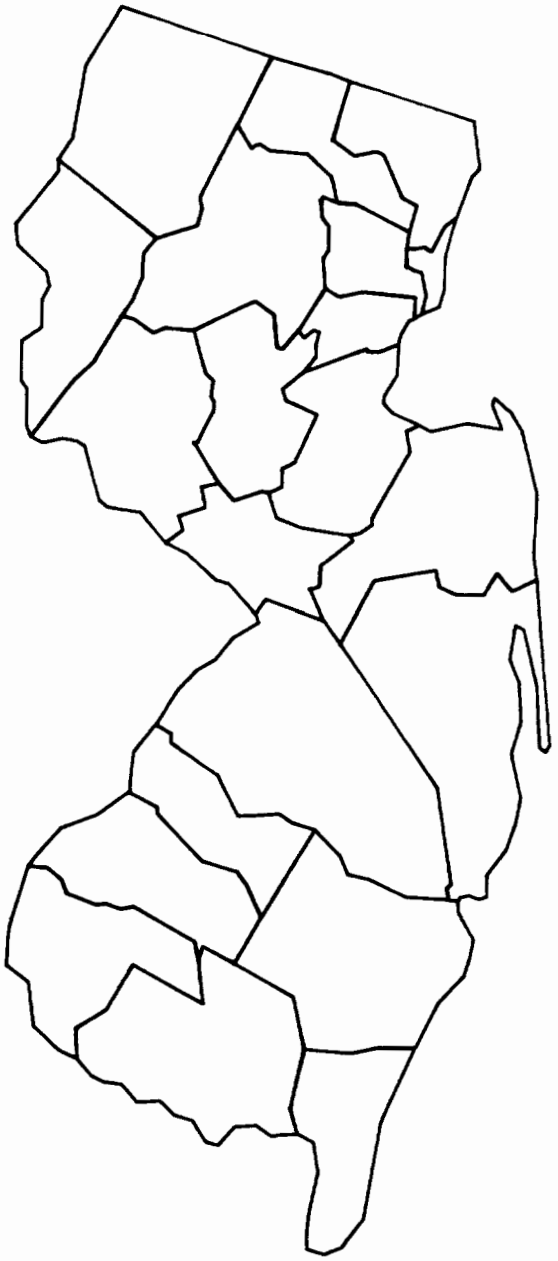

Table 1.--Land area by land class, New Jersey, 1987[a]

Land class	Area	
	Thousand acres	Percent
Timberland	1,864.3	39
Noncommercial forest land:		
Christmas tree plantations	15.6	W
Productive reserved	101.4	2
Unproductive[b]	25.4	W
Total forest	2,006.7	42
Nonforest land:		
Cropland[c]	605.4	13
Pasture[c]	97.1	2
Other farmland	168.4	3
Other land	1,901.9	40
Total nonforest	2,772.8	58
Total land area[d]	4,779.5	100

[a] This and every other table may not add up due to rounding.
[b] Includes 11,700 acres of reserved unproductive land.
[c] Source: 1982 Census of Agriculture.
[d] Source: 1981 United States Department of Commerce, Bureau of Census.
W-Less than 0.5 percent.

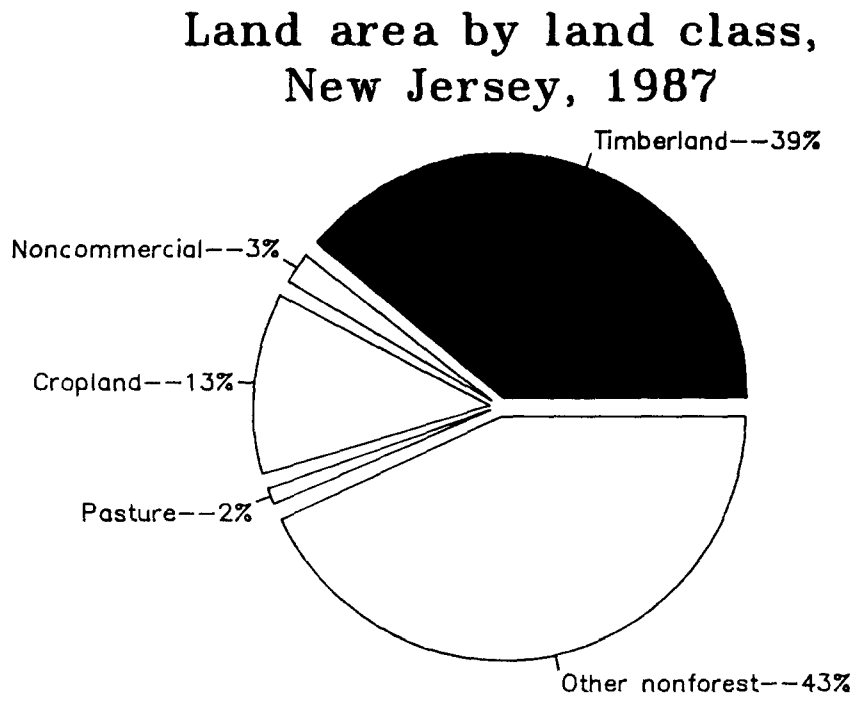

Table 2.--Area of timberland by forest type, forest-type group, and stand-size class, New Jersey, 1987

(In thousands of acres)

Forest type	Stand-size class				All classes	SE[a]
	Saw-timber	Pole-timber	Sapling/seedling	Non-stocked		
White pine	19.2	.0	.0	.0	19.2	60.5
Hemlock	5.2	.0	.0	.0	5.2	108.3
White/red pine group	24.4	.0	.0	.0	24.4	52.9
Shortleaf pine	34.5	.0	.0	.0	34.5	40.3
Eastern redcedar	.0	10.3	15.6	8.4	34.3	40.8
Pitch pine	157.6	183.6	121.1	.0	462.3	8.9
Loblolly/shortleaf group	192.1	193.9	136.7	8.4	531.0	8.3
Eastern redcedar/hardwood	6.5	.0	.0	.0	6.5	94.5
Shortleaf pine/oak	.0	7.5	.0	.0	7.5	99.6
Virginia pine/oak	.0	5.8	.0	.0	5.8	117.2
Other oak/pine	29.2	58.3	6.1	.0	93.7	23.7
Oak/pine group	35.8	71.6	6.1	.0	113.5	21.4
Post, black, or bear oak	29.1	49.3	.0	.0	78.4	34.9
Chestnut oak	31.4	13.3	.0	.0	44.7	41.8
White oak/red oak/hickory	53.0	.0	.0	.0	53.0	39.3
White oak	47.6	82.0	12.0	.0	141.6	21.6
Northern red oak	9.4	5.8	.0	.0	15.2	73.6
Y. poplar/wh. oak/no. red oak	39.0	.0	.0	.0	39.0	48.2
Black locust	.0	.0	8.0	.0	8.0	97.0
Sweetgum/yellow-poplar	4.1	21.0	.0	.0	25.1	51.9
Yellow-poplar	14.7	.0	.0	.0	14.7	75.3
Hawthorn/reverting field	.0	.0	34.7	.0	34.7	43.8
Scarlet oak	.0	17.1	7.0	.0	24.0	52.4
Red maple/central hardwoods	11.1	5.8	.0	.0	16.9	67.0
Mixed central hardwoods	248.3	115.6	23.3	.0	387.1	12.0
Oak/hickory group	487.7	309.9	85.0	.0	882.6	6.3
Sweetgm/nuttall oak/willow oak	2.1	8.5	.0	.0	10.6	72.6
Atlantic white cedar	5.4	23.4	6.7	.0	35.4	41.4
Sweetbay/swamp tupelo/rd maple	28.0	19.5	.0	.0	47.5	33.6
Oak/gum/cypress group	35.5	51.3	6.7	.0	93.5	24.6
Black ash/Amer. elm/red maple	15.7	33.3	.0	.0	49.0	35.7
Red maple(lowland)	19.5	23.8	6.3	.0	49.7	43.3
Red maple(upland)	.0	7.1	.0	.0	7.1	100.0
Willow	.0	4.5	.0	.0	4.5	121.1
Elm/ash/red maple group	35.3	68.8	6.3	.0	110.3	26.4
Sugar maple/beech/yellow birch	7.2	.0	.0	.0	7.2	100.0
Black cherry	.0	12.8	.0	.0	12.8	67.2
Red maple/northern hardwoods	.0	12.8	.0	.0	12.8	68.8
Pin cherry/reverting field	.0	6.0	8.7	.0	14.7	71.5
Mixed northern hardwoods	48.4	13.1	.0	.0	61.5	36.7
Northern hardwoods group	55.5	44.7	8.7	.0	108.9	25.2
All forest types	866.3	740.1	249.5	8.4	1,864.3	2.3
SE	6.3	7.7	15.5	86.5	2.3	

[a]Sampling error.

Table 3.--Area of timberland by forest-type group and ownership class, New Jersey, 1987

(In thousands of acres)

Forest-type group	Ownership class				All classes	SE
	National Forest	Other public	Forest industry	Other private		
White/red pine	.0	10.1	.0	14.3	24.4	52.9
Loblolly/shortleaf	.0	221.5	.0	309.5	531.0	8.3
Oak/pine	.0	7.1	.0	106.4	113.5	21.4
Oak/hickory	.0	148.7	.0	733.9	882.6	6.3
Oak/gum/cypress	.0	23.3	.0	70.2	93.5	24.6
Elm/ash/red maple	.0	41.0	.0	69.3	110.3	26.4
Northern hardwoods	.0	12.3	.0	96.6	108.9	25.2
Total, all groups	.0	464.0	.0	1,400.3	1,864.3	2.3
SE	.0	.0	.0	3.1	2.3	

Table 4.--Area of timberland by stand-size class and ownership class, New Jersey, 1987

(In thousands of acres)

Stand-size class	Ownership class				All classes	SE
	National Forest	Other public	Forest industry	Other private		
Sawtimber	.0	263.5	.0	602.8	866.3	6.3
Poletimber	.0	143.3	.0	596.8	740.1	7.7
Sapling and seedling	.0	57.2	.0	192.3	249.5	15.5
Nonstocked	.0	.0	.0	8.4	8.4	86.5
Total, all classes	.0	464.0	.0	1,400.3	1,864.3	2.3
SE	.0	.0	.0	3.1	2.3	

Table 5.--Area of timberland by board-foot stand-volume class and ownership class, New Jersey, 1987

(In thousands of acres)

Stand-volume class	Ownership class				All classes	SE
	National Forest	Other public	Forest industry	Other private		
0 - 1,999	.0	245.5	.0	701.1	946.6	5.8
2000 - 3,999	.0	89.7	.0	286.7	376.4	12.6
4000 - 5,999	.0	51.0	.0	182.7	233.7	16.2
6000 - 7,999	.0	11.2	.0	117.7	128.9	25.7
8000 - 9,999	.0	46.1	.0	32.1	78.2	31.8
10000+	.0	20.6	.0	80.1	100.7	27.6
Total, all classes	.0	464.0	.0	1,400.3	1,864.3	2.3
SE	.0	.0	.0	3.1	2.3	

Table 6.--Area of timberland by stocking class of growing-stock trees and ownership class, New Jersey, 1987

(In thousands of acres)

Stocking class	Ownership class				All classes	SE
	National Forest	Other public	Forest industry	Other private		
Nonstocked	.0	.0	.0	13.6	13.6	42.9
Poorly stocked	.0	143.1	.0	250.5	393.6	12.3
Moderately stocked	.0	130.0	.0	547.8	677.8	8.4
Fully stocked	.0	115.8	.0	325.5	441.3	11.6
Overstocked	.0	75.2	.0	263.0	338.2	13.2
Total, all classes	.0	464.0	.0	1,400.3	1,864.3	2.3
SE	.0	.0	.0	3.1	2.3	

Table 7.--Area of timberland by forest-type group and net cubic-foot stand-volume class, New Jersey, 1987

(In thousands of acres)

Forest-type group	Stand-volume class (cubic feet per acre)						All classes	SE
	0-499	500-999	1000-1499	1500-1999	2000-2499	2500+		
White/red pine	.0	5.1	5.6	.0	8.5	5.2	24.4	52.9
Loblolly/shortleaf	238.7	185.9	55.5	40.5	10.3	.0	531.0	8.3
Oak/pine	13.7	65.1	24.3	5.8	4.6	.0	113.5	21.4
Oak/hickory	125.2	117.3	227.4	140.1	130.4	142.1	882.6	6.3
Oak/gum/cypress	10.8	19.7	5.7	24.9	.0	32.4	93.5	24.6
Elm/ash/red maple	16.7	19.6	14.7	27.3	26.3	5.7	110.3	26.4
Northern hardwoods	27.5	12.0	29.3	12.0	20.1	8.0	108.9	25.2
Total, all groups	432.6	424.8	362.6	250.6	200.1	193.5	1,864.3	2.3
SE	10.4	11.4	13.2	16.0	18.7	19.9	2.3	

Table 8.--Area of timberland by forest-type group and net board-foot stand-volume class, New Jersey, 1987

(In thousands of acres)

Forest-type group	Stand-volume class (board feet per acre)						All classes	SE
	0-1999	2000-3999	4000-5999	6000-7999	8000-9999	10000+		
White/red pine	.0	10.7	.0	.0	8.5	5.2	24.4	52.9
Loblolly/shortleaf	397.3	97.1	36.6	.0	.0	.0	531.0	8.3
Oak/pine	85.5	23.4	.0	4.6	.0	.0	113.5	21.4
Oak/hickory	314.6	173.1	161.9	91.1	54.0	87.9	882.6	6.3
Oak/gum/cypress	36.7	26.5	11.6	5.5	5.7	7.5	93.5	24.6
Elm/ash/red maple	59.1	30.0	5.5	5.7	10.0	.0	110.3	26.4
Northern hardwoods	53.4	15.5	18.0	22.0	.0	.0	108.9	25.2
Total, all groups	946.6	376.4	233.7	128.9	78.2	100.7	1,864.3	2.3
SE	5.8	12.6	16.2	25.7	31.8	27.6	2.3	

Table 9.--Area of timberland by forest-type group and green ton stand-volume class, New Jersey, 1987

(In thousands of acres)

Forest-type group	Stand-volume class (green tons per acre)									All classes	SE
	0-24	25-49	50-74	75-99	100-124	125-149	150-174	175-199	200+		
White/red pine	.0	5.1	5.6	8.5	5.2	.0	.0	.0	.0	24.4	52.9
Loblolly/shortleaf	102.6	203.4	136.6	61.8	26.6	.0	.0	.0	.0	531.0	8.3
Oak/pine	13.7	56.0	28.1	11.1	4.6	.0	.0	.0	.0	113.5	21.4
Oak/hickory	86.8	121.3	230.3	192.4	153.6	75.3	22.8	.0	.0	882.6	6.3
Oak/gum/cypress	.0	24.5	3.1	25.7	7.8	5.7	.0	2.1	24.6	93.5	24.6
Elm/ash/red maple	10.4	20.3	24.6	29.5	19.8	5.7	.0	.0	.0	110.3	26.4
Northern hardwoods	21.6	6.0	34.2	21.2	26.0	.0	.0	.0	.0	108.9	25.2
Total, all groups	235.0	436.5	462.6	350.3	243.7	86.7	22.8	2.1	24.6	1,864.3	2.3
SE	15.0	11.0	11.1	13.8	16.3	32.5	57.8	176.5	47.7	2.3	

Table 10.--Area of timberland by forest-type group and stocking class of all live trees, New Jersey, 1987

(In thousands of acres)

Forest-type group	Stocking class					All classes	SE
	Nonstocked	Poorly stocked	Moderately stocked	Fully stocked	Over-stocked		
White/red pine	.0	.0	5.1	14.1	5.2	24.4	52.9
Loblolly/shortleaf	.0	142.1	230.0	104.2	54.7	531.0	8.3
Oak/pine	.0	20.7	70.7	17.6	4.6	113.5	21.4
Oak/hickory	.0	121.2	275.3	243.1	242.9	882.6	6.3
Oak/gum/cypress	.0	20.4	4.1	23.2	45.8	93.5	24.6
Elm/ash/red maple	.0	30.7	20.3	14.2	45.0	110.3	26.4
Northern hardwoods	.0	21.6	34.2	31.9	21.2	108.9	25.2
Total, all groups	.0	356.7	639.7	448.4	419.5	1,864.3	2.3
SE	.0	12.9	8.7	12.2	12.1	2.3	

Table 11.--Area of timberland by forest-type group and stocking class of growing-stock trees, New Jersey, 1987

(In thousands of acres)

Forest-type group	Stocking class					All classes	SE
	Nonstocked	Poorly stocked	Moderately stocked	Fully stocked	Over-stocked		
White/red pine	.0	5.1	.0	14.1	5.2	24.4	52.9
Loblolly/shortleaf	.0	172.7	240.0	82.3	36.0	531.0	8.3
Oak/pine	.0	20.7	70.7	17.6	4.6	113.5	21.4
Oak/hickory	13.6	116.9	283.6	282.4	186.2	882.6	6.3
Oak/gum/cypress	.0	20.4	7.2	20.2	45.8	93.5	24.6
Elm/ash/red maple	.0	36.3	28.9	5.9	39.1	110.3	26.4
Northern hardwoods	.0	21.6	47.3	18.8	21.2	108.9	25.2
Total, all groups	13.6	393.6	677.8	441.3	338.2	1,864.3	2.3
SE	42.9	12.3	8.4	11.6	13.2	2.3	

Table 12.--Area of timberland by forest-type group and basal-area class, New Jersey, 1987

(In thousands of acres)

Forest-type group	Basal area class (square feet per acre)							All classes	SE
	0-49	50-99	100-149	150-199	200-249	250-299	300+		
White/red pine	.0	19.2	5.2	.0	.0	.0	.0	24.4	52.9
Loblolly/shortleaf	148.8	313.9	62.0	6.3	.0	.0	.0	531.0	8.3
Oak/pine	20.7	77.1	15.7	.0	.0	.0	.0	113.5	21.4
Oak/hickory	156.9	374.9	320.2	30.6	.0	.0	.0	882.6	6.3
Oak/gum/cypress	14.0	18.0	34.8	2.1	12.4	5.4	6.8	93.5	24.6
Elm/ash/red maple	30.7	36.2	43.4	.0	.0	.0	.0	110.3	26.4
Northern hardwoods	14.7	68.2	26.0	.0	.0	.0	.0	108.9	25.2
Total, all groups	385.7	907.6	507.4	39.1	12.4	5.4	6.8	1,864.3	2.3
SE	12.3	6.7	10.7	43.0	71.0	111.4	100.0	2.3	

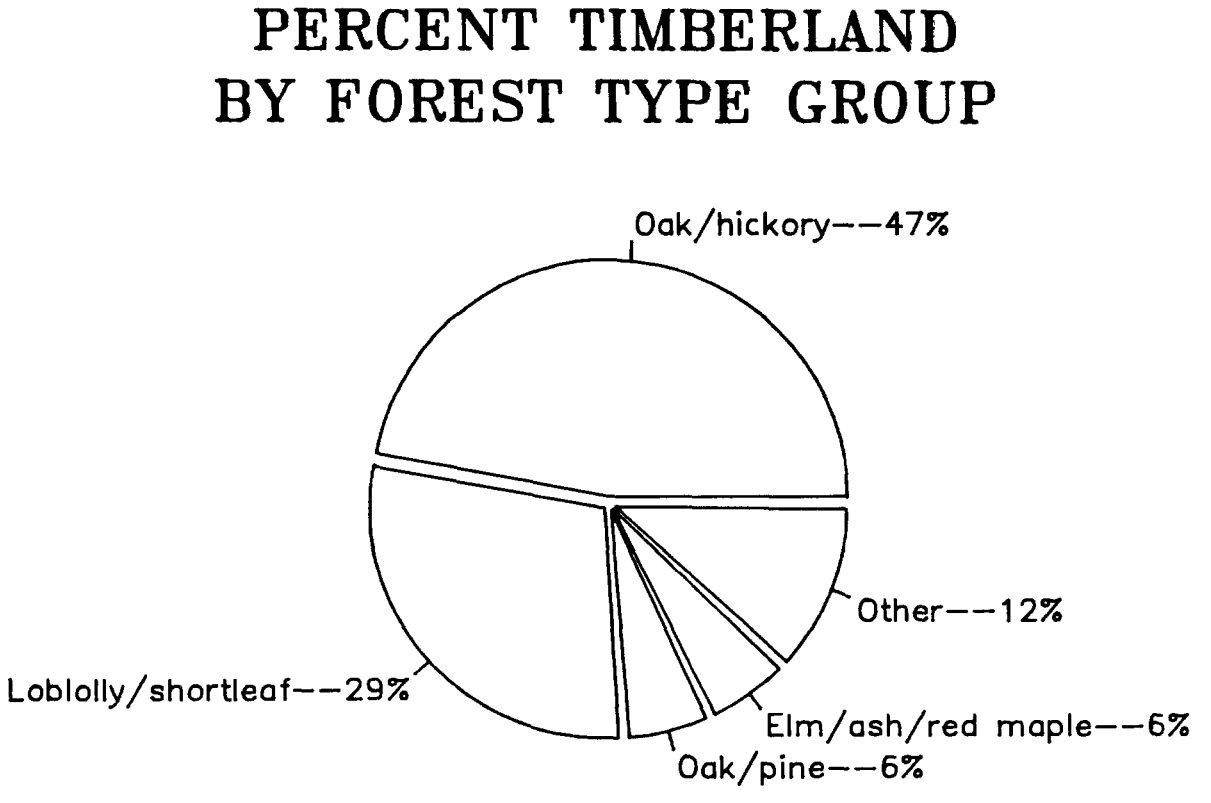

Table 13.--Number of live trees on timberland by species and diameter class, New Jersey, 1987

(In thousands of trees)

Species	Diameter class (inches at breast height)												All classes	SE
	1.0-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+		
Atlantic white-cedar	9,678	6,606	11,095	6,537	2,324	744	200	0	0	0	0	0	37,185	42.0
Shortleaf pine	0	2,281	741	684	1,209	652	42	95	0	25	0	0	5,730	38.1
Pitch pine	107,006	54,311	22,015	12,452	7,596	4,045	1,770	771	378	41	0	0	210,386	14.2
Virginia pine	2,185	857	264	328	95	64	71	0	0	0	0	0	3,865	63.0
Other pines	0	0	31	298	181	209	64	45	10	9	155	0	1,003	46.3
Other softwoods	25,148	8,293	2,844	791	127	79	79	0	12	0	0	29	37,401	37.8
Total softwoods	144,017	72,348	36,990	21,091	11,532	5,793	2,227	912	401	75	155	29	295,569	12.1
Red maple	91,519	22,494	16,663	9,964	5,162	2,404	817	605	285	295	292	22	150,522	14.5
Sugar maple	13,159	8,375	1,734	1,267	471	559	274	183	40	10	59	11	26,142	20.5
Hickory	6,374	0	1,326	1,048	943	373	383	122	77	53	13	0	10,712	38.8
Beech	2,703	737	557	603	168	137	229	97	112	52	8	0	5,402	46.0
Ash	9,295	3,761	3,413	1,948	2,915	1,249	876	585	185	77	32	0	24,335	21.0
Sweetgum	17,642	4,571	5,286	2,468	1,732	661	754	291	151	21	75	0	33,653	31.2
Yellow-poplar	5,185	0	545	586	423	631	637	733	258	437	277	17	9,732	54.7
Blackgum	25,818	12,038	5,077	1,953	1,092	337	156	128	62	0	4	0	46,666	23.6
Black cherry	6,581	2,275	1,565	1,206	520	115	90	14	0	0	0	0	12,367	35.6
Select white oaks	39,969	29,351	14,140	7,439	4,092	1,665	615	918	333	160	245	45	98,972	15.6
Select red oaks	5,801	1,728	660	783	1,094	708	878	530	674	133	327	5	13,322	37.4
Other red oaks	37,637	15,993	10,990	9,255	3,895	1,581	1,669	973	547	356	337	0	83,234	14.2
Chestnut oaks	12,362	12,263	2,926	2,463	2,891	1,428	1,233	407	238	128	107	0	36,447	20.6
Other commercial	77,424	30,179	8,984	4,777	2,384	1,732	1,098	463	161	34	15	0	127,252	14.2
Other noncommercial	59,389	20,984	3,177	681	285	178	150	24	0	0	82	0	84,951	20.3
Total hardwoods	410,857	164,750	77,043	46,444	28,066	13,759	9,860	6,075	3,124	1,756	1,875	101	763,709	5.9
Total, all species	554,875	237,097	114,033	67,535	39,598	19,552	12,086	6,986	3,524	1,831	2,030	130	1,059,278	5.2
SE	7.9	8.4	6.5	6.6	6.2	6.5	7.9	9.9	11.7	15.5	16.9	45.7	5.2	

Table 14.--Number of live trees on timberland by diameter class, tree class, and softwoods and hardwoods, New Jersey, 1987

(In thousands of trees)

Diameter class	Growing stock		Cull		All classes	SE
	Softwoods	Hardwoods	Softwoods	Hardwoods		
Seedlings	249,431	1,257,914	0	797,375	2,304,720	15.4
1.0 - 2.9	137,458	325,723	6,559	85,135	554,875	7.9
3.0 - 4.9	65,977	136,491	6,370	28,258	237,097	8.4
Total seedlings and saplings	452,866	1,720,128	12,929	910,768	3,096,692	6.6
5.0 - 6.9	36,517	71,118	473	5,925	114,033	6.5
7.0 - 8.9	21,065	44,717	25	1,727	67,535	6.6
9.0 - 10.9	-	26,770	-	1,295	28,065	6.2
Total poletimber	57,583	142,605	498	8,947	209,632	6.0
9.0 - 10.9	11,047	-	486	-	11,533	6.2
11.0 - 12.9	5,709	12,840	84	919	19,552	6.5
13.0 - 14.9	2,227	9,421	0	439	12,086	7.9
Total small sawtimber	18,983	22,261	570	1,357	43,171	5.8
15.0 - 16.9	912	5,980	0	95	6,986	9.9
17.0 - 18.9	401	3,053	0	71	3,524	11.7
19.0 - 20.9	75	1,724	0	32	1,831	15.5
21.0 - 28.9	155	1,694	0	181	2,030	16.9
29.0 and larger	29	71	0	30	130	45.7
Total large sawtimber	1,571	12,521	0	409	14,501	8.6
All classes	531,003	1,897,517	13,997	921,482	3,363,998	11.0
SE	28.6	10.8	54.6	25.1	11.0	

Table 15.--Number of trees (5.0+ inches d.b.h.) on timberland by species and tree class, New Jersey, 1987

(In thousands of trees)

Species	Tree class								
	Preferred	Acceptable	Growing stock	Rough cull	Rotten cull	All live	Salvable dead	All classes	SE
Atlantic white-cedar	1,029	19,788	20,817	83	0	20,900	1,156	22,056	44.9
Shortleaf pine	618	2,787	3,405	43	0	3,449	29	3,478	30.6
Pitch pine	728	47,590	48,318	512	239	49,069	761	49,830	8.9
Virginia pine	0	823	823	0	0	823	32	855	54.3
Other pines	219	783	1,003	0	0	1,003	0	1,003	46.3
Other softwoods	69	3,701	3,770	190	0	3,961	222	4,183	34.5
Total softwoods	2,663	75,473	78,136	829	239	79,204	2,201	81,405	12.7
Red maple	0	34,746	34,746	981	782	36,509	637	37,146	13.1
Sugar maple	131	4,339	4,470	138	0	4,608	0	4,608	26.7
Hickory	89	3,920	4,009	329	0	4,338	204	4,542	18.7
Beech	0	1,887	1,887	75	0	1,963	0	1,963	42.0
Ash	764	10,091	10,855	423	0	11,279	209	11,488	19.1
Sweetgum	673	10,763	11,437	0	3	11,440	260	11,699	33.1
Yellow-poplar	1,454	3,012	4,467	73	7	4,547	0	4,547	23.2
Blackgum	96	8,605	8,701	70	39	8,810	0	8,810	17.5
Black cherry	0	2,861	2,861	649	0	3,510	80	3,591	25.0
Select white oaks	548	28,773	29,321	54	277	29,652	2,156	31,808	12.4
Select red oaks	1,077	4,676	5,753	28	11	5,793	322	6,115	19.9
Other red oaks	1,271	27,861	29,132	155	317	29,605	980	30,585	12.1
Chestnut oaks	503	10,663	11,166	656	0	11,822	876	12,698	17.8
Other commercial	200	18,091	18,292	805	552	19,649	481	20,130	13.5
Other noncommercial	33	256	289	4,256	33	4,578	156	4,734	19.4
Total hardwoods	6,840	170,548	177,388	8,692	2,021	188,101	6,360	194,461	4.9
Total, all species	9,503	246,021	255,524	9,521	2,260	267,305	8,561	275,866	4.8
SE	10.4	5.0	5.0	12.3	18.5	4.8	14.7	4.8	

Table 16.--Number of growing-stock trees on timberland by species and diameter class, New Jersey, 1987

(In thousands of trees)

Species	Diameter class (inches at breast height)												All classes	SE
	1.0-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+		
Atlantic white-cedar	9,678	6,606	11,095	6,537	2,241	744	200	0	0	0	0	0	37,102	42.0
Shortleaf pine	0	2,281	741	684	1,165	652	42	95	0	25	0	0	5,687	38.4
Pitch pine	101,253	47,940	21,606	12,427	7,339	3,986	1,770	771	378	41	0	0	197,512	14.5
Virginia pine	2,185	857	264	328	95	64	71	0	0	0	0	0	3,865	63.0
Other pines	0	0	31	298	181	209	64	45	10	9	155	0	1,003	46.3
Other softwoods	24,341	8,293	2,780	791	25	54	79	0	12	0	0	29	36,405	38.2
Total softwoods	137,458	65,977	36,517	21,065	11,047	5,709	2,227	912	401	75	155	29	281,572	12.3
Red maple	88,828	21,738	16,023	9,834	4,874	2,011	716	544	255	278	207	3	145,312	14.9
Sugar maple	13,159	6,401	1,734	1,188	471	512	274	183	40	10	59	0	24,031	20.2
Hickory	4,862	0	997	1,048	943	373	383	122	77	53	13	0	8,871	36.3
Beech	1,452	737	481	603	168	137	229	97	112	52	8	0	4,076	43.8
Ash	7,441	2,573	3,226	1,870	2,879	1,140	876	570	185	77	32	0	20,869	18.9
Sweetgum	15,968	4,571	5,286	2,468	1,732	661	754	291	151	21	72	0	31,976	32.8
Yellow-poplar	5,185	0	512	586	383	631	637	733	258	437	270	17	9,652	55.1
Blackgum	25,818	10,859	5,007	1,915	1,092	337	156	128	62	0	4	0	45,379	24.3
Black cherry	3,967	2,275	1,326	926	441	115	40	14	0	0	0	0	9,104	34.5
Select white oaks	39,406	29,351	14,023	7,396	3,936	1,665	615	918	333	144	245	45	98,078	15.7
Select red oaks	5,801	1,728	660	783	1,094	680	878	530	663	133	327	5	13,283	37.4
Other red oaks	35,579	15,993	10,916	9,137	3,817	1,581	1,545	973	547	356	259	0	80,705	14.2
Chestnut oaks	12,362	12,263	2,801	2,389	2,585	1,325	1,203	389	238	128	107	0	35,791	20.7
Other hardwoods	65,894	28,000	8,123	4,573	2,355	1,672	1,116	488	131	34	89	0	112,476	14.9
Total hardwoods	325,723	136,491	71,118	44,717	26,770	12,840	9,421	5,980	3,053	1,724	1,694	71	639,602	6.4
Total, all species	463,181	202,469	107,635	65,783	37,817	18,550	11,648	6,891	3,453	1,799	1,848	100	921,174	5.6
SE	8.7	9.1	6.8	6.7	6.4	6.8	8.2	10.1	11.7	15.7	16.9	51.5	5.6	

Top ten nut- and fruit-producing trees
(millions of trees)

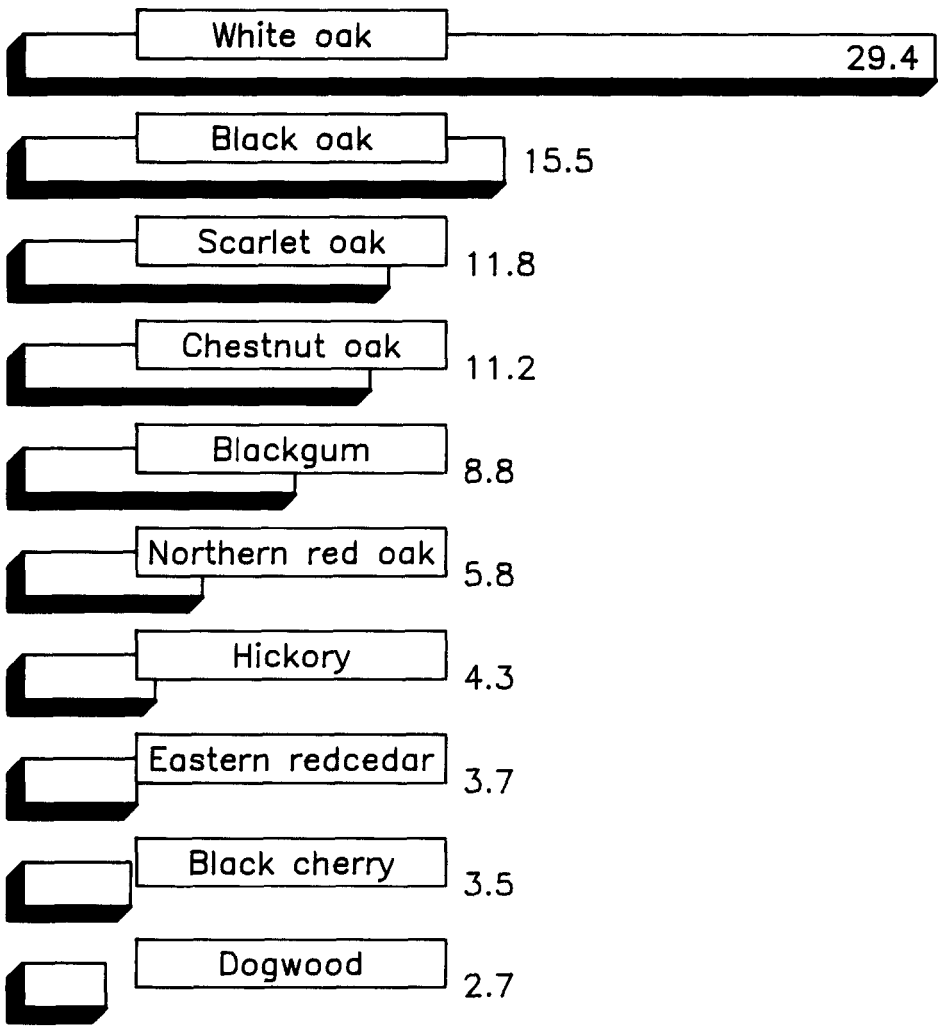

Table 17.--Number of all live nut- and fruit-producing trees on timberland by species and diameter class, New Jersey, 1987

(In thousands of trees)

Species	Diameter class (inches at breast height)										All classes	SE
	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+		
Eastern redcedar	2,811	791	82	50	0	0	0	0	0	0	3,734	38.3
Serviceberry	93	29	0	0	0	0	0	0	0	0	122	74.0
Hickory	1,326	1,048	943	373	383	122	77	53	13	0	4,338	19.0
Hackberry	0	0	0	0	33	0	0	0	0	0	33	106.6
Dogwood	2,497	0	159	0	0	0	0	0	0	0	2,657	33.6
Beech	557	603	168	137	229	97	112	52	8	0	1,963	42.0
American holly	787	30	0	0	0	0	0	0	0	0	817	42.6
Butternut	64	151	104	0	0	32	0	0	0	0	351	55.4
Black walnut	199	525	424	267	162	67	14	0	15	0	1,673	44.7
Osage-orange	87	0	0	43	0	0	0	0	0	0	131	98.8
Magnolia	0	152	0	0	0	0	0	0	0	0	152	67.2
Sweetbay	95	0	0	0	0	0	0	0	0	0	95	60.9
Apple	45	61	0	0	0	0	0	0	0	0	106	107.3
Blackgum	5,077	1,953	1,092	337	156	128	62	0	4	0	8,810	17.5
Eastern hophornbeam	111	78	0	0	0	0	0	0	0	0	188	84.6
Black cherry	1,565	1,206	520	115	90	14	0	0	0	0	3,510	25.5
Chokecherry	46	0	0	0	0	0	0	0	0	0	46	94.1
White oak	14,107	7,407	4,053	1,600	615	819	333	160	245	29	29,367	12.7
Swamp white oak	33	33	38	65	0	99	0	0	0	16	284	64.5
Scarlet oak	5,016	4,093	1,775	333	293	70	163	33	0	0	11,773	20.0
Southern red oak	138	278	260	197	105	0	0	0	33	0	1,011	29.9
Pin oak	422	185	241	77	119	80	0	33	18	0	1,173	42.0
Willow oak	0	47	0	0	47	0	0	47	0	0	141	83.0
Chestnut oak	2,547	2,242	2,891	1,428	1,233	407	238	128	107	0	11,222	18.4
Northern red oak	660	783	1,094	708	878	530	674	133	327	5	5,793	19.5
Post oak	379	221	0	0	0	0	0	0	0	0	599	72.1
Black oak	5,414	4,653	1,619	975	1,105	823	384	244	287	0	15,505	17.8
Sassafras	1,458	363	190	62	76	0	0	0	0	0	2,149	20.7
Basswood	259	113	29	152	109	0	0	0	0	0	662	50.0
Total, all species	45,795	27,043	15,683	6,920	5,632	3,289	2,058	882	1,057	51	108,409	6.5
SE	8.5	8.9	9.4	10.9	11.9	14.2	14.1	21.8	23.2	78.2	6.5	

Table 18.--Number of shrubs and saplings on timberland by stand-size class, type of stem, and mast type, New Jersey, 1987

(In thousands of stems)

Stand-size class and type of stem	Mast type				Total stems	SE
	Nuts	Other seeds	Berries	Other species		
Sawtimber:						
Shrubs	3,524	155,884	728,539	100,689	988,637	7.4
Saplings	55,411	133,588	72,083	3,272	264,354	11.4
Total sawtimber	58,936	289,472	800,622	103,961	1,252,991	7.4
Poletimber:						
Shrubs	0	140,347	586,863	115,397	842,607	8.8
Saplings	79,183	182,977	58,379	3,389	323,928	11.9
Total poletimber	79,183	323,324	645,243	118,786	1,166,536	8.8
Sapling/seedling:						
Shrubs	0	49,457	200,160	33,756	283,372	17.4
Saplings	56,346	114,518	32,826	0	203,690	19.8
Total sapling/seedling	56,346	163,975	232,986	33,756	487,063	16.8
Nonstocked:						
Shrubs	0	0	8,475	0	8,475	86.5
Total nonstocked	0	0	8,475	0	8,475	86.5
Total, all classes	194,465	776,771	1,687,325	256,503	2,915,065	3.6
SE	12.2	7.1	3.6	11.8	3.6	

Table 19.--Number of standing dead trees on timberland by species, condition and diameter class, New Jersey, 1987

(In thousands of trees)

Species	Diameter class									
	Intact top				Broken top				Total all trees	SE
	Diameter class (inches at breast height)				Diameter class (inches at breast height)					
	5.0-10.9	11.0-14.9	15+	Total	5.0-10.9	11.0-14.9	15+	Total		
Atlantic white-cedar	906	0	0	906	250	0	0	250	1,156	52.5
Shortleaf pine	29	0	0	29	0	0	0	0	29	108.3
Pitch pine	371	114	0	485	138	108	30	276	761	33.7
Virginia pine	32	0	0	32	0	0	0	0	32	117.2
Other softwoods	222	0	0	222	0	0	0	0	222	75.2
Total softwoods	1,560	114	0	1,674	388	108	30	526	2,201	30.2
Red maple	321	0	0	321	265	0	51	316	637	36.2
Hickory	152	25	0	177	27	0	0	27	204	53.0
Ash	51	0	0	51	158	0	0	158	209	63.2
Sweetgum	43	0	0	43	216	0	0	216	260	100.0
Black cherry	80	0	0	80	0	0	0	0	80	105.2
Select white oaks	1,243	70	229	1,543	457	84	73	613	2,156	34.2
Select red oaks	234	40	0	273	33	0	16	49	322	52.5
Other red oaks	612	63	61	736	137	75	33	245	980	37.2
Chestnut oaks	456	59	0	515	317	29	14	361	876	37.2
Other commercial	139	72	0	211	103	133	33	269	481	31.0
Other noncommercial	101	0	0	101	54	0	0	54	156	68.3
Total hardwoods	3,432	329	290	4,051	1,768	321	219	2,309	6,360	17.4
Total, all species	4,992	443	290	5,725	2,156	430	249	2,835	8,561	14.7
SE	19.1	32.0	57.2	17.4	19.4	34.6	42.8	17.1	14.7	

Table 20.--Number of trees (5.0+ inches d.b.h.) with observed cavities on timberland by species and condition class, New Jersey, 1987

(In thousands of trees)

Species	Live				Total live	Dead		Total dead	Total all trees	SE
	No cull	Intact live top	Broken top	Dead top		Intact top	Broken top			
Atlantic white-cedar	75	0	0	0	75	0	0	0	75	61.7
Shortleaf pine	9	0	0	0	9	0	0	0	9	170.5
Pitch pine	1,649	173	0	50	1,872	89	120	209	2,081	25.9
Other pines	28	0	0	0	28	0	0	0	28	108.9
Other softwoods	94	32	0	0	126	0	0	0	126	65.1
Total softwoods	1,855	204	0	50	2,111	89	120	209	2,319	23.3
Red maple	4,780	565	231	155	5,732	204	134	338	6,070	16.4
Sugar maple	407	11	0	0	418	0	0	0	418	40.4
Hickory	438	0	329	0	767	0	27	27	794	35.6
Beech	179	0	0	0	179	0	0	0	179	74.4
Ash	958	32	36	0	1,026	0	158	158	1,184	30.5
Sweetgum	516	0	3	0	519	0	43	43	562	38.0
Yellow-poplar	31	7	0	40	79	0	0	0	79	59.6
Blackgum	450	39	0	0	489	0	0	0	489	51.3
Black cherry	339	224	0	0	563	80	0	80	643	46.1
Select white oaks	1,518	250	0	0	1,767	320	225	545	2,312	21.9
Select red oaks	581	11	0	0	593	41	49	89	682	37.9
Other red oaks	1,874	93	183	0	2,150	198	110	308	2,458	23.6
Chestnut oaks	830	154	0	78	1,062	162	322	483	1,545	30.2
Other commercial	1,881	59	0	491	2,431	0	191	191	2,622	20.8
Other noncommercial	293	190	0	0	483	43	54	98	581	39.1
Total hardwoods	15,076	1,635	782	764	18,257	1,047	1,313	2,361	20,618	7.9
Total, all species	16,932	1,839	782	815	20,368	1,136	1,433	2,569	22,937	7.4
SE	8.3	19.0	36.0	27.6	7.8	28.6	20.9	18.4	7.4	

Table 21.--Number of seedlings, saplings, and shrubs on timberland by species and stand-size class, New Jersey, 1987

(In millions of stems)

Species	Stand-size class				All classes	SE
	Sawtimber	Poletimber	Sapling and seedling	Nonstocked		
Atlantic white cedar	1	126	7	0	134	109.5
Eastern red cedar	16	33	37	0	86	34.8
Pitch pine	8	120	110	0	238	19.1
Other conifers	2	1	6	0	9	53.2
Total coniferous species	27	280	159	0	466	32.4
Red maple	198	153	27	0	378	23.7
Sugar maple	69	4	0	0	73	41.2
Black birch	29	53	0	0	82	41.7
Flowering dogwood	10	11	21	0	43	39.7
Other dogwood species	32	19	17	0	68	21.6
Ash species	113	26	4	0	143	32.7
Sheep laurel	17	47	34	0	98	17.0
Other laurel	53	45	3	0	101	18.9
Common spicebush	135	18	1	0	154	14.3
Black cherry	90	53	7	0	150	39.8
Other Prunus species	12	5	3	0	21	37.9
White oak	51	89	48	0	188	35.8
Scrub oak	19	91	409	0	520	39.6
Chestnut oak	25	76	3	0	104	45.0
Other oak species	80	153	98	0	332	17.7
Sumac species	0	8	11	3	22	33.4
Rose species	14	12	23	2	51	24.3
Rubus species	116	41	11	2	170	10.7
Sassafras	43	25	47	0	114	41.4
Blueberry species	296	426	137	2	861	4.4
Maple-leaved viburnum	84	27	0	0	111	16.3
Other viburnum species	20	19	0	0	39	25.6
Other deciduous species	336	181	136	0	654	14.7
Total deciduous species	1,845	1,585	1,041	8	4,477	7.0
Unknown deciduous shrubs	96	89	27	0	213	12.7
Unknown coniferous shrubs	4	26	6	0	37	27.3
Unknown tree	3	23	0	0	27	77.1
Total unknown	103	138	33	0	277	77.1
Total, all species	1,975	2,003	1,233	8	5,220	7.3
SE	10.6	14.4	22.7	86.5	7.3	

Table 22.--Number of seedlings, saplings, and shrubs on timberland by species and forest-type group, New Jersey, 1987

(In millions of stems)

Species	Forest-type group									All groups	SE
	White/ red pine	Spruce/ fir	Loblolly/ shortleaf	Oak/ pine	Oak/ hickory	Oak/gum/ cypress	Elm/ash/ red maple	Northern hardwoods	Aspen/ birch		
Atlantic white cedar	0	0	0	0	0	134	0	0	0	134	109.5
Eastern red cedar	0	0	55	3	16	0	0	11	0	86	34.8
Pitch pine	2	0	214	3	18	1	0	0	0	238	19.1
Other conifers	0	0	5	0	3	0	0	0	0	9	53.2
Total coniferous species	2	0	274	6	37	135	0	11	0	466	32.4
Red maple	3	0	58	12	208	41	8	47	0	378	23.7
Sugar maple	0	0	0	0	64	0	2	6	0	73	41.2
Black birch	0	0	1	0	77	0	0	4	0	82	41.7
Flowering dogwood	0	0	11	0	31	0	0	1	0	43	39.7
Other dogwood species	2	0	7	0	34	0	11	15	0	68	21.6
Ash species	0	0	10	0	115	0	10	8	0	143	32.7
Sheep laurel	0	0	69	6	20	2	0	0	0	98	17.0
Other laurel	0	0	13	4	64	12	7	0	0	101	18.9
Common spicebush	0	0	4	5	101	1	13	30	0	154	14.3
Black cherry	0	0	13	0	129	0	3	4	0	150	39.8
Other Prunus species	2	0	1	1	14	0	0	3	0	21	37.9
White oak	8	0	77	16	80	0	1	6	0	188	35.8
Scrub oak	3	0	465	17	34	0	0	0	0	520	39.6
Chestnut oak	3	0	6	2	93	0	0	0	0	104	45.0
Other oak species	7	0	158	22	131	1	0	12	0	332	17.7
Sumac species	0	0	6	0	10	1	0	5	0	22	33.4
Rose species	0	0	7	0	26	5	1	11	0	51	24.3
Rubus species	2	0	14	0	114	0	9	31	0	170	10.7
Sassafras	4	0	42	16	44	0	1	8	0	114	41.4
Blueberry species	15	0	385	71	314	54	20	2	0	861	4.4
Maple-leaved viburnum	0	0	3	0	103	0	0	5	0	111	16.3
Other viburnum species	0	0	0	3	22	1	6	7	0	39	25.6
Other deciduous species	10	0	186	30	294	63	33	37	0	654	14.7
Total deciduous species	59	0	1,537	207	2,235	182	127	244	0	4,477	7.0
Unknown deciduous shrubs	4	0	49	7	55	58	34	5	0	213	12.7
Unknown coniferous shrubs	0	0	28	0	4	4	0	0	0	37	27.3
Unknown tree	0	0	0	2	3	22	0	0	0	27	77.1
Total unknown	4	0	77	9	62	84	34	5	0	277	77.1
Total, all species	65	0	1,888	222	2,222	400	161	261	0	5,220	7.3
SE	55.9	.0	15.3	26.5	10.7	48.6	31.0	34.9	0	7.3	

Table 23.--Number of seedlings, saplings, and shrubs on timberland by species and browse-utilization class, New Jersey, 1987

(In millions of stems)

Species	Browse-utilization class				All classes	SE
	None	Light	Moderate	Heavy		
Atlantic white cedar	134	0	0	0	134	109.5
Eastern red cedar	83	2	0	0	86	34.8
Pitch pine	237	1	0	0	238	19.1
Other conifers	9	0	0	0	9	53.2
Total coniferous species	463	3	0	0	466	32.4
Red maple	180	148	27	22	378	23.7
Sugar maple	45	16	1	10	73	41.2
Black birch	51	21	9	1	82	41.7
Flowering dogwood	25	6	11	0	43	39.7
Other dogwood species	15	41	8	5	68	21.6
Ash species	27	75	31	11	143	32.7
Sheep laurel	81	17	0	0	98	17.0
Other laurel	53	37	10	0	101	18.9
Common spicebush	57	72	16	9	154	14.3
Black cherry	45	90	9	4	150	39.8
Other Prunus species	11	10	0	0	21	37.9
White oak	139	46	2	0	188	35.8
Scrub oak	360	142	17	0	520	39.6
Chestnut oak	24	78	1	2	104	45.0
Other oak species	202	109	19	2	332	17.7
Sumac species	12	11	0	0	22	33.4
Rose species	39	8	4	1	51	24.3
Rubus species	129	29	9	1	170	10.7
Sassafras	85	27	0	2	114	41.4
Blueberry species	327	495	33	6	861	4.4
Maple-leaved viburnum	10	66	23	12	111	16.3
Other viburnum species	10	23	6	0	39	25.6
Other deciduous species	451	148	31	24	654	14.7
Total deciduous species	2,379	1,716	270	114	4,477	7.0
Unknown deciduous shrubs	116	83	10	3	213	12.7
Unknown coniferous shrubs	31	6	0	0	37	27.3
Unknown tree	25	1	0	0	27	77.1
Total unknown	172	90	10	3	277	77.1
Total, all species	3,013	1,809	280	117	5,220	7.3
SE	10.3	9.3	15.4	26.3	7.3	

Table 24.--Number of trees (5.0+ inches d.b.h.) with observed cavities on timberland by species and presence of cavities, New Jersey, 1987

(In thousands of trees)

Species	Live trees				Dead trees				Total all trees	SE
	One or more small	One or more large	Multiple large or small	Total live	One or more small	One or more large	Multiple large or small	Total dead		
Atlantic white-cedar	38	38	0	75	0	0	0	0	75	61.7
Shortleaf pine	9	0	0	9	0	0	0	0	9	170.5
Pitch pine	1,252	621	0	1,872	129	0	79	209	2,081	25.9
Other pines	0	28	0	28	0	0	0	0	28	108.9
Other softwoods	93	33	0	126	0	0	0	0	126	65.1
Total softwoods	1,392	719	0	2,111	129	0	79	209	2,319	23.3
Red maple	3,352	1,856	523	5,732	271	67	0	338	6,070	16.4
Sugar maple	275	143	0	418	0	0	0	0	418	40.4
Hickory	236	531	0	767	0	27	0	27	794	35.6
Beech	79	99	0	179	0	0	0	0	179	74.4
Ash	588	438	0	1,026	158	0	0	158	1,184	30.5
Sweetgum	309	162	47	519	0	0	43	43	562	38.0
Yellow-poplar	0	79	0	79	0	0	0	0	79	59.6
Blackgum	281	145	63	489	0	0	0	0	489	51.3
Black cherry	460	104	0	563	80	0	0	80	643	46.1
Select white oaks	1,417	188	163	1,767	264	280	0	545	2,312	21.9
Select red oaks	381	211	0	593	73	16	0	89	682	37.9
Other red oaks	1,615	198	336	2,150	162	100	45	308	2,458	23.6
Chestnut oaks	818	244	0	1,062	300	183	0	483	1,545	30.2
Other commercial	1,213	534	683	2,431	103	89	0	191	2,622	20.8
Other noncommercial	373	45	65	483	27	71	0	98	581	39.1
Total hardwoods	11,398	4,979	1,881	18,257	1,439	832	89	2,361	20,618	7.9
Total, all species	12,790	5,697	1,881	20,368	1,569	832	168	2,569	22,937	7.4
SE	9.2	12.3	20.0	7.8	22.4	26.5	64.6	18.4	7.4	

Table 25.--Net green weight of all live trees on timberland by species and diameter class, New Jersey, 1987

(In thousands of tons)

Species	Diameter class (inches at breast height)										All classes	SE
	1.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0+		
Atlantic white-cedar	600.5	2,041.7	2,138.6	1,167.5	532.6	190.0	.0	.0	.0	.0	6,670.9	44.0
Shortleaf pine	176.4	.0	195.0	538.8	453.4	38.3	123.9	.0	47.6	.0	1,573.4	29.1
Pitch pine	4,763.1	2,548.1	3,551.5	3,479.9	2,761.5	1,664.1	964.6	602.9	76.6	.0	20,412.2	8.3
Virginia pine	62.2	43.7	101.1	44.0	44.5	61.1	.0	.0	.0	.0	356.6	50.4
Other pines	.0	6.1	112.3	76.1	130.4	58.8	53.7	18.0	17.7	402.6	875.7	49.5
Other softwoods	820.5	311.0	191.8	47.3	46.9	87.3	.0	16.0	.0	178.6	1,699.3	29.4
Total softwoods	6,422.7	4,950.5	6,290.3	5,353.6	3,969.3	2,099.7	1,142.1	636.9	141.8	581.2	31,588.1	10.1
Red maple	2,271.8	1,915.7	2,791.1	2,282.0	1,567.8	733.9	690.8	440.4	576.7	896.5	14,166.9	13.4
Sugar maple	767.7	241.4	385.9	222.4	420.4	266.7	225.8	55.5	21.8	223.3	2,830.8	22.1
Hickory	61.0	155.4	379.3	495.9	317.4	466.7	221.9	156.5	162.3	43.8	2,460.1	16.7
Beech	69.2	102.3	218.6	103.6	136.3	298.1	168.8	245.6	166.9	39.5	1,548.8	35.2
Ash	322.8	349.3	549.8	1,441.6	906.7	935.1	830.1	302.5	142.9	90.4	5,871.2	19.9
Sweetgum	451.3	726.7	764.2	838.5	479.4	785.3	375.1	239.9	53.0	229.5	4,943.0	30.8
Yellow-poplar	43.6	84.0	162.2	223.8	565.9	750.5	1,176.2	481.6	1,150.8	1,138.2	5,776.8	22.6
Blackgum	950.1	512.3	581.3	547.8	252.2	174.8	193.0	109.8	.0	12.9	3,334.2	19.3
Black cherry	140.8	182.3	348.3	231.2	81.5	81.7	19.5	.0	.0	.0	1,085.3	26.4
Select white oaks	2,307.4	1,610.6	2,118.3	1,927.2	1,242.7	634.7	1,352.7	590.0	334.3	1,113.2	13,231.2	12.4
Select red oaks	115.0	92.9	261.9	615.9	577.3	954.1	747.7	1,226.8	304.0	1,078.5	5,974.1	17.3
Other red oaks	1,353.3	1,262.2	2,752.1	1,912.4	1,229.1	1,779.8	1,491.7	1,050.4	942.2	1,233.9	15,007.2	11.6
Chestnut oaks	944.3	259.9	731.5	1,394.7	1,072.1	1,222.3	553.9	470.9	296.3	449.1	7,395.0	16.7
Other commercial hardwoods	2,454.8	852.4	1,453.5	1,257.1	1,265.0	1,146.0	657.4	337.9	79.3	27.3	9,530.8	13.9
Other noncommercial hardwoods	1,730.5	357.8	165.4	135.6	97.2	138.5	40.6	.0	.0	377.9	3,043.5	20.0
Total hardwoods	13,983.7	8,705.0	13,663.4	13,629.8	10,211.0	10,368.5	8,745.2	5,707.8	4,230.5	6,954.0	96,198.9	4.9
Total, all species	20,406.4	13,655.5	19,953.7	18,983.4	14,180.3	12,468.2	9,887.3	6,344.7	4,372.3	7,535.2	127,787.0	4.2
SE	7.0	8.7	7.0	6.5	6.9	8.1	10.4	11.9	16.3	17.8	4.2	

Table 26.--Net green weight of all trees on timberland by class of material and species group, New Jersey, 1987

(In thousands of tons)

Class of material	Weight[a]		All groups	SE
	Softwoods	Hardwoods		
Sawlog portion	8,999.4	27,511.5	36,510.9	6.4
Upper stem	1,316.1	6,268.1	7,584.2	6.4
Total	10,315.6	33,779.6	44,095.2	6.3
Poletimber trees	7,551.6	24,329.0	31,880.6	6.1
All growing stock	17,867.2	58,108.6	75,975.8	4.9
Rough cull trees[b]	198.6	2,013.4	2,211.9	15.9
Rotten cull trees[b]	6.9	246.0	252.9	34.2
Salvable dead[c]	580.1	2,091.2	2,671.2	19.2
Saplings[c]	6,422.7	13,983.7	20,406.4	7.0
Tops - growing stock	7,019.9	21,040.0	28,059.8	4.8
Tops - rough and rotten	73.0	807.3	880.3	12.6
All nongrowing stock	14,301.0	40,181.5	54,482.5	4.1
Total, all classes	32,168.2	98,290.1	130,458.3	4.2
SE	10.2	4.9	4.2	

[a] Includes bark and sound cull; excludes rotten cull.

[b] Bole portion of trees 5.0 inches d.b.h. and larger.

[c] Weight of entire tree aboveground.

Table 27.--Net volume of all trees on timberland by class of material and species group, New Jersey, 1987

(In millions of cubic feet)

Class of material	Species group				Total, all species	SE
	Pines	Other softwoods	Soft hardwoods	Hard hardwoods		
Sawtimber trees:						
Sawlog portion	223.2	43.0	287.2	559.2	1,112.6	6.7
Upper stem portion	31.9	6.7	64.6	128.1	231.4	6.8
Total	255.1	49.8	351.8	687.3	1,344.0	6.7
Poletimber trees	127.5	94.1	282.9	467.3	971.8	6.3
Total growing stock	382.6	143.9	634.8	1,154.5	2,315.8	5.1
Rough trees:						
Sawtimber size	2.4	1.6	12.2	18.7	34.9	26.6
Poletimber size	.2	.1	14.6	6.8	21.7	16.0
Total	2.6	1.6	26.8	25.5	56.6	17.1
Rotten trees:						
Sawtimber size	.0	.0	3.4	.9	4.3	59.0
Poletimber size	.1	.0	1.1	.4	1.6	39.7
Total	.1	.0	4.5	1.3	5.9	44.4
Salvable dead trees:						
Sawtimber size	2.8	.4	2.3	19.0	24.5	34.4
Poletimber size	1.1	4.1	3.1	16.9	25.2	18.7
Total	3.9	4.5	5.4	35.9	49.6	21.9
Total, all trees	389.2	149.9	671.5	1,217.2	2,427.9	5.0
SE	8.7	39.9	11.1	6.4	5.0	

Table 28.--Net volume of all live, growing-stock, and sawtimber trees on timberland by species group and ownership class, New Jersey, 1987

(In millions of feet)

Species group	Ownership class				All classes	SE
	National Forest	Other public	Forest industry	Other private		
All live (cubic feet):						
Softwoods	.0	225.7	.0	305.1	530.8	11.7
Hardwoods	.0	383.0	.0	1,464.4	1,847.4	5.8
Total, all groups	.0	608.7	.0	1,769.6	2,378.2	5.0
Growing stock (cubic feet):						
Softwoods	.0	223.8	.0	302.7	526.5	11.7
Hardwoods	.0	363.4	.0	1,425.9	1,789.3	6.0
Total, all groups	.0	587.2	.0	1,728.6	2,315.8	5.1
Sawtimber (board feet):[a]						
Softwoods	.0	440.9	.0	695.8	1,136.6	11.4
Hardwoods	.0	1,027.7	.0	3,407.1	4,434.8	8.6
Total, all groups	.0	1,468.6	.0	4,102.9	5,571.4	7.1

[a] International 1/4-inch rule.

Table 29.--Net volume of growing-stock trees on timberland by forest-type group and stand-size class, New Jersey, 1987

(In millions of cubic feet)

Forest-type group	Stand-size class				All classes	SE
	Sawtimber	Poletimber	Sapling and seedling	Nonstocked		
White/red pine	41.1	.0	.0	.0	41.1	54.5
Loblolly/shortleaf	197.3	121.5	27.6	.0	346.4	12.1
Oak/pine	39.4	55.5	.9	.0	95.8	26.0
Oak/hickory	958.8	357.2	17.8	.0	1,333.8	8.2
Oak/gum/cypress	79.4	131.4	.2	.0	211.0	31.9
Elm/ash/red maple	51.5	100.8	1.1	.0	153.5	29.6
Northern hardwoods	101.3	32.4	.5	.0	134.2	33.6
Total, all groups	1,468.8	798.8	48.1	.0	2,315.8	5.1
SE	8.2	10.1	26.1	.0	5.1	

Table 30.--Net volume of growing-stock trees on timberland by forest-type group and basal-area class, New Jersey, 1987

(In millions of cubic feet)

Forest-type group	Basal area class (square feet per acre)							All classes	SE
	0-49	50-99	100-149	150-199	200-249	250-299	300+		
White/red pine	.0	27.8	13.3	.0	.0	.0	.0	41.1	54.5
Loblolly/shortleaf	42.5	223.5	71.1	9.2	.0	.0	.0	346.4	12.1
Oak/pine	6.5	65.0	24.4	.0	.0	.0	.0	95.8	26.0
Oak/hickory	56.8	468.4	709.1	99.5	.0	.0	.0	1,333.8	8.2
Oak/gum/cypress	5.7	21.7	52.1	9.7	55.4	32.3	34.2	211.0	31.9
Elm/ash/red maple	10.4	48.3	94.8	.0	.0	.0	.0	153.5	29.6
Northern hardwoods	2.2	74.8	57.1	.0	.0	.0	.0	134.2	33.6
Total, all groups	124.2	929.6	1,021.9	118.3	55.4	32.3	34.2	2,315.8	5.1
SE	16.5	8.3	11.9	45.3	73.2	111.4	100.0	5.1	

Table 31.--Net volume of growing-stock trees on timberland by species and forest-type group, New Jersey, 1987

(In millions of cubic feet)

Species	Forest-type group									All groups	SE
	White/ red pine	Spruce/ fir	Loblolly/ shortleaf	Oak/ pine	Oak/ hickory	Oak/gum/ cypress	Elm/ash/ red maple	Northern hardwoods	Aspen/ birch		
Atlantic white-cedar	.5	.0	.9	1.0	.4	120.1	3.1	.0	.0	125.9	45.5
Shortleaf pine	.0	.0	26.9	3.4	1.9	.0	.0	.0	.0	32.2	28.7
Pitch pine	1.6	.0	254.2	30.9	29.1	5.5	1.1	.9	.0	323.3	9.1
Virginia pine	.0	.0	3.2	2.5	.1	.0	.0	.0	.0	5.9	58.7
Other pines	17.9	.0	.9	.3	2.2	.0	.0	.0	.0	21.2	50.1
Other softwoods	4.8	.0	5.9	2.1	3.2	.0	.0	1.9	.0	17.9	36.0
Total softwoods	24.7	.0	292.0	40.2	37.0	125.6	4.2	2.8	.0	526.5	11.7
Red maple	.6	.0	9.2	9.9	115.2	41.0	81.3	8.3	.0	265.5	15.5
Sugar maple	.0	.0	.3	.0	38.7	.0	2.4	4.9	.0	46.3	27.6
Hickory	.1	.0	.2	.0	43.0	.0	.6	5.5	.0	49.4	16.6
Beech	.0	.0	.0	.0	28.8	.0	.0	.0	.0	28.8	36.5
Ash	.3	.0	1.3	.0	61.0	.0	34.3	40.7	.0	137.5	19.9
Sweetgum	.9	.0	.0	10.4	85.7	10.3	.0	1.0	.0	108.4	32.2
Yellow-poplar	1.9	.0	.0	.0	144.5	.0	.2	4.5	.0	151.2	24.4
Blackgum	.8	.0	5.1	5.0	13.6	22.1	2.9	1.3	.0	50.8	20.8
Black cherry	.5	.0	.1	.3	6.0	.0	1.5	7.2	.0	15.5	27.0
Select white oaks	5.0	.0	14.9	7.2	190.3	3.9	4.0	5.3	.0	230.4	13.6
Select red oaks	.2	.0	.0	3.3	126.0	.0	.1	2.4	.0	132.1	17.4
Other red oaks	5.7	.0	19.8	18.6	232.4	7.6	4.5	2.2	.0	290.7	12.2
Chestnut oaks	.1	.0	2.8	.1	120.1	.5	.7	1.4	.0	125.7	17.6
Other hardwoods	.2	.0	.8	.8	91.6	.1	16.6	46.8	.0	156.9	18.0
Total hardwoods	16.4	.0	54.4	55.6	1,296.8	85.4	149.3	131.4	.0	1,789.3	6.0
Total, all species	41.1	.0	346.4	95.8	1,333.8	211.0	153.5	134.2	.0	2,315.8	5.1
SE	54.5	.0	12.1	26.0	8.2	31.9	29.6	33.6	.0	5.1	

Table 32.--Net volume of growing-stock trees on timberland by species and stand-size class, New Jersey, 1987

(In millions of cubic feet)

Species	Stand-size class				All classes	SE
	Sawtimber	Poletimber	Sapling and seedling	Nonstocked		
Atlantic white-cedar	33.6	92.2	.2	.0	125.9	45.5
Shortleaf pine	27.1	5.0	.0	.0	32.2	28.7
Pitch pine	165.6	133.7	24.0	.0	323.3	9.1
Virginia pine	1.4	4.2	.4	.0	5.9	58.7
Other pines	18.5	2.8	.0	.0	21.2	50.1
Other softwoods	10.2	5.4	2.4	.0	17.9	36.0
Total softwoods	256.3	243.3	26.9	.0	526.5	11.7
Red maple	148.3	115.2	2.0	.0	265.5	15.5
Sugar maple	43.0	2.4	.9	.0	46.3	27.6
Hickory	45.8	2.2	1.4	.0	49.4	16.6
Beech	23.2	5.6	.0	.0	28.8	36.5
Ash	114.9	21.1	1.5	.0	137.5	19.9
Sweetgum	64.6	43.5	.4	.0	108.4	32.2
Yellow-poplar	144.4	2.8	4.0	.0	151.2	24.4
Blackgum	24.6	26.1	.1	.0	50.8	20.8
Black cherry	3.4	11.7	.4	.0	15.5	27.0
Select white oaks	130.7	97.6	2.1	.0	230.4	13.6
Select red oaks	112.9	19.2	.0	.0	132.1	17.4
Other red oaks	143.9	140.3	6.6	.0	290.7	12.2
Chestnut oaks	89.6	35.9	.1	.0	125.7	17.6
Other hardwoods	123.3	31.9	1.7	.0	156.9	18.0
Total hardwoods	1,212.5	555.6	21.2	.0	1,789.3	6.0
Total, all species	1,468.8	798.8	48.1	.0	2,315.8	5.1
SE	8.2	10.1	26.1	.0	5.1	

Table 33.--Net volume of growing-stock trees on timberland by species and cubic-foot stand-volume class, New Jersey, 1987

(In millions of cubic feet)

Species	Stand-volume class (cubic feet per acre)						All classes	SE
	0-499	500-999	1000-1499	1500-1999	2000-2499	2500+		
Atlantic white-cedar	1.4	.3	1.4	.1	3.9	118.8	125.9	45.5
Shortleaf pine	1.0	22.3	3.8	5.1	.0	.0	32.2	28.7
Pitch pine	51.7	119.1	79.4	50.6	19.3	3.2	323.3	9.1
Virginia pine	1.4	.0	.0	4.2	.4	.0	5.9	58.7
Other pines	.0	2.7	8.0	.3	10.2	.0	21.2	50.1
Other softwoods	5.6	2.2	2.1	.5	.6	7.0	17.9	36.0
Total softwoods	61.0	146.7	94.7	60.7	34.4	129.0	526.5	11.7
Red maple	8.1	26.4	49.6	46.3	84.1	50.9	265.5	15.5
Sugar maple	.0	.0	1.8	12.2	16.7	15.7	46.3	27.6
Hickory	.0	3.4	14.1	8.7	13.1	10.1	49.4	16.6
Beech	1.2	.0	5.6	.8	8.2	13.2	28.8	36.5
Ash	1.6	9.6	16.4	35.2	30.3	44.4	137.5	19.9
Sweetgum	2.4	2.6	6.0	22.5	11.1	63.7	108.4	32.2
Yellow-poplar	.4	.2	10.6	10.0	11.9	118.1	151.2	24.4
Blackgum	.2	7.6	13.5	16.0	4.2	9.3	50.8	20.8
Black cherry	1.1	2.9	7.5	2.2	.8	1.1	15.5	27.0
Select white oaks	6.8	43.5	46.5	66.3	30.3	37.0	230.4	13.6
Select red oaks	.3	8.3	20.3	33.3	28.2	41.7	132.1	17.4
Other red oaks	9.6	39.1	82.4	52.6	65.6	41.4	290.7	12.2
Chestnut oaks	1.2	5.4	25.8	38.5	41.4	13.4	125.7	17.6
Other hardwoods	3.0	6.6	35.8	22.9	54.5	34.0	156.9	18.0
Total hardwoods	36.0	155.6	335.9	367.5	400.4	493.9	1,789.3	6.0
Total, all species	97.0	302.3	430.6	428.2	434.8	622.9	2,315.8	5.1
SE	12.8	11.6	13.4	16.1	18.6	20.0	5.1	

Table 34.--Net volume of growing-stock trees on timberland by species and diameter class, New Jersey, 1987

(In millions of cubic feet)

Species	Diameter class (inches at breast height)										All classes	SE
	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+		
Atlantic white-cedar	38.6	45.4	25.2	12.2	4.6	.0	.0	.0	.0	.0	125.9	45.5
Shortleaf pine	1.4	4.0	11.3	10.4	1.0	3.0	.0	1.1	.0	.0	32.2	28.7
Pitch pine	50.4	66.2	70.8	59.5	37.5	22.7	14.4	1.8	.0	.0	323.3	9.1
Virginia pine	.7	2.0	1.0	1.0	1.2	.0	.0	.0	.0	.0	5.9	58.7
Other pines	.1	2.7	1.8	3.0	1.4	1.3	.4	.4	10.1	.0	21.2	50.1
Other softwoods	6.3	3.8	.2	.8	2.2	.0	.3	.0	.0	4.3	17.9	36.0
Total softwoods	97.6	124.0	110.4	86.8	47.8	27.0	15.1	3.3	10.1	4.3	526.5	11.7
Red maple	40.7	61.5	53.2	36.3	16.6	17.0	11.1	13.8	14.9	.3	265.5	15.5
Sugar maple	5.0	8.6	5.4	9.0	5.5	5.7	1.4	.6	5.0	.0	46.3	27.6
Hickory	3.8	8.1	10.4	6.5	9.8	4.3	2.5	3.2	.9	.0	49.4	16.6
Beech	1.3	3.7	2.1	3.0	6.0	3.7	4.4	3.9	.8	.0	28.8	36.5
Ash	9.4	12.1	36.6	21.4	23.7	20.7	7.5	3.4	2.7	.0	137.5	19.9
Sweetgum	14.1	17.5	20.3	12.4	20.7	9.6	6.5	1.7	5.7	.0	108.4	32.2
Yellow-poplar	1.4	3.9	4.7	13.1	20.5	31.2	14.4	31.1	27.2	3.6	151.2	24.4
Blackgum	10.8	11.4	12.0	5.2	3.9	4.6	2.7	.0	.2	.0	50.8	20.8
Black cherry	2.8	5.7	3.9	2.0	.7	.5	.0	.0	.0	.0	15.5	27.0
Select white oaks	34.7	41.5	39.8	27.0	13.8	29.2	13.3	7.2	18.7	5.1	230.4	13.6
Select red oaks	1.6	5.7	14.1	12.3	22.2	17.2	27.6	7.2	23.4	.7	132.1	17.4
Other red oaks	27.5	56.6	42.1	27.0	37.6	34.4	24.0	22.1	19.2	.0	290.7	12.2
Chestnut oaks	6.6	13.5	25.4	20.3	24.3	11.3	10.4	6.0	8.1	.0	125.7	17.6
Other hardwoods	18.3	27.1	25.5	28.0	27.6	15.4	6.1	1.5	7.5	.0	156.9	18.0
Total hardwoods	177.9	276.9	295.4	223.4	233.1	204.8	132.0	101.9	134.3	9.7	1,789.3	6.0
Total, all species	275.4	401.0	405.8	310.2	280.8	231.8	147.1	105.2	144.4	14.0	2,315.8	5.1
SE	8.2	7.4	7.1	7.3	8.5	10.6	12.3	16.7	18.0	48.5	5.1	

Table 35.--Net volume of growing-stock in the sawlog portion of sawtimber trees on timberland by species and diameter class, New Jersey, 1987

(In millions of cubic feet)

Species	Diameter class (inches at breast height)								All classes	SE
	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+		
Atlantic white-cedar	21.2	10.6	4.1	.0	.0	.0	.0	.0	35.9	56.4
Shortleaf pine	9.5	9.1	.9	2.7	.0	1.0	.0	.0	23.2	28.2
Pitch pine	59.8	51.9	33.5	20.7	13.3	1.6	.0	.0	180.8	11.1
Virginia pine	.8	.9	1.1	.0	.0	.0	.0	.0	2.8	66.0
Other pines	1.5	2.7	1.2	1.2	.4	.4	9.4	.0	16.8	56.4
Other softwoods	.2	.7	1.9	.0	.3	.0	.0	4.1	7.1	73.2
Total softwoods	93.1	75.7	42.7	24.6	14.0	3.1	9.4	4.1	266.6	11.1
Red maple	.0	27.9	14.0	14.6	10.0	11.9	12.9	1.5	92.8	21.3
Sugar maple	.0	6.6	4.5	4.8	1.2	.5	4.2	.7	22.6	30.7
Hickory	.0	4.8	7.9	3.6	2.1	2.7	.8	.0	21.8	21.6
Beech	.0	2.2	4.9	3.1	3.8	3.3	.7	.0	17.9	37.8
Ash	.0	15.8	19.2	17.7	6.4	2.9	2.3	.0	64.2	22.0
Sweetgum	.0	9.1	16.7	8.0	5.5	1.4	4.9	.0	45.7	40.1
Yellow-poplar	.0	9.6	16.6	26.2	12.3	26.4	23.3	3.0	117.6	24.6
Blackgum	.0	3.8	3.2	3.9	2.3	.0	.2	.0	13.4	32.5
Black cherry	.0	1.5	1.1	.4	.0	.0	.0	.0	3.0	43.1
Select white oaks	.0	19.9	11.2	24.6	11.3	6.3	15.9	4.4	93.5	21.6
Select red oaks	.0	9.4	18.0	14.5	23.7	6.1	19.9	.6	92.2	18.4
Other red oaks	.0	19.9	30.5	28.9	20.4	18.8	16.3	.0	134.9	15.7
Chestnut oaks	.0	15.2	20.1	9.8	8.8	5.1	6.8	.0	65.9	22.2
Other hardwoods	.0	20.7	22.4	12.9	5.2	1.3	6.6	.0	69.1	23.9
Total hardwoods	.0	166.5	190.3	172.9	112.9	87.0	114.9	10.2	854.6	8.3
Total, all species	93.1	242.1	233.0	197.5	126.9	90.0	124.3	14.2	1,121.2	6.7
SE	14.5	7.2	8.4	10.4	12.2	16.6	17.9	44.9	6.7	

Table 36.--Net volume of sawtimber trees on timberland by species and diameter class, New Jersey, 1987

(In millions of board feet)[a]

Species	Diameter class (inches at breast height)								All classes	SE
	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+		
Atlantic white-cedar	76.1	42.2	18.2	.0	.0	.0	.0	.0	136.5	59.2
Shortleaf pine	34.5	40.1	4.2	12.8	.0	5.1	.0	.0	96.6	29.0
Pitch pine	229.3	220.8	150.5	99.3	62.3	7.6	.0	.0	769.9	11.3
Virginia pine	2.7	4.0	4.4	.0	.0	.0	.0	.0	11.2	72.6
Other pines	5.5	11.6	6.3	5.4	2.1	1.7	52.7	.0	85.4	59.0
Other softwoods	.7	2.6	9.0	.0	1.5	.0	.0	23.3	37.1	77.2
Total softwoods	348.8	321.4	192.6	117.4	65.9	14.5	52.7	23.3	1,136.6	11.4
Red maple	.0	134.7	64.3	71.1	45.1	58.8	63.6	1.8	439.4	22.1
Sugar maple	.0	32.8	20.5	25.9	5.9	2.6	26.5	.0	114.2	31.9
Hickory	.0	26.4	41.4	17.2	11.5	13.0	4.4	.0	113.9	21.6
Beech	.0	12.6	30.8	16.7	17.1	20.3	4.5	.0	102.1	38.9
Ash	.0	84.2	98.4	80.9	33.7	12.4	13.1	.0	322.8	21.6
Sweetgum	.0	41.0	80.1	40.8	30.1	8.1	27.1	.0	227.2	40.7
Yellow-poplar	.0	49.0	89.6	152.7	67.3	157.7	148.4	18.9	683.5	24.8
Blackgum	.0	18.5	15.7	18.8	13.1	.0	1.1	.0	67.1	32.4
Black cherry	.0	8.4	3.6	1.4	.0	.0	.0	.0	13.5	45.0
Select white oaks	.0	107.9	57.5	135.8	63.4	30.3	94.9	26.2	516.0	21.8
Select red oaks	.0	45.3	89.4	73.4	123.3	32.4	105.0	2.9	471.8	18.9
Other red oaks	.0	100.8	152.4	143.0	109.7	97.6	92.8	.0	696.3	15.8
Chestnut oaks	.0	76.3	94.0	45.9	43.5	27.8	36.4	.0	324.0	22.8
Other hardwoods	.0	105.2	108.3	57.0	25.4	7.3	39.8	.0	343.0	24.1
Total hardwoods	.0	843.3	946.1	880.5	589.2	468.3	657.5	49.8	4,434.8	8.6
Total, all species	348.8	1,164.7	1,138.8	998.0	655.0	482.7	710.3	73.1	5,571.4	7.1
SE	14.8	7.3	8.4	10.9	12.4	17.3	18.8	49.3	7.1	

[a] International 1/4-inch rule.

Table 37.--Net volume of sawtimber trees on timberland by species, size class, and standard-lumber log grade, New Jersey, 1987

(In millions of board feet)[a]

Species	All size classes				All grades	>15" Diameter at breast height				All grades	SE
	Grade 1	Grade 2	Grade 3	Grade 4		Grade 1	Grade 2	Grade 3	Grade 4		
Atlantic white-cedar	136.5	.0	.0	.0	136.5	.0	.0	.0	.0	.0	.0
Shortleaf pine	17.1	25.3	54.2	.0	96.6	2.0	6.6	9.2	.0	17.9	69.4
Pitch pine	49.2	93.3	627.4	.0	769.9	26.6	28.5	114.0	.0	169.2	20.4
Virginia pine	.0	.0	11.2	.0	11.2	.0	.0	.0	.0	.0	.0
Other pines	5.1	33.3	34.8	12.3	85.4	1.5	26.8	24.4	9.3	62.0	69.5
Other softwoods	37.1	.0	.0	.0	37.1	24.8	.0	.0	.0	24.8	102.3
Total softwoods	244.9	151.9	727.5	12.3	1,136.6	54.9	61.9	147.7	9.3	273.8	23.1
Red maple	10.2	53.3	263.6	112.3	439.4	7.8	44.7	149.9	38.1	240.4	26.1
Sugar maple	25.3	10.9	39.0	39.1	114.2	20.8	6.1	9.0	25.0	60.8	41.9
Hickory	7.6	39.0	50.2	17.1	113.9	7.6	17.7	13.9	6.8	46.0	38.1
Beech	.5	5.0	28.5	68.0	102.1	.4	5.0	19.7	33.5	58.6	49.3
Ash	50.4	87.5	140.0	44.8	322.8	44.3	37.0	41.7	17.2	140.2	28.5
Sweetgum	52.7	37.9	72.4	64.3	227.2	40.1	9.2	31.5	25.3	106.1	53.1
Yellow-poplar	250.2	122.1	177.6	133.6	683.5	237.5	102.0	131.9	73.6	544.9	26.5
Blackgum	10.7	19.9	27.4	9.1	67.1	9.0	11.8	6.6	5.6	32.9	36.5
Black cherry	.0	.0	11.9	1.6	13.5	.0	.0	1.2	.2	1.4	109.8
Select white oaks	96.9	144.2	160.5	114.3	516.0	95.4	122.8	71.7	60.7	350.6	27.5
Select red oaks	153.0	127.4	129.2	62.2	471.8	145.6	78.6	67.2	45.7	337.1	21.6
Other red oaks	165.4	151.1	215.7	164.1	696.3	162.0	89.7	109.9	81.5	443.2	19.4
Chestnut oaks	49.0	93.9	147.9	33.1	324.0	47.7	53.5	42.3	10.2	153.6	33.5
Other hardwoods	30.7	80.7	203.3	28.3	343.0	26.4	39.3	56.8	7.0	129.5	37.7
Total hardwoods	902.7	973.0	1,667.1	892.0	4,434.8	844.5	617.2	753.2	430.4	2,645.3	11.3
SE	14.4	9.4	8.5	10.4	8.6	14.8	11.6	12.0	13.4	11.3	
Percent of hardwood in each grade	20	22	38	20	100	32	23	28	17	100	

[a] International 1/4-inch rule.

Table 38.--Average annual net change of growing-stock volume on timberland by species and component, New Jersey, 1971-87

(In thousands of cubic feet)

Species	Ingrowth	Accretion	Gross growth	Mortality	Cull decrement	Cull increment	Net growth	Removals	Net change
Pitch pine	1,879	7,616	9,495	-948	0	-95	8,451	-338	8,113
Other softwoods	341	1,079	1,419	-388	0	0	1,032	0	1,032
Total softwoods	2,220	8,695	10,914	-1,336	0	-95	9,483	-338	9,145
Red maple	3,896	5,006	8,902	-1,409	0	-181	7,312	-529	6,783
Sugar maple	132	611	743	0	0	0	742	0	742
Hickory	326	964	1,290	-111	0	0	1,179	0	1,179
Beech	0	1,030	1,030	-34	0	-18	978	-282	696
Ash	1,176	4,085	5,261	-529	0	0	4,733	-70	4,662
Sweetgum	569	2,375	2,944	-329	0	0	2,614	-462	2,152
Yellow-poplar	416	3,886	4,302	-71	0	0	4,230	-473	3,757
Blackgum	348	914	1,262	-251	0	-34	978	-75	903
Black cherry	620	283	903	0	0	0	903	0	903
Select white oaks	1,053	4,487	5,540	-1,201	0	-100	4,239	-1,004	3,235
Select red oaks	0	3,397	3,397	-1,776	0	-35	1,586	-164	1,422
Other red oaks	1,082	8,351	9,433	-1,935	58	-13	7,543	-2,927	4,616
Chestnut oaks	257	2,538	2,795	-1,614	0	-168	1,013	-2,377	-1,364
Other hardwoods	2,021	3,413	5,434	-1,636	0	-210	3,589	-171	3,418
Total hardwoods	11,896	41,341	53,237	-10,897	58	-759	41,639	-8,534	33,105
Total, all species	14,115	50,036	64,151	-12,233	58	-854	51,122	-8,872	42,250

Table 39.--Average annual net growth and average annual removals of growing-stock volume on timberland by species, New Jersey, 1971-87

(In thousands of cubic feet)

Species	Growth	Removals
Pitch pine	8,451	-338
Other softwoods	1,032	0
Total softwoods	9,483	-338
Red maple	7,312	-529
Sugar maple	742	0
Hickory	1,179	0
Beech	978	-282
Ash	4,733	-70
Sweetgum	2,614	-462
Yellow-poplar	4,230	-473
Blackgum	978	-75
Black cherry	903	0
Select white oaks	4,239	-1,004
Select red oaks	1,586	-164
Other red oaks	7,543	-2,927
Chestnut oaks	1,013	-2,377
Other hardwoods	3,589	-171
Total hardwoods	41,639	-8,534
Total, all species	51,122	-8,872

Table 40.--Average annual net growth and average annual removals of growing-stock volume on timberland by ownership class and species group, New Jersey, 1971-87

(In thousands of cubic feet)

Ownership class	Growth			Removals		
	Softwoods	Hardwoods	All groups	Softwoods	Hardwoods	All groups
Public	2,360	10,364	12,724	-84	-2,124	-2,208
Private	7,123	31,275	38,398	-254	-6,410	-6,664
Total, all classes	9,483	41,639	51,122	-338	-8,534	-8,872

Table 41.--Average annual mortality of growing-stock and sawtimber volume on timberland by species, New Jersey, 1971-87

Species	Growing stock	Sawtimber
	(In thousands of cubic feet)	(In thousands of board feet)[a]
Pitch pine	-948	-1,958
Other softwoods	-388	-597
Total softwoods	-1,336	-2,555
Red maple	-1,409	-4,639
Sugar maple	0	0
Hickory	-111	-345
Beech	-34	0
Ash	-529	-452
Sweetgum	-329	-380
Yellow-poplar	-71	0
Blackgum	-251	-457
Black cherry	0	0
Select white oaks	-1,201	-3,570
Select red oaks	-1,776	-3,837
Other red oaks	-1,935	-6,014
Chestnut oaks	-1,614	-3,988
Other hardwoods	-1,636	-2,201
Total hardwoods	-10,897	-25,887
Total, all species	-12,233	-28,442

[a] International 1/4-inch rule.

Table 42.--Average annual net growth and average annual removals of sawtimber volume on timberland by species, New Jersey, 1971-87

(In thousands of board feet)[a]

Species	Growth	Removals
Pitch pine	22,936	0
Other softwoods	2,798	0
Total softwoods	25,734	0
Red maple	10,289	0
Sugar maple	1,501	0
Hickory	3,948	0
Beech	5,202	-1,133
Ash	16,109	-257
Sweetgum	11,120	-1,777
Yellow-poplar	21,930	-1,638
Blackgum	863	0
Black cherry	969	0
Select white oaks	8,612	-4,252
Select red oaks	14,157	0
Other red oaks	21,930	-5,184
Chestnut oaks	6,572	-6,462
Other hardwoods	13,153	0
Total hardwoods	136,362	-20,706
Total, all species	162,097	-20,706

[a] International 1/4-inch rule.

Table 43.--Average annual net growth and average annual removals of sawtimber volume on timberland by ownership class and species group, New Jersey, 1971-87

(In thousands of board feet)[a]

Ownership class	Growth			Removals		
	Softwoods	Hardwoods	All groups	Softwoods	Hardwoods	All groups
Public	6,405	33,940	40,345	0	-5,153	-5,153
Private	19,329	102,422	121,752	0	-15,553	-15,553
Total, all classes	25,734	136,362	162,097	0	-20,706	-20,706

[a] International 1/4-inch rule.

Table 44.--Output[a] of timber products by product, softwoods and hardwoods, and source of material, New Jersey, 1986

(In standard units and thousands of cubic feet)

Product and species	Output from roundwood			Output from primary manufacturing residue	Total, timber products output
	Thousand board feet[b]	Standard cords	Total roundwood		
	Standard units		Thousand cubic feet		
			INDUSTRIAL PRODUCTS		
Sawlogs					
Softwoods	1,411	--	233	0	233
Hardwoods	14,834	--	2,249	0	2,249
Total	16,245	--	2,482	0	2,482
Veneer[c]					
Softwoods	0	--	0	0	0
Hardwoods	2,081	--	315	0	315
Total	2,081	--	315	0	315
Other products[d]					
Softwoods	389	--	52	0	52
Hardwoods	190	--	26	0	26
Total	579	--	78	0	78
Pulpwood[e]					
Softwoods	--	1,488	126	0	126
Hardwoods	--	0	0	0	0
Total	--	1,488	126	0	126
			TOTAL, INDUSTRIAL PRODUCTS		
All products					
Softwoods	1,800	1,488	411	0	411
Hardwoods	17,105	0	2,590	0	2,590
Total	18,905	1,488	3,001	0	3,001
			NONINDUSTRIAL PRODUCTS		
Fuelwood[f]					
Softwoods	--	8,014	641	38	679
Hardwoods	--	993,755	79,500	344	79,844
Total	--	1,001,769	80,141	382	80,523
			TOTAL, ALL PRODUCTS		
All products[g]					
Softwoods	1,800	9,502	1,052	38	1,090
Hardwoods	17,105	993,755	82,090	344	82,434
Total	18,905	1,003,257	83,142	382	83,524

[a] The volume of roundwood harvested from timber within the state and received at primary manufacturing plants in the state, in other states, and in foreign countries. Reported volumes by product may be underestimated because overseas shipments are difficult to track.

[b] International 1/4-inch rule.

[c] Veneer volumes include 223,000 board feet of veneer logs retained in the United States and at least 1,858,000 board feet of veneer logs exported overseas.

[d] Includes fence stock and metallurgical wood.

[e] A standard cord of pulpwood is equivalent to 85 cubic feet of solid wood.

[f] A standard cord of fuelwood is equivalent to 80 cubic feet of solid wood.

[g] Does not include 65,000 cubic feet of softwood and 327,000 cubic feet of hardwood residues used for agricultural bedding.

Table 45.--Output of roundwood products[a] by product, softwoods and hardwoods, and source of material, New Jersey, 1986

(In thousands of cubic feet)

Product and species	Growing-stock trees			Rough or rotten cull trees	Salvable dead trees	Other sources	All sources
	Poletimber	Sawtimber	Total				
			INDUSTRIAL PRODUCTS				
Sawlogs							
Softwoods	0	188	188	1	0	44	233
Hardwoods	5	2,022	2,027	119	22	81	2,249
Total	5	2,210	2,215	120	22	125	2,482
Veneer							
Softwoods	0	0	0	0	0	0	0
Hardwoods	1	302	303	0	0	12	315
Total	1	302	303	0	0	12	315
Other products							
Softwoods	0	42	42	0	0	10	52
Hardwoods	0	24	24	1	0	1	26
Total	0	66	66	1	0	11	78
Pulpwood							
Softwoods	2	121	123	2	1	0	126
Hardwoods	0	0	0	0	0	0	0
Total	2	121	123	2	1	0	126
			TOTAL, INDUSTRIAL PRODUCTS				
All products							
Softwoods	2	351	353	3	1	54	411
Hardwoods	6	2,348	2,354	120	22	94	2,590
Total	8	2,699	2,707	123	23	148	3,001
			NONINDUSTRIAL PRODUCTS				
Fuelwood							
Softwoods	21	33	54	169	187	231	641
Hardwoods	914	5,772	6,686	21,020	23,246	28,548	79,500
Total	935	5,805	6,740	21,189	23,433	28,779	80,141
			TOTAL, ALL PRODUCTS				
All products							
Softwoods	23	384	407	172	188	285	1,052
Hardwoods	920	8,120	9,040	21,140	23,268	28,642	82,090
Total	943	8,504	9,447	21,312	23,456	28,927	83,142

[a] Growing-stock trees, rough or rotten cull trees, and salvable dead trees are from timberland only. Other sources include trees less than 5.0 inches in diameter at breast height and tree tops and limbs from timberland, as well as any material from nontimberland or nonforest land such as fencerows, pastureland, and urban areas.

Table 46.--Timber removals from growing stock and sawtimber on timberland by component[a] and softwoods and hardwoods, New Jersey, 1986

Components of timber removals	Growing stock			Sawtimber		
	Softwoods	Hardwoods	All species	Softwoods	Hardwoods	All species
	----- Thousand cubic feet -----			----- Thousand board feet[b] -----		
Roundwood products						
Sawlogs	188	2,027	2,215	835	10,598	11,433
Veneer	0	303	303	0	1,583	1,583
Other products	42	24	66	187	126	313
Pulpwood	123	0	123	357	0	357
Fuelwood	54	6,686	6,740	97	23,544	23,641
All products	407	9,040	9,447	1,476	35,851	37,327
Logging residue	9	438	447	2	357	359
Land use change	1,274	6,478	7,752	4,622	13,160	17,782
Total removals	1,690	15,956	17,646	6,100	49,368	55,468

[a]Logging residue does not include material from tree tops and limbs. Land use change includes land sufficiently productive to be classified as timberland, but withdrawn from production through administative designation, such as for wilderness or parks.
[b]International 1/4-inch rule.

Table 47.--Volume of unused residues from primary manufacturing plants by softwoods and hardwoods, type of residue,[a] and industry, New Jersey, 1986

(In thousands of cubic feet)

Species and type of residue	Lumber	Veneer	Other industries	All industries
Softwoods				
Coarse	1	0	0	1
Fine	0	0	0	0
Total	1	0	0	1
Hardwoods				
Coarse	0	0	0	0
Fine	0	0	0	0
Total	0	0	0	0
All species				
Coarse	1	0	0	1
Fine	0	0	0	0
Total	1	0	0	1

[a]Coarse residues include slabs, edgings, trimmings, veneer cores, and other similar material considered suitable for chipping. Fine residues include sawdust, shavings, and other similar material considered unsuitable for chipping.

COUNTY TABLES

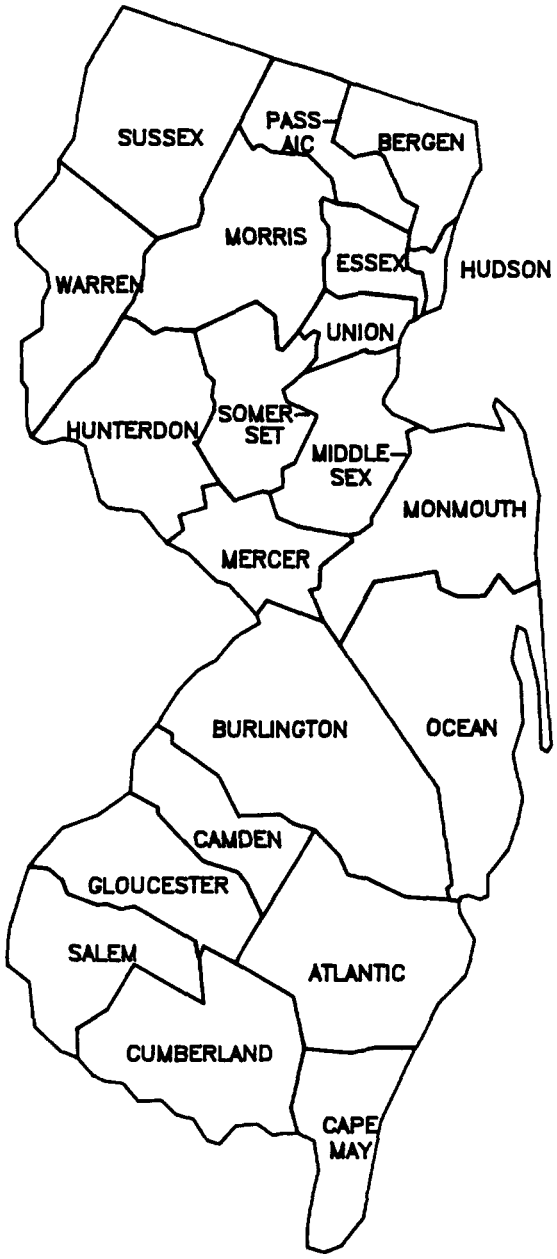

Table 48.--Land area by county and land class, New Jersey, 1987

(In thousands of acres)

County	Land class								
	Timberland	Christmas tree plantation	Productive reserved	Unproductive	Cropland[a]	Pasture[a]	Other farmland	Other land	Total area[b]
Burlington	268.3	.0	18.2	10.0	72.8	7.3	22.2	118.3	517.1
Cumberland	128.4	.0	1.7	.0	57.2	3.5	7.5	120.4	318.7
Hunterdon	96.7	.0	2.9	.0	75.8	17.5	12.8	67.3	273.0
Monmouth	85.1	.0	1.7	3.5	49.5	6.5	27.2	128.7	302.2
Morris	122.5	.0	16.0	2.7	13.8	3.0	20.0	123.1	301.1
Ocean	189.9	.0	7.6	6.5	4.0	.9	5.6	195.9	410.4
Salem	49.5	.0	.5	.0	71.5	9.9	14.3	70.6	216.3
Sussex	181.8	4.2	22.3	1.8	30.6	18.9	5.5	71.2	336.3
Warren	95.9	.0	11.8	1.2	55.7	11.2	35.3	18.6	229.7
Bergen/Essex/ Hudson/Passaic/Union	103.6	.0	7.6	.0	2.5	.4	.0	334.4	448.5
Camden/Gloucester	135.8	5.8	2.1	.0	59.3	3.7	.0	145.6	352.3
Mercer/Middlesex/Somerset	134.0	5.6	7.6	.0	86.8	12.4	6.4	289.4	542.2
Atlantic/Cape May	272.9	.0	1.5	.0	25.8	1.9	11.8	217.7	531.6
State total	1,864.3	15.6	101.4	25.4	605.4	97.1	168.4	1,901.9	4,779.5

[a] Source: 1982 Census of Agriculture.

[b] Source: 1981 United States Department of Commerce, Bureau of Census.

Table 49.--Area of timberland by county and ownership class[a], New Jersey, 1987

(In thousands of acres)

County	Ownership class							All classes
	National Forest	Other federal	State forest	Other state	County and municipal	Forest industry	Other Private	
Burlington	.0	8.4	103.4	1.0	1.2	.0	154.3	268.3
Cumberland	.0	.0	1.5	28.0	4.7	.0	94.2	128.4
Hunterdon	.0	.0	.0	4.2	.2	.0	92.4	96.7
Monmouth	.0	.0	.0	10.5	1.7	.0	72.9	85.1
Morris	.0	2.2	.0	4.3	27.8	.0	88.2	122.5
Ocean	.0	7.0	15.3	45.2	1.6	.0	120.8	189.9
Salem	.0	.0	.0	2.0	.1	.0	47.4	49.5
Sussex	.0	.0	14.5	24.3	9.1	.0	133.9	181.8
Warren	.0	.0	6.6	3.9	.7	.0	84.7	95.9
Bergen/Essex/ Hudson/Passaic/Union	.0	.0	5.3	6.8	43.9	.0	47.6	103.6
Camden/Gloucester	.0	.0	14.0	8.8	1.4	.0	111.6	135.8
Mercer/Middlesex/Somerset	.0	.0	.0	5.3	4.1	.0	124.6	134.0
Atlantic/Cape May	.0	1.5	16.1	18.4	8.9	.0	228.0	272.9
State total	.0	19.1	176.7	162.7	105.4	.0	1,400.3	1,864.3

[a] Further refinement of the private ownership estimates will be available in the forthcoming publication, Forest Landowners of New Jersey.

Table 50.--Area of timberland by county and forest-type group, New Jersey, 1987

(In thousands of acres)

County	Forest-type group									All groups	SE
	White/ red pine	Spruce/ fir	Loblolly/ shortleaf	Oak/ pine	Oak/ hickory	Oak/gum/ cypress	Elm/ash/ red maple	Northern hardwoods	Aspen/ birch		
Burlington	5.6	.0	149.7	19.9	71.0	16.4	5.6	.0	.0	268.3	3.1
Cumberland	.0	.0	42.8	18.7	61.5	5.4	.0	.0	.0	128.4	10.3
Hunterdon	.0	.0	16.4	.0	56.9	.0	5.7	17.7	.0	96.7	8.0
Monmouth	.0	.0	21.6	.0	39.7	3.1	8.0	12.8	.0	85.1	12.6
Morris	.0	.0	.0	.0	106.0	.0	5.9	10.5	.0	122.5	9.3
Ocean	.0	.0	105.3	5.7	32.4	31.4	6.3	8.7	.0	189.9	10.7
Salem	8.5	.0	.0	.0	26.1	10.6	4.2	.0	.0	49.5	13.8
Sussex	5.1	.0	9.1	13.5	119.0	.0	14.9	20.2	.0	181.8	2.7
Warren	.0	.0	.0	.0	68.8	.0	12.8	14.3	.0	95.9	4.3
Bergen/Essex/ Hudson/Passaic/Union	.0	.0	.0	.0	68.5	.0	21.1	14.0	.0	103.6	14.5
Camden/Gloucester	.0	.0	40.0	.0	77.5	12.8	5.5	.0	.0	135.8	3.9
Mercer/Middlesex/Somerset	.0	.0	5.4	.0	100.1	7.8	10.0	10.7	.0	134.0	11.4
Atlantic/Cape May	5.2	.0	140.8	55.8	55.0	6.0	10.2	.0	.0	272.9	6.8
Total, all counties	24.4	.0	531.0	113.5	882.6	93.5	110.3	108.9	.0	1,864.3	2.3
SE	52.9	.0	8.3	21.4	6.3	24.6	26.4	25.2	.0	2.3	

Table 51.--Area of timberland by county and stand-size class, New Jersey, 1987

(In thousands of acres)

County	Stand-size class				All classes	SE
	Saw-timber	Pole-timber	Sapling/ seedling	Non-stocked		
Burlington	74.2	131.4	62.7	.0	268.3	3.1
Cumberland	49.8	58.2	20.4	.0	128.4	10.3
Hunterdon	73.3	17.7	5.7	.0	96.7	8.0
Monmouth	28.1	57.0	.0	.0	85.1	12.6
Morris	81.9	40.6	.0	.0	122.5	9.3
Ocean	33.6	103.2	53.1	.0	189.9	10.7
Salem	22.3	27.2	.0	.0	49.5	13.8
Sussex	144.5	32.8	4.5	.0	181.8	2.7
Warren	70.0	20.0	5.9	.0	95.9	4.3
Bergen/Essex/ Hudson/Passaic/Union	68.5	35.1	.0	.0	103.6	14.5
Camden/Gloucester	56.1	32.1	47.5	.0	135.8	3.9
Mercer/Middlesex/Somerset	77.4	43.4	13.2	.0	134.0	11.4
Atlantic/Cape May	86.7	141.4	36.5	8.4	272.9	6.8
Total, all counties	866.3	740.1	249.5	8.4	1,864.3	2.3
SE	6.3	7.7	15.5	86.5	2.3	

Table 52.--Area of timberland by county and cubic-foot stand-volume class, New Jersey, 1987

(In thousands of acres)

County	Stand-volume class (cubic feet per acre)						All classes	SE
	0-499	500-999	1000-1499	1500-1999	2000-2499	2500+		
Burlington	126.4	63.8	42.4	.0	30.1	5.6	268.3	3.1
Cumberland	36.8	41.5	20.0	16.6	8.1	5.4	128.4	10.3
Hunterdon	23.4	.0	33.2	6.9	6.7	26.5	96.7	8.0
Monmouth	.0	12.5	49.0	15.6	8.0	.0	85.1	12.6
Morris	6.9	3.6	3.6	51.3	40.2	16.8	122.5	9.3
Ocean	53.6	92.0	25.0	.0	.0	19.3	189.9	10.7
Salem	2.8	11.7	.0	12.7	8.5	13.8	49.5	13.8
Sussex	22.9	58.4	30.9	20.1	22.4	27.0	181.8	2.7
Warren	.0	5.6	32.2	26.7	16.7	14.7	95.9	4.3
Bergen/Essex/ Hudson/Passaic/Union	.0	14.0	28.0	.0	35.1	26.5	103.6	14.5
Camden/Gloucester	58.3	20.9	28.0	23.1	5.5	.0	135.8	3.9
Mercer/Middlesex/Somerset	23.4	5.9	27.3	30.4	14.3	32.7	134.0	11.4
Atlantic/Cape May	78.2	94.8	42.9	47.2	4.6	5.2	272.9	6.8
Total, all counties	432.6	424.8	362.6	250.6	200.1	193.5	1,864.3	2.3
SE	10.4	11.4	13.2	16.0	18.7	19.9	2.3	

Table 53.--Area of timberland by county and green ton stand-volume class, New Jersey, 1987

(In thousands of acres)

County	Stand-volume class (green tons per acre)									All classes	SE
	0-24	25-49	50-74	75-99	100-124	125-149	150-174	175-199	200+		
Burlington	55.5	110.5	51.0	21.3	24.4	.0	.0	.0	5.6	268.3	3.1
Cumberland	21.2	51.8	17.0	27.7	5.4	.0	.0	.0	5.4	128.4	10.3
Hunterdon	6.0	17.4	33.2	13.5	9.2	12.4	4.9	.0	.0	96.7	8.0
Monmouth	.0	.0	58.9	26.2	.0	.0	.0	.0	.0	85.1	12.6
Morris	6.9	3.6	9.5	40.2	45.4	11.5	5.3	.0	.0	122.5	9.3
Ocean	37.1	80.3	47.5	5.7	.0	5.7	.0	.0	13.6	189.9	10.7
Salem	.0	14.4	4.2	17.0	3.2	.0	8.5	2.1	.0	49.5	13.8
Sussex	18.4	38.9	56.4	30.5	37.5	.0	.0	.0	.0	181.8	2.7
Warren	.0	.0	17.5	40.8	30.4	7.2	.0	.0	.0	95.9	4.3
Bergen/Essex/ Hudson/Passaic/Union	.0	14.0	14.0	28.0	21.1	26.5	.0	.0	.0	103.6	14.5
Camden/Gloucester	31.9	33.6	33.9	22.0	14.3	.0	.0	.0	.0	135.8	3.9
Mercer/Middlesex/Somerset	13.2	10.2	24.5	26.5	32.0	23.5	4.1	.0	.0	134.0	11.4
Atlantic/Cape May	44.8	61.7	94.8	50.9	20.7	.0	.0	.0	.0	272.9	6.8
Total, all counties	235.0	436.5	462.6	350.3	243.7	86.7	22.8	2.1	24.6	1,864.3	2.3
SE	15.0	11.0	11.1	13.8	16.3	32.5	57.8	176.5	47.7	2.3	

Table 54.--Area of timberland by county and stocking class of growing-stock trees, New Jersey, 1987

(In thousands of acres)

County	Stocking class					All classes	SE
	Nonstocked	Poorly stocked	Moderately stocked	Fully stocked	Over-stocked		
Burlington	13.6	81.4	108.2	36.3	28.9	268.3	3.1
Cumberland	.0	34.7	50.0	27.6	16.2	128.4	10.3
Hunterdon	.0	6.0	44.9	24.2	21.6	96.7	8.0
Monmouth	.0	.0	46.4	30.7	8.0	85.1	12.6
Morris	.0	10.5	26.8	35.3	49.9	122.5	9.3
Ocean	.0	66.8	66.4	37.3	19.3	189.9	10.7
Salem	.0	.0	18.7	17.0	13.8	49.5	13.8
Sussex	.0	43.8	63.9	36.5	37.6	181.8	2.7
Warren	.0	5.6	27.2	28.1	34.9	95.9	4.3
Bergen/Essex/ Hudson/Passaic/Union	.0	14.0	.0	70.0	19.5	103.6	14.5
Camden/Gloucester	.0	56.8	42.7	16.5	19.8	135.8	3.9
Mercer/Middlesex/Somerset	.0	10.2	56.4	24.2	43.2	134.0	11.4
Atlantic/Cape May	.0	63.8	126.1	57.6	25.3	272.9	6.8
Total, all counties	13.6	393.6	677.8	441.3	338.2	1,864.3	2.3
SE	42.9	12.3	8.4	11.6	13.2	2.3	

Table 55.--Area of timberland by county and site productivity class, New Jersey, 1987

(In thousands of acres)

County	Site class (cubic feet/acre/year)				All classes	SE
	Very good (120+)	Good (85-119)	Fair (50- 84)	Poor (20- 49)		
Burlington	7.9	5.6	28.0	226.8	268.3	3.1
Cumberland	.0	13.9	56.6	58.0	128.4	10.3
Hunterdon	.0	4.9	33.1	58.7	96.7	8.0
Monmouth	12.8	.0	.0	72.4	85.1	12.6
Morris	.0	9.5	41.2	71.8	122.5	9.3
Ocean	.0	.0	5.7	184.2	189.9	10.7
Salem	.0	10.6	.0	38.9	49.5	13.8
Sussex	4.5	15.1	51.8	110.3	181.8	2.7
Warren	14.5	12.8	43.1	25.5	95.9	4.3
Bergen/Essex/ Hudson/Passaic/Union	.0	26.5	49.1	28.0	103.6	14.5
Camden/Gloucester	.0	8.8	21.6	105.5	135.8	3.9
Mercer/Middlesex/Somerset	15.7	15.6	69.5	33.2	134.0	11.4
Atlantic/Cape May	.0	6.0	55.6	211.4	272.9	6.8
Total, all counties	55.4	129.3	455.1	1,224.6	1,864.3	2.3
SE	34.6	25.0	11.4	4.8	2.3	

Table 56.--Net volume of growing-stock trees on timberland by county and forest-type group, New Jersey, 1987

(In millions of cubic feet)

County	Forest-type group							
	White/ red pine	Loblolly/ shortleaf	Oak/ pine	Oak/ hickory	Oak/gum/ cypress	Elm/ash/ red maple	Northern hardwoods	All groups
Burlington	6.1	91.1	12.9	61.6	22.1	12.8	.0	206.5
Cumberland	.0	34.4	20.2	53.8	32.3	.0	.0	140.7
Hunterdon	.0	13.1	.0	110.6	.0	15.7	9.5	148.8
Monmouth	.0	24.8	.0	55.6	3.3	18.7	13.4	115.8
Morris	.0	.0	.0	215.5	.0	9.6	7.0	232.2
Ocean	.0	65.7	4.5	23.3	95.0	1.1	.5	190.1
Salem	18.4	.0	.0	47.8	25.4	6.1	.0	97.6
Sussex	3.3	3.1	8.5	174.4	.0	8.2	40.1	237.6
Warren	.0	.0	.0	133.9	.0	16.1	21.8	171.8
Bergen/Essex/ Hudson/Passaic/Union	.0	.0	.0	139.0	.0	22.3	29.2	190.5
Camden/Gloucester	.0	20.0	.0	62.9	16.3	11.1	.0	110.4
Mercer/Middlesex/Somerset	.0	.0	.0	188.6	12.1	19.6	12.6	233.0
Atlantic/Cape May	13.3	94.2	49.8	66.9	4.6	12.2	.0	240.8
Total, all counties	41.1	346.4	95.8	1,333.8	211.0	153.5	134.2	2,315.8

Table 57.--Net volume of growing-stock trees on timberland by county and stand-size class, New Jersey, 1987

(In millions of cubic feet)

County	Stand-size class				All classes	SE
	Saw-timber	Pole-timber	Sapling/ seedling	Non-stocked		
Burlington	96.6	105.6	4.4	.0	206.5	13.2
Cumberland	80.5	54.3	5.9	.0	140.7	26.1
Hunterdon	140.6	6.6	1.6	.0	148.8	20.0
Monmouth	36.5	79.3	.0	.0	115.8	14.3
Morris	161.7	70.5	.0	.0	232.2	8.6
Ocean	36.4	143.7	10.0	.0	190.1	23.4
Salem	65.4	32.2	.0	.0	97.6	24.4
Sussex	218.5	18.4	.7	.0	237.6	13.0
Warren	139.8	23.9	8.1	.0	171.8	12.9
Bergen/Essex/ Hudson/Passaic/Union	143.5	47.0	.0	.0	190.5	30.0
Camden/Gloucester	82.4	21.3	6.7	.0	110.4	21.6
Mercer/Middlesex/Somerset	166.2	65.9	.9	.0	233.0	18.3
Atlantic/Cape May	100.8	130.3	9.8	.0	240.8	10.7
Total, all counties	1,468.8	798.8	48.1	.0	2,315.8	5.1
SE	8.2	10.1	26.1	.0	5.1	

Table 58.--Net volume of growing-stock trees on timberland by county and species, New Jersey, 1987

(In millions of cubic feet)

County	Species							
	Atlantic white-cedar	Shortleaf pine	Pitch pine	Virginia pine	Other pines	Other softwoods	Total softwoods	Red maple
Burlington	24.6	23.9	63.3	.5	5.1	.0	117.5	26.3
Cumberland	30.2	.0	29.8	5.4	.0	.0	65.3	12.4
Hunterdon	.0	.0	14.4	.0	.0	4.6	19.0	18.2
Monmouth	.0	.3	26.0	.0	2.2	.0	28.6	24.5
Morris	.0	.0	.1	.0	.0	.1	.2	10.3
Ocean	68.6	.0	59.5	.0	.3	.3	128.6	15.4
Salem	.0	.0	.6	.0	10.2	.0	10.8	13.9
Sussex	.0	.0	3.2	.0	2.7	2.8	8.7	12.4
Warren	.0	.0	1.3	.0	.0	2.3	3.6	11.8
Bergen/Essex/ Hudson/Passaic/Union	.0	.0	1.4	.0	.0	.0	1.4	52.2
Camden/Gloucester	.6	.0	27.5	.0	.0	.0	28.1	21.1
Mercer/Middlesex/Somerset	.0	.0	.0	.0	.0	.9	.9	21.7
Atlantic/Cape May	2.0	8.0	96.1	.0	.6	6.9	113.6	25.3
Total, all counties	125.9	32.2	323.3	5.9	21.2	17.9	526.5	265.5
SE	45.5	28.7	9.1	58.7	50.1	36.0	11.7	15.5

Table 58.-continued

(In millions of cubic feet)

County	Species							
	Sugar maple	Hickory	Beech	Ash	Sweetgum	Yellow-poplar	Blackgum	Black cherry
Burlington	.0	.0	.7	.0	4.3	.0	2.4	.0
Cumberland	.0	.0	3.0	.0	5.8	2.3	3.0	.0
Hunterdon	.4	1.9	1.8	26.3	.0	26.7	1.7	.8
Monmouth	.0	.0	.0	.4	3.1	.0	7.1	4.6
Morris	4.0	10.4	.0	12.8	.0	7.2	.4	1.0
Ocean	.0	.0	.0	.0	.0	.0	11.5	.0
Salem	.0	.1	1.8	4.2	26.5	.0	1.0	.0
Sussex	19.5	13.3	3.7	32.6	.0	25.3	.4	.6
Warren	16.3	9.8	6.8	24.8	.0	32.6	1.8	2.3
Bergen/Essex/ Hudson/Passaic/Union	6.1	7.2	5.6	13.1	6.2	24.4	1.0	1.0
Camden/Gloucester	.0	1.6	.0	.0	5.5	.0	5.5	.7
Mercer/Middlesex/Somerset	.0	5.1	5.6	23.0	47.8	30.7	6.8	4.2
Atlantic/Cape May	.0	.0	.0	.3	9.2	1.9	8.1	.3
Total, all counties	46.3	49.4	28.8	137.5	108.4	151.2	50.8	15.5
SE	27.6	16.6	36.5	19.9	32.2	24.4	20.8	27.0

Table 58.-continued

(In millions of cubic feet)

County	Species							
	Select white oaks	Select red oaks	Other red oaks	Chestnut oaks	Other hardwoods	Total hardwoods	All species	SE
Burlington	15.2	.6	36.4	2.9	.2	89.0	206.5	13.2
Cumberland	20.2	3.6	19.3	3.2	2.6	75.3	140.7	26.1
Hunterdon	.4	10.5	15.1	5.2	20.9	129.8	148.8	20.0
Monmouth	18.0	.0	14.0	11.6	3.8	87.2	115.8	14.3
Morris	29.0	37.4	46.3	55.0	18.0	232.0	232.2	8.6
Ocean	8.5	.0	24.6	1.4	.1	61.4	190.1	23.4
Salem	14.3	10.8	14.0	.0	.2	86.8	97.6	24.4
Sussex	16.6	33.2	15.3	21.0	35.2	228.9	237.6	13.0
Warren	4.5	9.1	3.5	17.4	27.5	168.2	171.8	12.9
Bergen/Essex/ Hudson/Passaic/Union	18.7	8.4	16.3	5.4	23.5	189.1	190.5	30.0
Camden/Gloucester	24.2	6.4	13.0	.8	3.5	82.2	110.4	21.6
Mercer/Middlesex/Somerset	18.7	11.6	35.7	.9	20.4	232.0	233.0	18.3
Atlantic/Cape May	42.0	.7	37.5	.9	1.1	127.3	240.8	10.7
Total, all counties	230.4	132.1	290.7	125.7	156.9	1,789.3	2,315.8	5.1
SE	13.6	17.4	12.2	17.6	18.0	6.0	5.1	

Table 59.--Net volume of growing-stock and sawtimber trees on timberland by county and species group, New Jersey, 1987

(In millions of cubic feet)

County	Growing stock			Sawtimber		
	Softwoods	Hardwoods	All groups	Softwoods	Hardwoods	All groups
	Million cubic feet			Million board feet[a]		
Burlington	117.5	89.0	206.5	212.6	103.8	316.4
Cumberland	65.3	75.3	140.7	168.5	99.6	268.2
Hunterdon	19.0	129.8	148.8	57.0	424.2	481.3
Monmouth	28.6	87.2	115.8	68.6	174.3	242.9
Morris	.2	232.0	232.2	.0	684.3	684.3
Ocean	128.6	61.4	190.1	145.6	97.7	243.3
Salem	10.8	86.8	97.6	56.3	224.9	281.2
Sussex	8.7	228.9	237.6	25.8	632.9	658.7
Warren	3.6	168.2	171.8	13.8	503.1	516.9
Bergen/Essex/ Hudson/Passaic/Union	1.4	189.1	190.5	3.0	554.1	557.1
Camden/Gloucester	28.1	82.2	110.4	66.0	198.6	264.6
Mercer/Middlesex/Somerset	.9	232.0	233.0	.0	639.6	639.6
Atlantic/Cape May	113.6	127.3	240.8	319.3	97.7	417.0
Total, all counties	526.5	1,789.3	2,315.8	1,136.6	4,434.8	5,571.4
SE	11.7	6.0	5.1	11.4	8.6	7.1

[a] International 1/4-inch rule.

Table 60.--Net volume of sawtimber trees on timberland by county and forest-type group, New Jersey, 1987

(In millions of board feet)[a]

County	Forest-type group							
	White/ red pine	Loblolly/ shortleaf	Oak/ pine	Oak/ hickory	Oak/gum/ cypress	Elm/ash/ red maple	Northern hardwoods	All groups
Burlington	17.1	165.2	7.0	98.9	13.8	14.3	.0	316.4
Cumberland	.0	78.0	37.1	79.4	73.6	.0	.0	268.2
Hunterdon	.0	26.2	.0	400.4	.0	37.3	17.4	481.3
Monmouth	.0	52.4	.0	163.4	11.5	.0	15.5	242.9
Morris	.0	.0	.0	658.0	.0	13.5	12.9	684.3
Ocean	.0	91.1	4.2	41.4	106.6	.0	.0	243.3
Salem	68.3	.0	.0	140.5	63.9	8.5	.0	281.2
Sussex	13.8	2.9	22.2	512.7	.0	10.8	96.3	658.7
Warren	.0	.0	.0	446.5	.0	27.5	42.9	516.9
Bergen/Essex/ Hudson/Passaic/Union	.0	.0	.0	449.1	.0	20.5	87.5	557.1
Camden/Gloucester	.0	37.5	.0	143.8	52.5	30.9	.0	264.6
Mercer/Middlesex/Somerset	.0	.0	.0	528.1	4.9	80.3	26.3	639.6
Atlantic/Cape May	54.0	206.0	110.0	34.2	.0	12.8	.0	417.0
Total, all counties	153.3	659.3	180.6	3,696.5	326.7	256.4	298.7	5,571.4

[a] International 1/4-inch rule.

Table 61.--Net volume of sawtimber trees on timberland by county and stand-size class, New Jersey, 1987

(In millions of board feet)[a]

County	Stand-size class				All classes	SE
	Saw-timber	Pole-timber	Sapling/ seedling	Non-stocked		
Burlington	248.6	63.2	4.6	.0	316.4	21.5
Cumberland	213.9	52.1	2.2	.0	268.2	35.4
Hunterdon	478.0	3.2	.0	.0	481.3	22.3
Monmouth	126.0	116.9	.0	.0	242.9	22.9
Morris	531.7	152.7	.0	.0	684.3	12.8
Ocean	102.4	131.5	9.4	.0	243.3	26.5
Salem	232.0	49.2	.0	.0	281.2	35.0
Sussex	637.4	21.3	.0	.0	658.7	15.4
Warren	451.3	35.1	30.5	.0	516.9	21.1
Bergen/Essex/ Hudson/Passaic/Union	500.3	56.9	.0	.0	557.1	40.1
Camden/Gloucester	237.5	16.2	10.9	.0	264.6	25.3
Mercer/Middlesex/Somerset	601.8	37.8	.0	.0	639.6	23.7
Atlantic/Cape May	293.7	109.9	13.4	.0	417.0	17.8
Total, all counties	4,654.5	845.8	71.1	.0	5,571.4	7.1
SE	9.0	12.9	53.5	.0	7.1	

[a] International 1/4-inch rule.

Table 62.--Net volume of sawtimber trees on timberland by county and species, New Jersey, 1987

(In millions of board feet)[a]

County	Species							
	Atlantic white-cedar	Shortleaf pine	Pitch pine	Virginia pine	Other pines	Other softwoods	Total softwoods	Red maple
Burlington	20.8	64.6	109.1	1.0	17.1	.0	212.6	43.6
Cumberland	68.1	.0	90.3	10.1	.0	.0	168.5	31.3
Hunterdon	.0	.0	57.0	.0	.0	.0	57.0	56.8
Monmouth	.0	1.1	67.6	.0	.0	.0	68.6	19.3
Morris	.0	.0	.0	.0	.0	.0	.0	8.4
Ocean	41.6	.0	103.0	.0	1.0	.0	145.6	39.3
Salem	.0	.0	2.2	.0	54.1	.0	56.3	24.4
Sussex	.0	.0	11.5	.0	11.3	3.1	25.8	13.4
Warren	.0	.0	4.8	.0	.0	9.0	13.8	19.3
Bergen/Essex/ Hudson/Passaic/Union	.0	.0	3.0	.0	.0	.0	3.0	93.9
Camden/Gloucester	1.8	.0	64.2	.0	.0	.0	66.0	61.0
Mercer/Middlesex/Somerset	.0	.0	.0	.0	.0	.0	.0	13.9
Atlantic/Cape May	4.2	30.9	257.3	.0	2.0	25.0	319.3	14.8
Total, all counties	136.5	96.6	769.9	11.2	85.4	37.1	1,136.6	439.4
SE	59.2	29.0	11.3	72.6	59.0	77.2	11.4	22.1

[a] International 1/4-inch rule.

Table 62.-continued

(In millions of board feet)[a]

County	Species							
	Sugar maple	Hickory	Beech	Ash	Sweetgum	Yellow-poplar	Blackgum	Black cherry
Burlington	.0	.0	1.9	.0	8.1	.0	.0	.0
Cumberland	.0	.0	10.1	.0	10.6	7.1	.0	.0
Hunterdon	.0	2.2	7.3	64.8	.0	137.7	6.4	2.1
Monmouth	.0	.0	.0	1.7	9.8	.0	18.8	4.3
Morris	6.4	20.1	.0	18.6	.0	36.7	.0	.0
Ocean	.0	.0	.0	.0	.0	.0	17.7	.0
Salem	.0	.0	4.8	1.6	94.9	.0	.0	.0
Sussex	46.0	34.0	12.4	63.4	.0	124.0	.0	2.1
Warren	42.2	31.4	31.4	63.5	.0	130.6	3.0	5.1
Bergen/Essex/ Hudson/Passaic/Union	19.6	8.5	10.6	32.3	13.7	119.1	.0	.0
Camden/Gloucester	.0	7.0	.0	.0	18.4	.0	10.5	.0
Mercer/Middlesex/Somerset	.0	10.7	23.5	76.9	47.9	118.7	8.1	.0
Atlantic/Cape May	.0	.0	.0	.0	23.9	9.8	2.8	.0
Total, all counties	114.2	113.9	102.1	322.8	227.2	683.5	67.1	13.5
SE	31.9	21.6	38.9	21.6	40.7	24.8	32.4	45.0

[a] International 1/4-inch rule.

Table 62.-continued

(In millions of board feet)[a]

County	Species							
	Select white oaks	Select red oaks	Other red oaks	Chestnut oaks	Other hardwoods	Total hardwoods	All species	SE
Burlington	13.2	1.6	35.3	.0	.0	103.8	316.4	21.5
Cumberland	14.3	3.9	9.9	12.3	.0	99.6	268.2	35.4
Hunterdon	2.0	36.1	61.6	14.3	33.1	424.2	481.3	22.3
Monmouth	53.9	.0	15.0	48.0	3.4	174.3	242.9	22.9
Morris	124.7	112.8	185.1	132.1	39.4	684.3	684.3	12.8
Ocean	2.5	.0	38.2	.0	.0	97.7	243.3	26.5
Salem	9.0	49.5	40.7	.0	.0	224.9	281.2	35.0
Sussex	40.4	133.4	47.4	42.6	73.9	632.9	658.7	15.4
Warren	16.8	36.1	8.6	55.2	60.0	503.1	516.9	21.1
Bergen/Essex/ Hudson/Passaic/Union	87.5	29.1	61.5	12.4	65.8	554.1	557.1	40.1
Camden/Gloucester	57.8	22.0	19.1	2.9	.0	198.6	264.6	25.3
Mercer/Middlesex/Somerset	73.2	46.3	149.0	4.0	67.5	639.6	639.6	23.7
Atlantic/Cape May	20.8	1.0	24.7	.0	.0	97.7	417.0	17.8
Total, all counties	516.0	471.8	696.3	324.0	343.0	4,434.8	5,571.4	7.1
SE	21.8	18.9	15.8	22.8	24.1	8.6	7.1	

[a] International 1/4-inch rule.

Table 63.--Number of all live nut- and fruit-producing trees on timberland by species and county, New Jersey, 1987

(In thousands of trees)

Species	County							
	Burlington	Cumberland	Hunterdon	Monmouth	Morris	Ocean	Salem	Sussex
Eastern redcedar	0	0	1,860	0	0	48	0	794
Serviceberry	0	0	0	0	122	0	0	0
Hickory	0	0	219	0	954	0	47	1,034
Hackberry	0	0	0	0	0	0	0	0
Dogwood	0	395	2,177	0	84	0	0	0
Beech	31	180	126	0	0	0	47	256
American holly	0	252	0	0	0	0	93	0
Butternut	0	129	0	0	33	0	0	117
Black walnut	0	0	455	0	60	0	0	561
Osage-orange	0	0	0	0	0	0	0	0
Magnolia	0	0	0	152	0	0	0	0
Sweetbay	31	0	0	0	0	0	0	0
Apple	0	0	0	0	81	0	0	25
Blackgum	688	605	82	1,440	36	1,586	523	55
Eastern hophornbeam	0	0	0	0	0	0	0	0
Black cherry	0	0	213	834	243	0	0	72
Chokecherry	46	0	0	0	0	0	0	0
White oak	3,424	4,269	10	2,155	936	2,572	2,301	1,265
Swamp white oak	0	0	0	0	163	0	0	0
Scarlet oak	1,222	2,373	90	241	258	2,095	330	0
Southern red oak	82	39	0	432	0	0	0	0
Pin oak	0	0	32	0	438	0	163	0
Willow oak	0	0	0	0	0	0	141	0
Chestnut oak	520	152	395	380	4,529	94	0	2,527
Northern red oak	31	289	315	0	1,941	0	188	1,307
Post oak	185	0	0	0	0	414	0	0
Black oak	4,703	329	474	753	1,118	2,024	449	1,017
Sassafras	170	248	185	90	33	60	0	0
Basswood	0	0	65	0	88	0	0	389
Total, all species	11,133	9,261	6,696	6,477	11,118	8,895	4,283	9,420
SE	22.7	25.7	20.1	22.7	12.4	23.1	23.6	16.4

Table 63.-continued

(In thousands of trees)

Species	County						
	Warren	Brg/Ess/Hudson /Passaic/Union	Camden/ Gloucester	Mercer/Middlesex /Somerset	Atlantic/ Cape May	All counties	SE
Eastern redcedar	40	0	0	403	589	3,734	38.3
Serviceberry	0	0	0	0	0	122	74.0
Hickory	543	613	44	884	0	4,338	19.0
Hackberry	33	0	0	0	0	33	106.6
Dogwood	0	0	0	0	0	2,657	33.6
Beech	326	699	0	298	0	1,963	42.0
American holly	0	0	0	0	472	817	42.6
Butternut	73	0	0	0	0	351	55.4
Black walnut	159	0	0	439	0	1,673	44.7
Osage-orange	0	0	0	131	0	131	98.8
Magnolia	0	0	0	0	0	152	67.2
Sweetbay	0	0	31	0	33	95	60.9
Apple	0	0	0	0	0	106	107.3
Blackgum	438	78	698	608	1,973	8,810	17.5
Eastern hophornbeam	33	155	0	0	0	188	84.6
Black cherry	491	311	351	945	51	3,510	25.5
Chokecherry	0	0	0	0	0	46	94.1
White oak	168	449	3,378	691	7,748	29,367	12.7
Swamp white oak	78	0	0	43	0	284	64.5
Scarlet oak	0	0	0	192	4,971	11,773	20.0
Southern red oak	0	0	0	0	459	1,011	29.9
Pin oak	60	466	0	14	0	1,173	42.0
Willow oak	0	0	0	0	0	141	83.0
Chestnut oak	1,243	1,010	95	48	230	11,222	18.4
Northern red oak	374	544	341	330	131	5,793	19.5
Post oak	0	0	0	0	0	599	72.1
Black oak	291	613	1,668	689	1,376	15,505	17.8
Sassafras	155	69	238	546	354	2,149	20.7
Basswood	40	81	0	0	0	662	50.0
Total, all species	4,543	5,088	6,845	6,261	18,389	108,409	6.5
SE	21.2	41.5	42.7	17.8	15.9	6.5	

Table 64.--Number of seedlings, saplings, and shrubs with observed browse on timberland by species and county, New Jersey, 1987

(In millions of stems)

Species	County							
	Burlington	Cumberland	Hunterdon	Monmouth	Morris	Ocean	Salem	Sussex
Atlantic white cedar	129	1	0	0	0	4	0	0
Eastern red cedar	0	4	34	1	1	6	0	26
Pitch pine	120	1	0	1	0	39	2	0
Other conifers	5	3	0	0	0	0	0	0
Total coniferous species	255	9	34	2	1	50	2	26
Red maple	27	28	13	25	39	18	75	30
Sugar maple	0	0	5	0	20	0	0	7
Black birch	0	0	0	0	15	0	0	34
Flowering dogwood	1	4	5	0	1	0	0	5
Other dogwood species	11	0	11	3	7	0	0	5
Ash species	0	0	42	0	31	0	1	24
Sheep laurel	33	14	0	0	0	21	0	0
Other laurel	4	8	12	2	21	16	2	0
Common spicebush	5	0	29	4	3	0	0	24
Black cherry	0	0	7	44	7	0	2	17
Other Prunus species	0	1	0	0	0	3	1	12
White oak	5	11	0	29	2	1	1	5
Scrub oak	62	4	0	9	0	159	0	0
Chestnut oak	8	0	3	1	4	0	0	70
Other oak species	97	11	1	12	3	26	6	63
Sumac species	0	0	2	3	0	1	0	1
Rose species	0	5	4	1	9	5	0	5
Rubus species	0	3	39	13	16	0	0	11
Sassafras	1	21	1	26	1	6	3	1
Blueberry species	184	75	1	44	40	137	22	38
Maple-leaved viburnum	0	0	23	0	42	1	0	10
Other viburnum species	1	0	0	8	0	0	0	3
Other deciduous species	51	41	25	16	86	32	9	76
Total deciduous species	491	224	225	239	348	426	121	442
Unknown deciduous shrubs	20	17	2	15	3	35	10	12
Unknown coniferous shrubs	7	0	0	0	0	4	2	0
Unknown tree	1	1	0	0	0	0	3	0
Total unknown	28	18	2	15	3	39	15	12
Total, all species	774	252	261	256	351	515	138	480
SE	23.2	18.6	24.8	37.9	20.2	18.3	42.8	22.2

Table 64.-continued

(In millions of stems)

Species	County						
	Warren	Brg/Ess/Hudson /Passaic/Union	Camden/ Gloucester	Mercer/Middlesex /Somerset	Atlantic/ Cape May	All counties	SE
Atlantic white cedar	0	0	0	0	0	134	109.5
Eastern red cedar	9	0	0	1	3	86	34.8
Pitch pine	0	0	15	0	58	23[8]	19.1
Other conifers	0	0	0	0	0	9	53.2
Total coniferous species	9	0	15	1	61	466	32.4
Red maple	4	47	2	39	30	378	23.7
Sugar maple	7	33	0	0	0	73	41.2
Black birch	2	29	0	1	0	82	41.7
Flowering dogwood	6	7	0	14	0	43	39.7
Other dogwood species	3	11	0	18	0	68	21.6
Ash species	21	11	1	11	0	143	32.7
Sheep laurel	0	0	5	0	25	98	17.0
Other laurel	0	6	12	5	14	101	18.9
Common spicebush	35	28	0	26	0	154	14.3
Black cherry	8	41	5	18	1	150	39.8
Other Prunus species	0	3	0	0	0	21	37.9
White oak	6	1	47	0	80	188	35.8
Scrub oak	0	0	209	0	76	520	39.6
Chestnut oak	1	14	3	0	0	104	45.0
Other oak species	7	27	28	3	48	332	17.7
Sumac species	0	0	9	3	3	22	33.4
Rose species	1	0	9	8	5	51	24.3
Rubus species	14	8	4	57	6	170	10.7
Sassafras	6	0	46	1	1	114	41.4
Blueberry species	7	34	79	8	191	861	4.4
Maple-leaved viburnum	3	20	0	11	1	111	16.3
Other viburnum species	0	7	0	20	0	39	25.6
Other deciduous species	33	63	110	49	64	654	14.7
Total deciduous species	165	391	568	291	547	4,477	7.0
Unknown deciduous shrubs	8	17	22	14	37	213	12.7
Unknown coniferous shrubs	0	0	3	0	21	37	27.3
Unknown tree	0	0	0	0	22	27	77.1
Total unknown	8	17	25	14	80	277	21.7
Total, all species	182	408	607	307	687	5,220	7.3
SE	21.2	19.8	35.2	17.7	16.1	7.3	

Table 65.--Number of standing dead trees on timberland by species and county, New Jersey, 1987

(In thousands of trees)

Species	County							
	Burlington	Cumberland	Hunterdon	Monmouth	Morris	Ocean	Salem	Sussex
Atlantic white-cedar	125	389	0	0	0	642	0	0
Shortleaf pine	0	0	0	0	0	0	0	0
Pitch pine	210	204	0	0	0	111	0	0
Virginia pine	0	32	0	0	0	0	0	0
Other softwoods	0	0	0	0	0	0	0	101
Total softwoods	335	625	0	0	0	753	0	101
Red maple	31	0	133	0	88	0	47	0
Hickory	0	0	27	0	0	0	0	74
Ash	0	0	0	0	0	0	0	80
Sweetgum	0	0	0	0	0	0	0	0
Black cherry	0	0	0	0	0	0	0	80
Select white oaks	46	540	0	225	33	0	117	128
Select red oaks	0	64	0	0	92	0	0	16
Other red oaks	134	274	54	0	33	0	47	64
Chestnut oaks	71	35	0	0	191	0	0	425
Other commercial	0	0	0	0	98	0	0	115
Other noncommercial	0	0	98	0	0	0	0	0
Total hardwoods	282	913	313	225	534	0	211	981
Total, all species	617	1,538	313	225	534	753	211	1,082
SE	41.6	34.6	50.7	64.5	59.7	56.2	37.6	32.4

Table 65.-continued

(In thousands of trees)

Species	County						
	Warren	Brg/Ess/Hudson /Passaic/Union	Camden/ Gloucester	Mercer/Middlesex /Somerset	Atlantic/ Cape May	All counties	SE
Atlantic white-cedar	0	0	0	0	0	1,156	52.5
Shortleaf pine	0	0	0	0	29	29	108.3
Pitch pine	79	0	31	0	126	761	33.7
Virginia pine	0	0	0	0	0	32	117.2
Other softwoods	121	0	0	0	0	222	75.2
Total softwoods	201	0	31	0	155	2,201	30.2
Red maple	38	117	0	0	182	637	36.2
Hickory	0	78	0	25	0	204	53.0
Ash	0	78	0	51	0	209	63.2
Sweetgum	0	0	0	260	0	260	100.0
Black cherry	0	0	0	0	0	80	105.2
Select white oaks	0	233	97	0	737	2,156	34.2
Select red oaks	73	78	0	0	0	322	52.5
Other red oaks	0	0	0	108	266	980	37.2
Chestnut oaks	0	155	0	0	0	876	37.2
Other commercial	73	195	0	0	0	481	31.0
Other noncommercial	0	0	0	58	0	156	68.3
Total hardwoods	183	933	97	501	1,185	6,360	17.4
Total, all species	384	933	128	501	1,340	8,561	14.7
SE	27.7	48.2	80.8	67.5	49.8	14.7	

Table 66.--Index to land use edge by type of land use and county, New Jersey, 1987

(Edge hits[a] per thousand acres)

	Burlington	Cumberland	Hunterdon	Monmouth	Morris	Ocean	Salem	Sussex
Forest -								
agriculture	6.4	11.0	21.0	9.5	4.0	1.5	18.8	13.3
urban	3.1	5.1	8.3	13.3	21.3	12.1	3.2	6.9
wetland	2.8	2.1	.3	.6	1.5	1.8	1.1	1.2
water	5.6	1.7	4.8	2.4	5.6	3.4	3.1	6.1
Agriculture -								
urban	2.1	2.3	4.4	2.0	1.1	.1	3.7	1.2
wetland	.1	1.5	.3	.0	.1	.0	2.4	1.0
water	.3	.4	1.7	.8	.2	.1	1.2	1.4
Water -								
urban	1.2	.5	.6	2.4	2.8	4.8	.3	1.7
wetland	.8	5.6	.2	.2	.6	3.0	5.0	1.2
Wetland -								
urban	.1	.4	.1	1.0	.4	1.0	1.1	.4
All types	22.5	30.6	41.7	32.2	37.6	27.8	39.9	34.4
Number of edge plots	77	44	41	41	42	60	31	45
Number of edge hits	966	750	955	740	882	935	693	868

Table 66.--Continued

(Edge hits[a] per thousand acres)

	Warren	Bergen/Essex/Hudson/ Passaic/Union	Camden/ Gloucester	Mercer/Middlesex Somerset	Atlantic/ Cape May	All counties
Forest -						
agriculture	16.6	.1	11.0	9.7	4.5	8.7
urban	5.3	11.9	12.2	10.0	10.4	9.5
wetland	.7	.2	2.3	1.1	1.9	1.5
water	5.4	2.6	4.2	2.9	2.6	3.8
Agriculture -						
urban	1.9	.1	4.2	3.2	1.0	2.0
wetland	.4	.0	.1	.3	.7	.4
water	2.3	.0	.5	.5	.2	.6
Water -						
urban	1.3	6.3	2.1	1.9	1.0	2.2
wetland	.3	.9	1.2	.8	7.0	2.2
Wetland -						
urban	.1	1.0	.4	.7	1.1	.6
All types	34.3	23.1	38.2	31.1	30.4	31.4
Number of edge plots	33	55	45	72	78	664
Number of edge hits	632	709	963	1,253	1,332	11,678

[a] Edge condition on an aerial photograph sampled by a line transect (Brooks and Sykes 1984).

DiGiovanni, Dawn M.; Scott, Charles T. 1990. **Forest statistics for New Jersey--1987.** Resour. Bull. NE-112. Radnor, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station. 97 p.

A statistical report on the third forest survey of New Jersey (1987). Findings are displayed in 66 tables containing estimates of forest area, numbers of trees, timber volume, tree biomass, and timber products output. Data are presented at two levels: state and county.

ODC (746)--905.2

Keywords: Forest survey, inventory, area, volume, biomass

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