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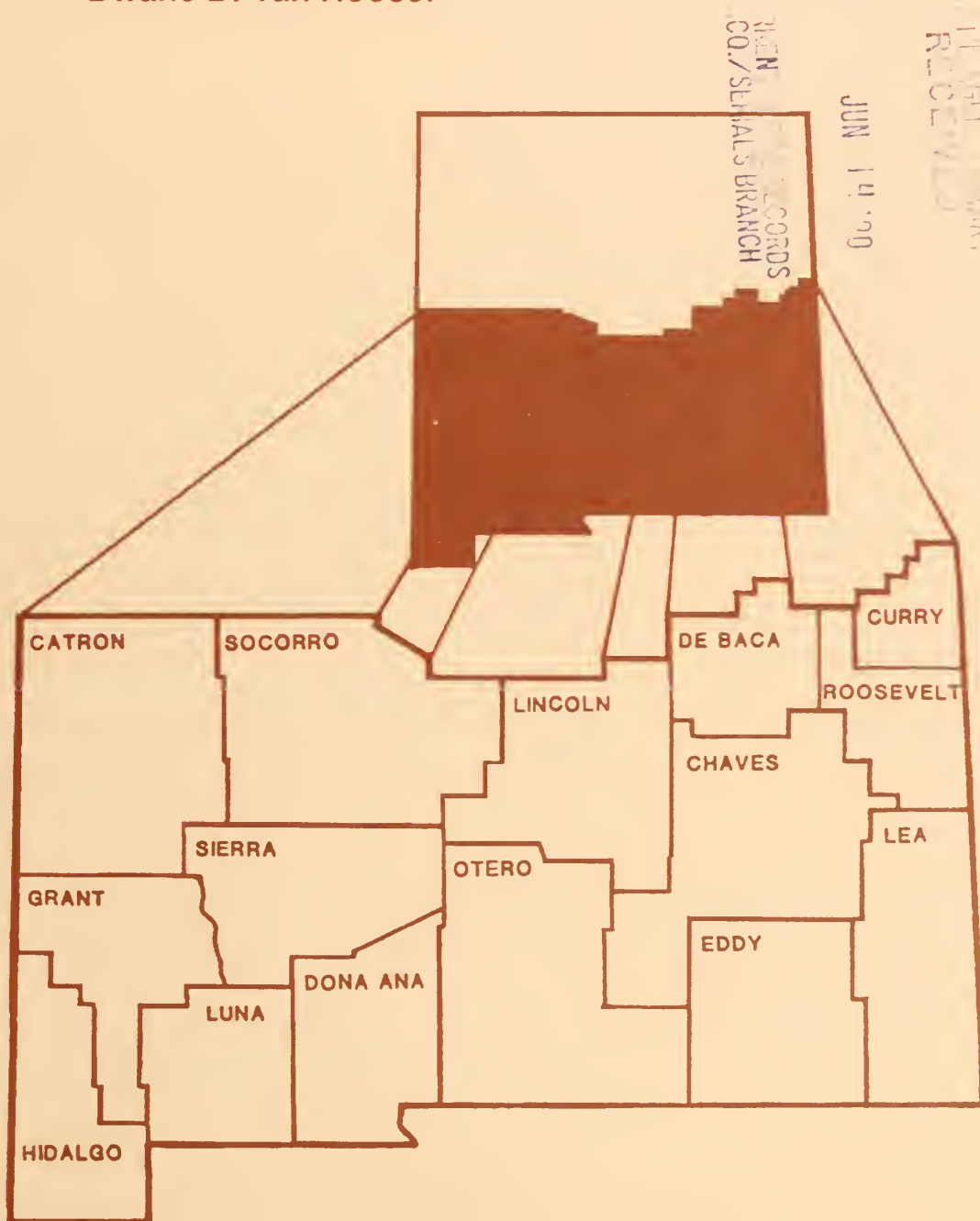
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Timberland and Woodland Resources Outside National Forests in Southern New Mexico, 1987

Dwane D. Van Hooser



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PREFACE

The primary objective of Forest Survey—a continuing, nationwide undertaking of the Forest Service, U.S. Department of Agriculture—is to provide an assessment of the renewable resources for the forest lands of the Nation. Fundamental to the accomplishment of the objective are the periodic State-by-State resource inventories. Originally, Forest Survey was authorized by the McSweeney-McNary Act of 1928. The current authorization is through the Renewable Resources Research Act of 1978.

The Intermountain Research Station with headquarters in Ogden, UT, conducts the forest resource inventories for the Rocky Mountain States of Arizona, Colorado, Idaho, Montana, New Mexico, Nevada, Utah, and Wyoming. These inventories provide information on the extent and condition of the forests—its volume of wood and stand dynamics as expressed by growth, removals, and mortality for State, privately owned, and most other forest lands not in the National Forest System. These data, when combined with similar information on National Forest lands, provide a basis for forming forest policies and programs and for the orderly development and use of the resources.

AUTHOR

DWANE D. VAN HOOSER is project leader of the Forest Survey Research Work Unit at the Intermountain Research Station. He holds a B.S. degree in forestry and an M.S. degree in forestry and business management from Southern Illinois University, Carbondale. He began his Forest Service career in 1964 with the Southern Forest Experiment Station, New Orleans. Before coming to Ogden, he held a staff position at the Forest Service national headquarters in Washington, DC.

ACKNOWLEDGMENTS

The Intermountain Research Station gratefully acknowledges the cooperation of the New Mexico Natural Resource Department, Forestry Division, and the Bureau of Land Management, U.S. Department of the Interior. We extend a special note of gratitude to Mr. Bill Chapel, New Mexico State Forester, and his staff; personnel from the local offices, USDI Bureau of Land Management and Bureau of Indian Affairs; and the private land owners who provided information and access to field sample locations.

RESEARCH SUMMARY

The forest land base outside the National Forests in southern New Mexico totals more than 1.7 million acres. Two-thirds of these forests are owned by private individuals or companies. Acres supporting stands of timber species total 365,000, while the woodland resource typified by stands of pinyon-juniper accounts for more than 1.4 million acres. These areas contain wood volumes of 349 million cubic feet and 644 million cubic feet, respectively. This report presents additional information on the land base, timberland and woodland area, and associated inventory volume, growth, and mortality.

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Timberland and Woodland Resources Outside National Forests in Southern New Mexico, 1987

Dwane D. Van Hooser

INTRODUCTION

This report presents the principal findings of the most recent Forest Survey of the timberland and woodland resources outside the National Forests in southern New Mexico (fig. 1). Phase I of the survey began in 1985 with the collection and reconciliation of area information and aerial photo interpretation. The field phase began in early March 1987 and was completed in mid-November of the same year.

The resource statistics in this report include estimates for those lands in private ownership and those public lands administered by the Bureau of Land Management, U.S. Department of the Interior, other Federal agencies, the State of New Mexico, and county and municipal governments. Reserved areas, such as those lands administered by the USDI National Park Service, are not field sampled but are included in the total area summaries (table 1). Area estimates for those lands administered by the National Forest System, Forest Service, U.S. Department of Agriculture, are also included in table 1. However, associated resource estimates are not included in this report but will be combined with the estimates presented here and in other survey unit reports to form the basis for a comprehensive statewide analysis of New Mexico's forest resource situation.

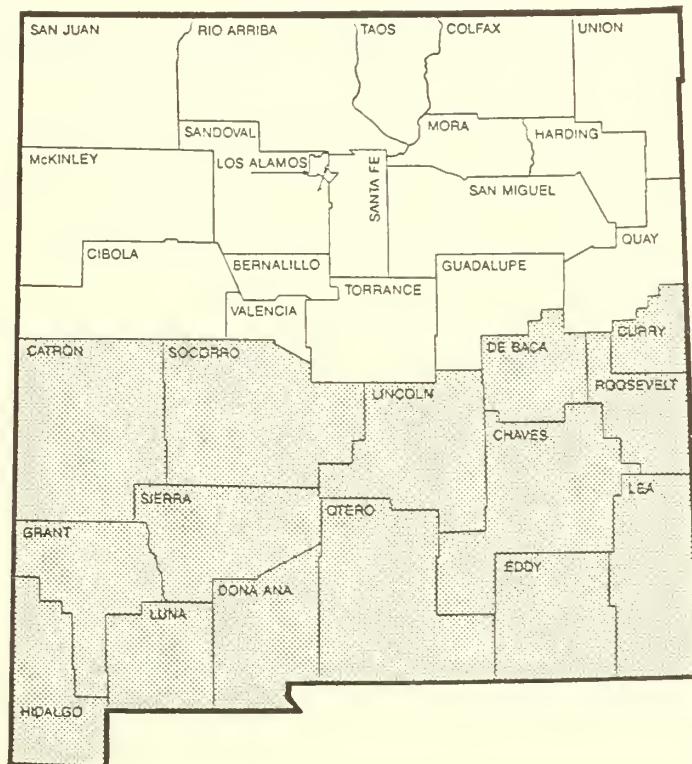


Figure 1—Southern New Mexico counties.

HIGHLIGHTS

Area

The 15 counties that make up southern New Mexico encompass more than 40 million acres, an area larger than the New England States of Connecticut, Maine, Massachusetts, New Hampshire, and Vermont, combined. A substantial portion of the area—some 24 million acres—is administered by public agencies (fig. 2). The public lands outside the National Forests total 19.8 million acres. The Bureau of Land Management (BLM) administers nearly 10 million acres. The State of New Mexico manages 6.5 million acres, and miscellaneous Federal agencies control 3.3 million acres. Private individuals and firms hold title to nearly 16 million acres.

Of the 36 million acres outside National Forests 1.7 million are classified as forested (fig. 3). About one-fifth is timberland, and 79 percent is woodland.

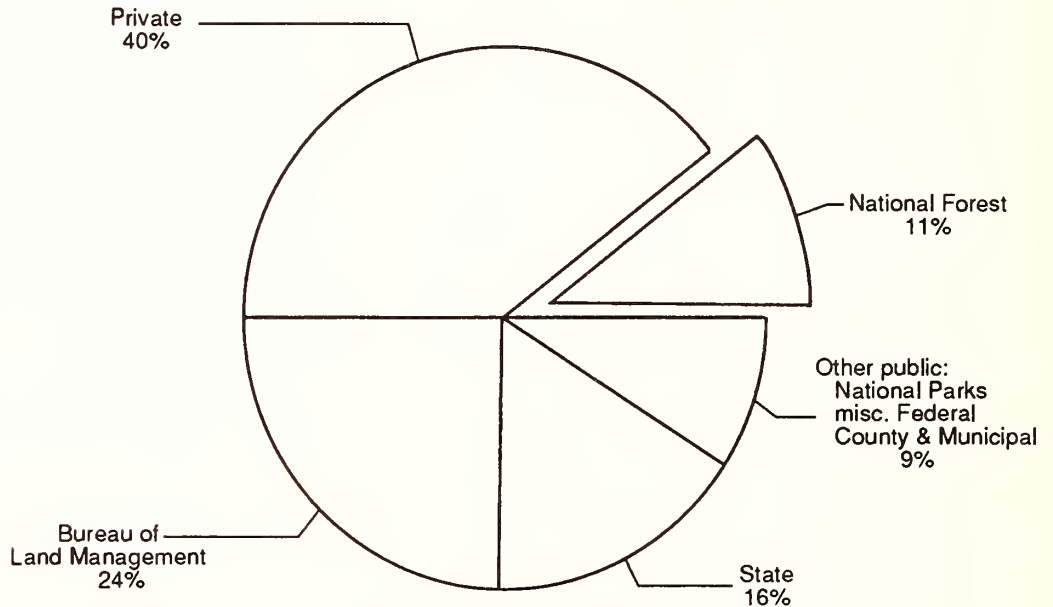


Figure 2—Distribution of land by ownership in southern New Mexico, 1987.

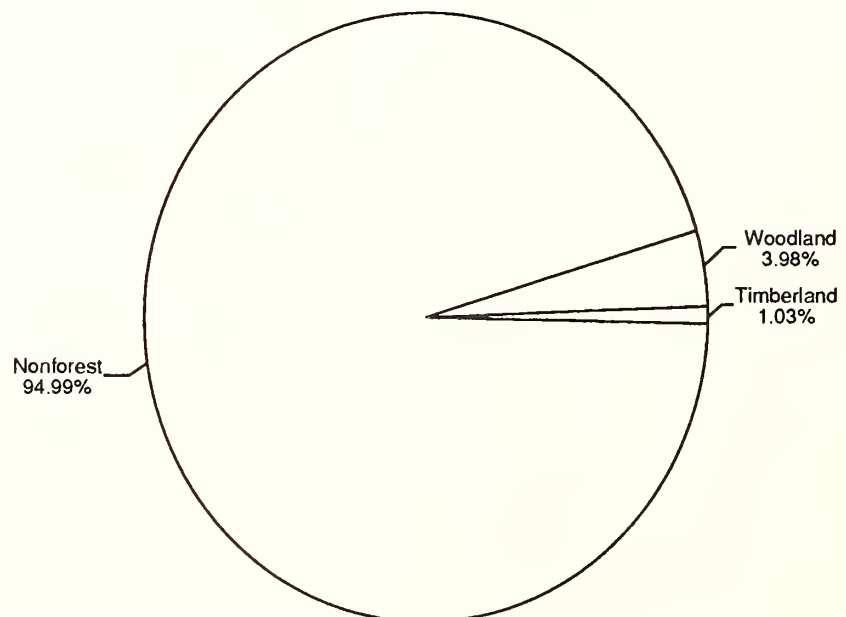


Figure 3—Distribution of land outside National Forests by type of land in southern New Mexico, 1987.

Timberland

Area—About 90 percent of the timberland area is in private holdings and is concentrated on Otero, Lincoln, and Catron Counties. On half of this area ponderosa pine (*Pinus ponderosa*) constitutes the plurality of stocking (fig. 4). The Douglas-fir forest type predominates on about 35 percent of the area. The remaining is in the white fir, other softwood, aspen, and cottonwood types. The latter is found primarily along the Rio Grande River.

Nearly 80 percent of the timberland area is in sawtimber stands (fig. 5), but about 10 percent is considered nonstocked.

Some 36 percent of the area has the natural capability of producing 50 to 85 cubic feet per acre per year or more. The average timberland acre can produce nearly 51 cubic feet, and all of the area can produce more than 20 cubic feet per acre per year.

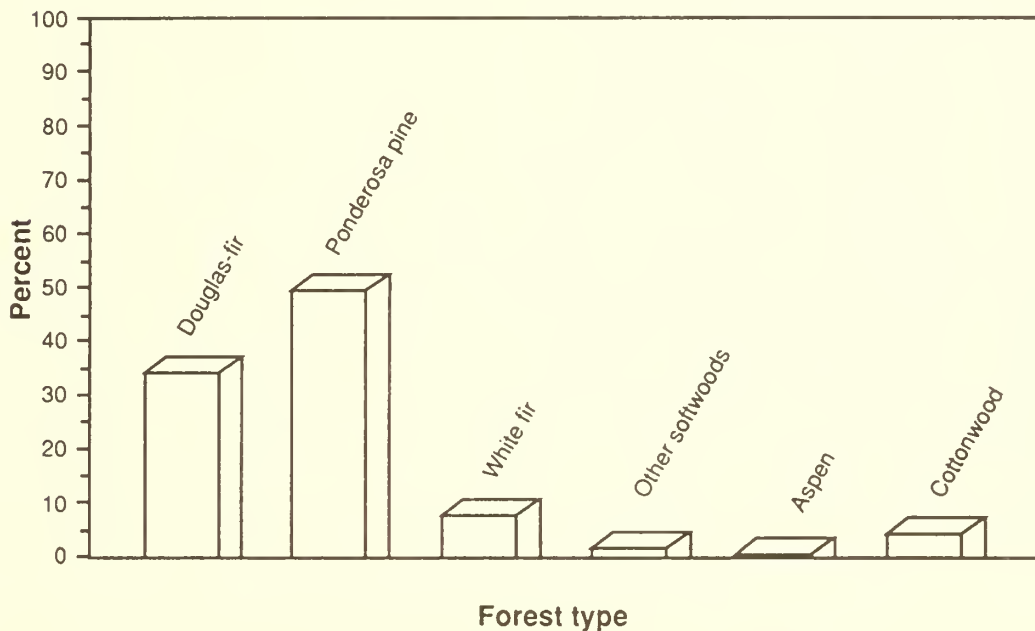


Figure 4—Distribution of timberland outside National Forests by forest type in southern New Mexico, 1987.

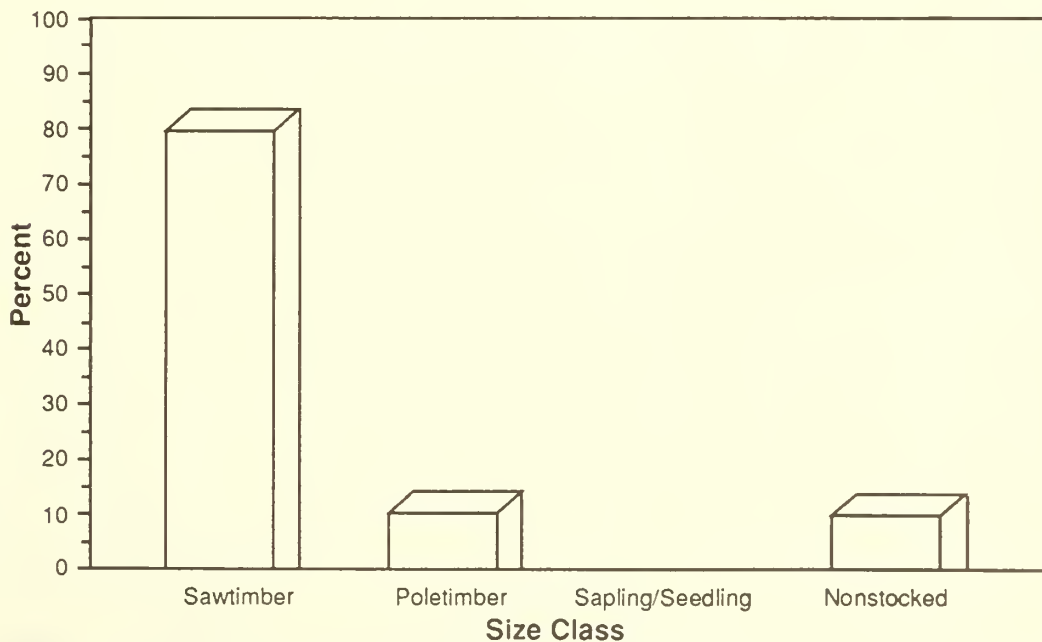


Figure 5—Distribution of timberland outside National Forests by stand-size class in southern New Mexico, 1987.

More than 25 percent of the area supports stands that exceed 5,000 board feet per acre (fig. 6), and most of this is privately owned.

Most of the area supporting adequate tree stocking is about equally divided among full-, medium-, and poorly stocked stands (fig. 7) with the medium-stocked stands having a slight edge. About 26,000 acres support stands in excess of 100 years of age.

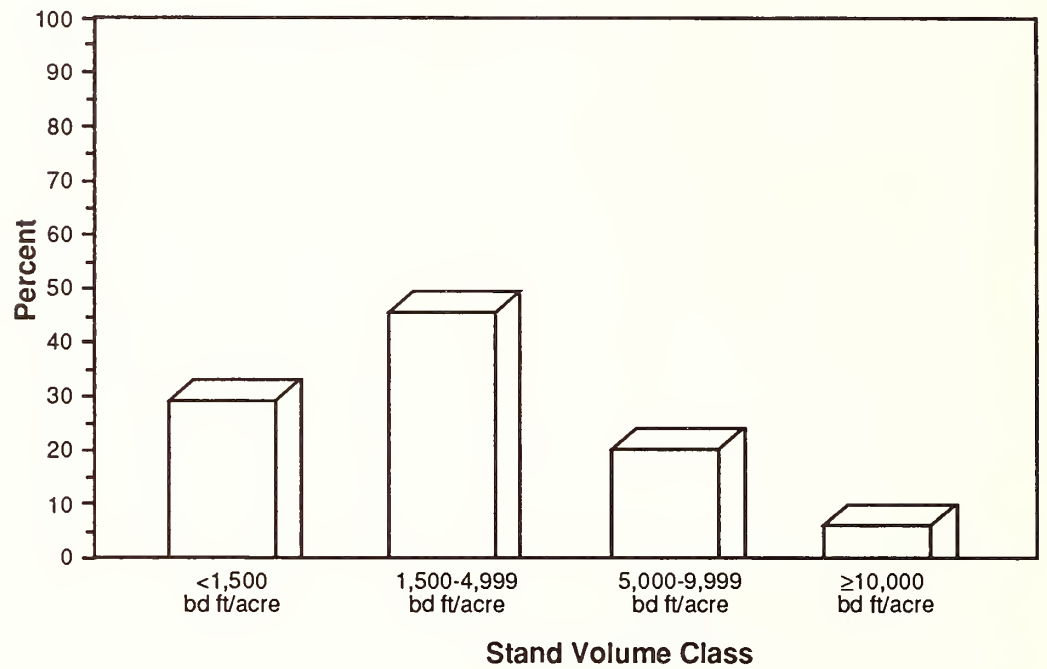


Figure 6—Distribution of timberland outside National Forests by stand-volume class in southern New Mexico, 1987.

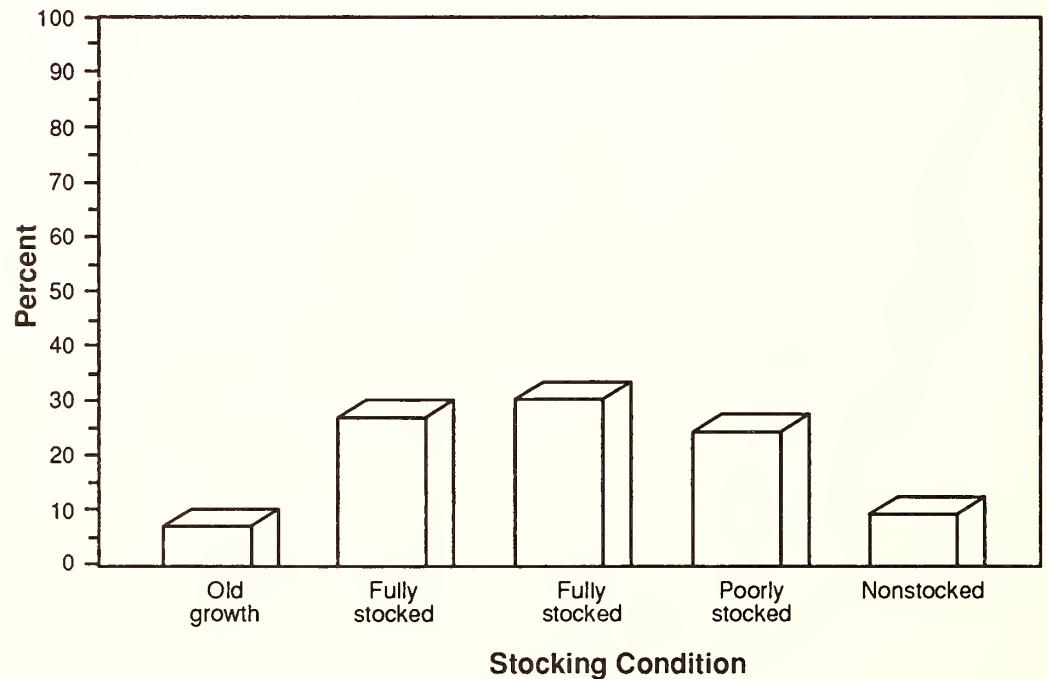


Figure 7—Distribution of timberland area outside National Forests by stocking condition in southern New Mexico, 1987.

Of the 70 million trees growing on the timberland area about half are less than 5.0 inches diameter at breast height (d.b.h.) (fig. 8). Over a fifth are large enough to qualify as sawtimber, but only 3 percent of the total inventory exceeds 17.0 inches d.b.h. In addition to the growing stock component of the inventory there are 1.2 million trees that do not meet growing stock standards. Most of these are classed as salvable dead and occur on private land.

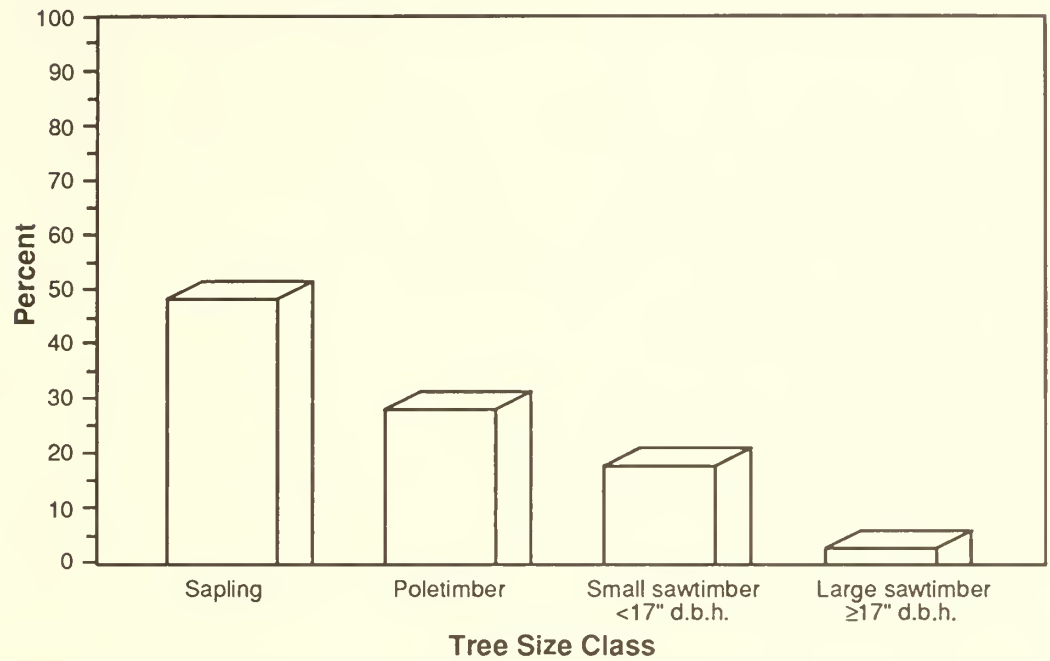


Figure 8—Distribution of growing-stock trees on timberland outside National Forests by tree size class in southern New Mexico, 1987.

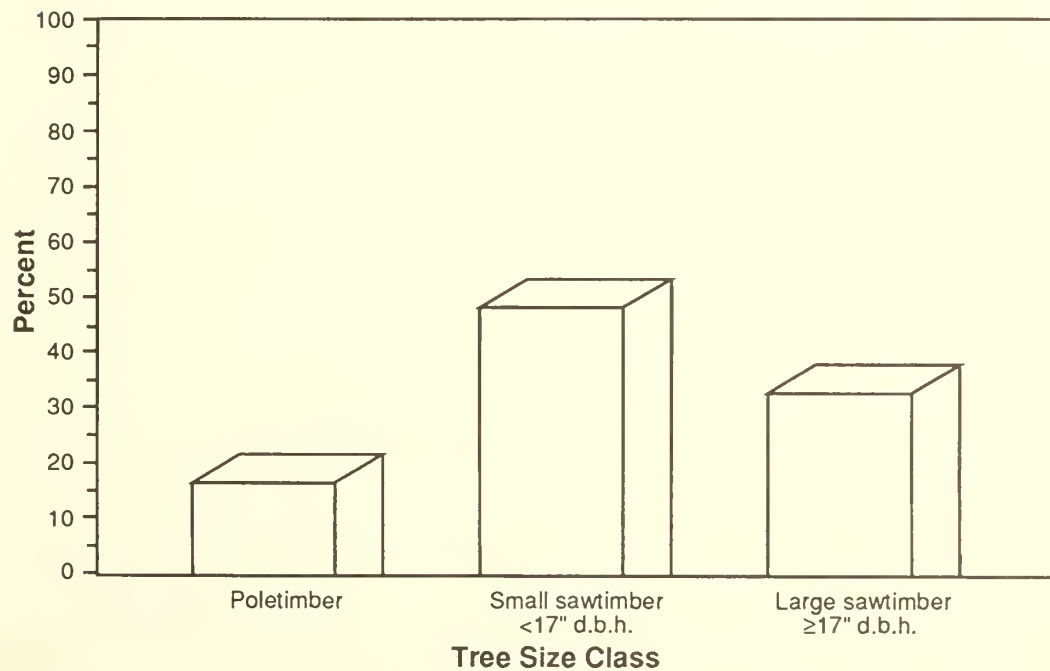


Figure 9—Distribution of growing-stock volume on timberland outside National Forests by tree size class in southern New Mexico, 1987.

Volume—The timberland area supports 349 million cubic feet of growing stock that includes 1.4 billion board feet of sawtimber (International 1/4-inch rule), 10 million cubic feet of salvable dead material, and a trace of rough and rotten cull volume. Most of the volume is privately owned, and most is in sawtimber stands. More than four-fifths of the growing-stock volume is in sawtimber-size trees (fig. 9), and slightly more than half the sawtimber volume is in trees less than 17.0 inches d.b.h.

Ponderosa pine accounts for nearly half of the growing-stock volume and Douglas-fir (*Pseudotsuga menziesii*) accounts for just over a quarter (fig. 10). These two species also account for more than three-quarters of the total sawtimber inventory. Hardwoods contribute about 8 percent of both the growing-stock and sawtimber volume.

Components of change—While the average acre of timberland has the inherent ability to grow more than 50 cubic feet per acre per year, the actual performance amounts to only two-thirds of this potential. In 1987, the average acre produced just over 31 cubic feet growth. This equates to a 3.2 percent annual increase in inventory in the absence of harvesting. The sawtimber inventory is accumulating just over 60 million board feet per year for an annual increase of 4.3 percent.

Mortality, which offsets annual gains to inventory, is not very significant. It amounts to less than half a million cubic feet and is only one-tenth of 1 percent of the total growing-stock inventory.

Woodland

Area—Nearly 80 percent of the forest area in southern New Mexico is in the woodland type. About two-fifths is administered by public agencies. The State of New Mexico administers 272,000 acres (fig. 11).

The woodland area is composed of three distinct forest types. The oak type, which occupies just 4 percent of the area (fig. 12), is made up of stands in which Gambel oak (*Quercus gambelii*) is the predominant species. The pure juniper type occupies 12 percent of the area and is composed of three species—Rocky Mountain (*Juniperus scopulorum*), Utah (*J. osteosperma*), and oneseed (*J. monosperma*)—which occur either singly or in combination. The most extensive forest type is the pinyon-juniper (P-J) complex. This type covers 1.1 million acres and is typified by stands in which pinyon (*Pinus edulis*) and juniper species together constitute the plurality of stocking.

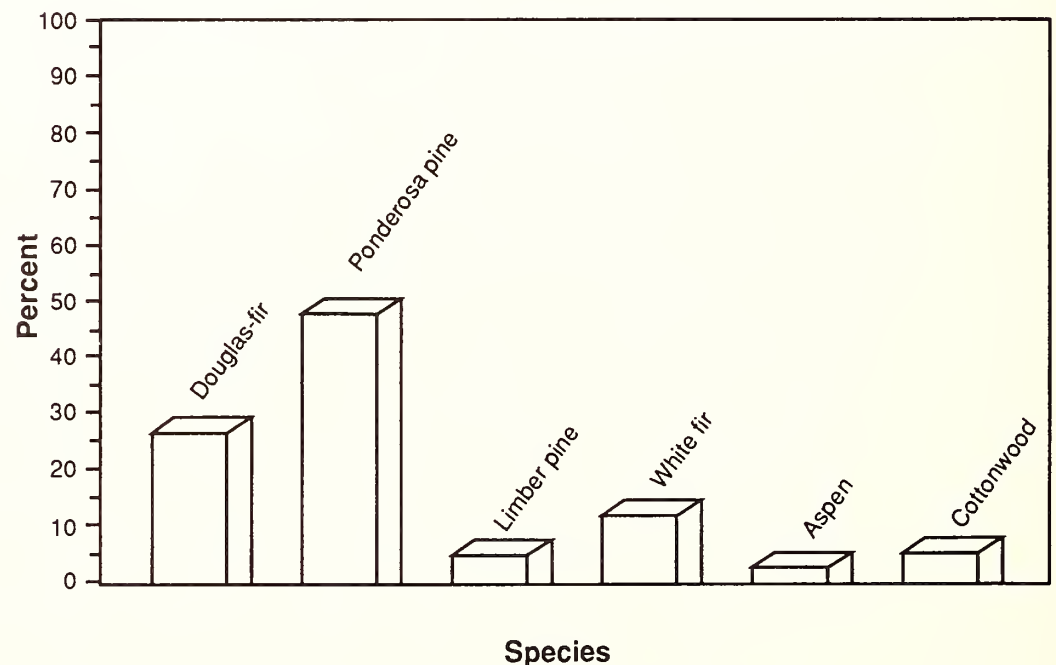


Figure 10—Distribution of growing-stock volume on timberland outside National Forests by species in southern New Mexico, 1987.

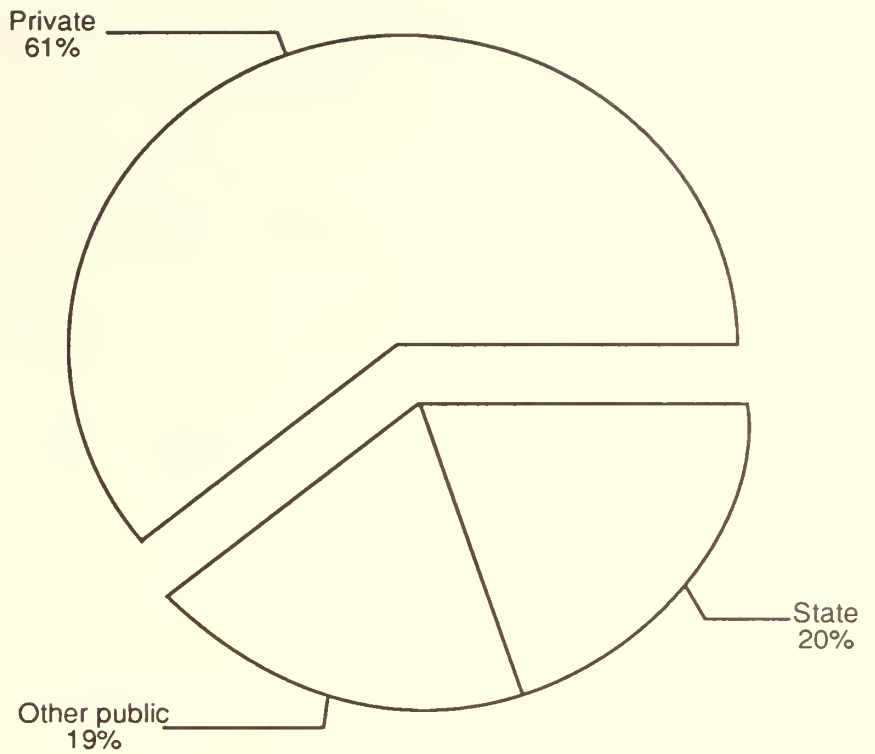


Figure 11—Distribution of woodland outside National Forests by ownership in southern New Mexico, 1987.

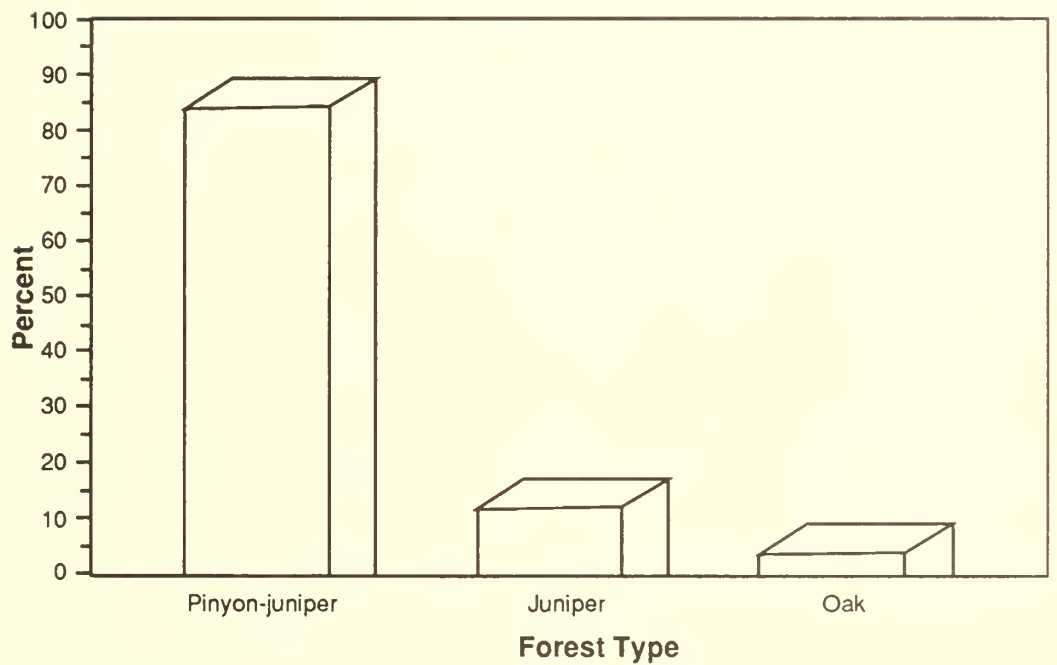


Figure 12—Distribution of woodland outside National Forests by forest type in southern New Mexico, 1987.

More than 80 percent of the woodland (fig. 13) is classified as high site, that is, capable of producing sustained crops of fuelwood, fenceposts, or other woodland products. About 80 percent of each forest type is also classified as high site. Those acres in the low site category are usually found on the more rocky southern and western slopes where regeneration and vigorous growth are more difficult to achieve. These sites, more often than not, are also quite steep.

Of the 310 million live trees on the woodland acres over half are pinyon; more than a third of the trees are juniper, and the remainder are Gambel, Emory (*Quercus emoryi*), and other miscellaneous oak species, and other woodland species such as *Prunus* sp., walnut (*Juglans major*), maple (*Acer glabrum*, *A. grandidentatum*, *A. negundo*), and ash (*Fraxinus cuspidata*, *F. velutina*).

About 30 percent of the standing inventory is in sapling-size trees, that is, those stems less than 3.0 inches diameter at root collar (d.r.c.), and 79 percent of the inventory is in trees less than 9.0 inches d.r.c. (fig. 14).

Volume—The average woodland acre contains about 470 cubic feet of wood. About 60 percent of the area has less than 600 cubic feet per acre, and 15 percent supports stands containing 1,000 or more cubic feet (fig. 15). Most of these stands are in the P-J complex, and about 62 percent are privately owned.

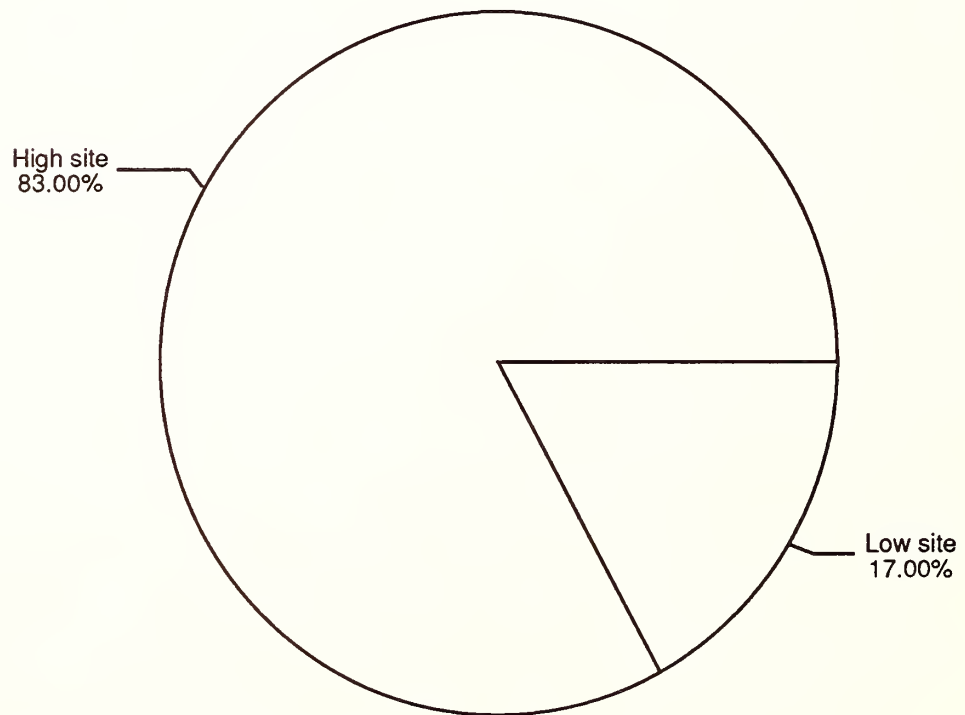


Figure 13—Distribution of woodland outside National Forests by productivity class in southern New Mexico, 1987.

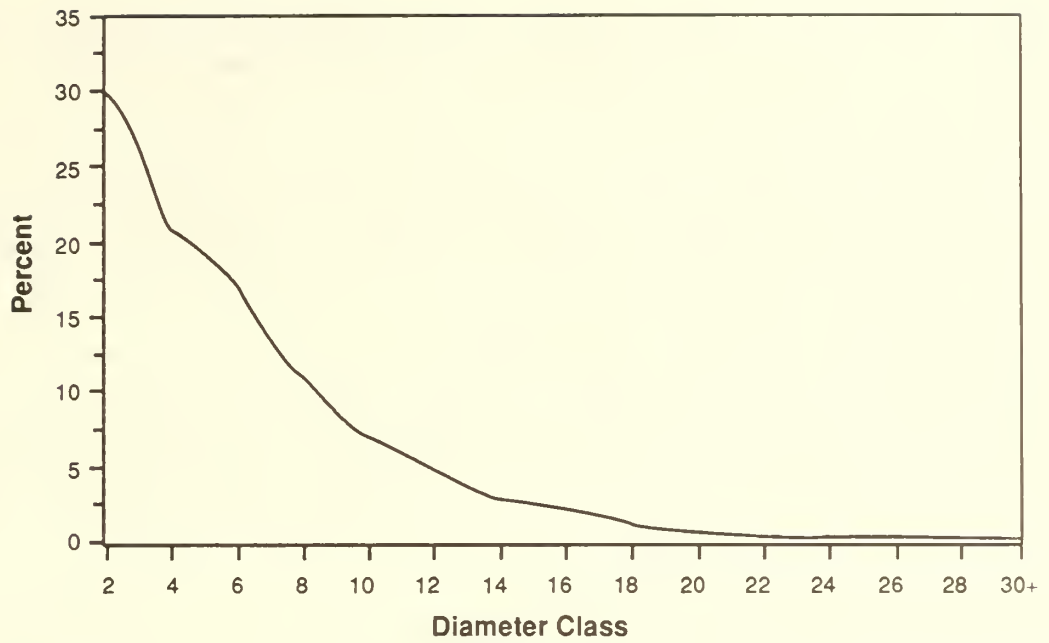


Figure 14—Distribution of trees on woodland outside National Forests by diameter at root collar class in southern New Mexico, 1987.

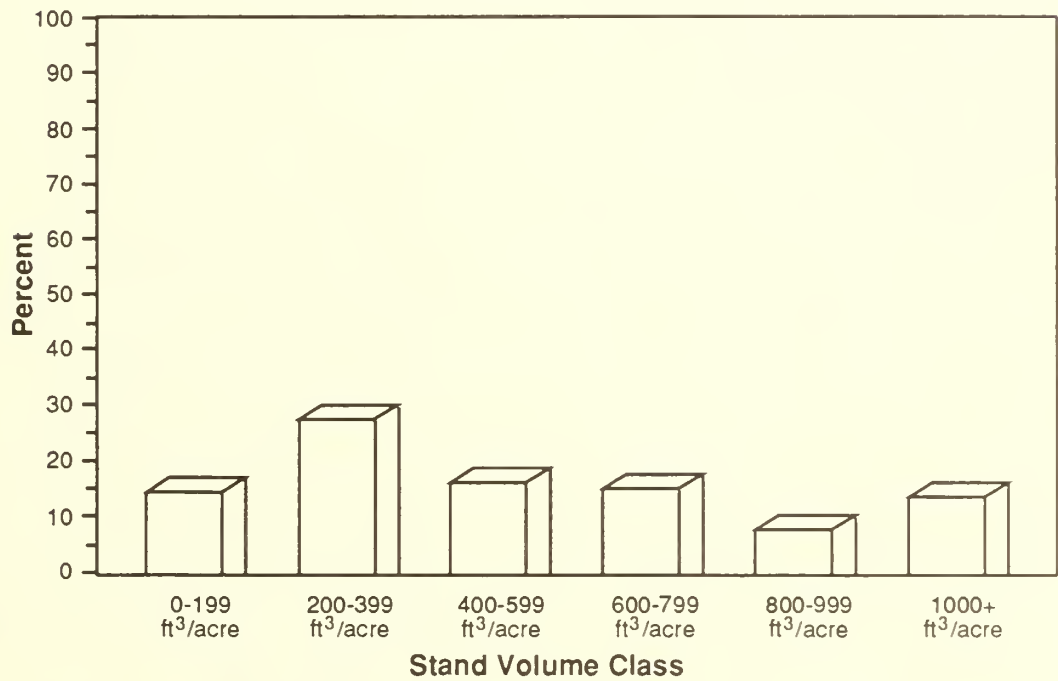


Figure 15—Distribution of woodland area outside National Forests by stand volume class in southern New Mexico, 1987.

Live woodland volume is equal to 644 million cubic feet. Most of this material is P-J or oak. However, about 7 million cubic feet is contained in ponderosa pine. About three-fourths of the volume is in trees larger than 9.0 inches d.r.c. (fig. 16).

An additional 182 million cubic feet is in dead material, and most of it is found on living trees. Moreover, larger trees—those between 7.0 and 17.0 inches d.r.c.—contain most of the dead volume.

The opportunity to convert standing volume into merchantable products is not as great for woodland species when compared to those growing on timberland areas. It is conceivable, however, that all 825 million cubic feet of the live and dead material currently found on the woodland area could be utilized as fuelwood. In addition, in an attempt to quantify product estimates, a system of grading pinyon Christmas tree potential and juniper and oak fencepost suitability has been developed.

Although there are an estimated 174 million pinyon trees currently growing on the woodland acres, only 16 million meet minimum height and form requirements to qualify as Christmas trees. More than 50 percent of these are on public lands. Few of these trees meet the specifications of the desirable premium grade. In fact, more than 81 percent of the pinyons qualifying as Christmas trees are utility grade. Of the 133 million juniper and oak trees in the inventory, 25 million meet minimum fencepost requirements, 89 percent of which are juniper. Nearly two-thirds could be used as line posts, while 8.4 million qualify as the more desirable corner posts.

Components of Change—The annual rate of change for the woodland, in the absence of harvesting, is 1.1 percent. This translates to 7.2 million cubic feet of volume being added to the inventory each year. The average annual growth per acre amounts to 5.3 cubic feet.

The mortality on woodland species is low throughout New Mexico, and the southern portion of the State is no exception. The mortality trees encountered totaled 45,000 cubic feet, or 0.01 percent of the inventory.

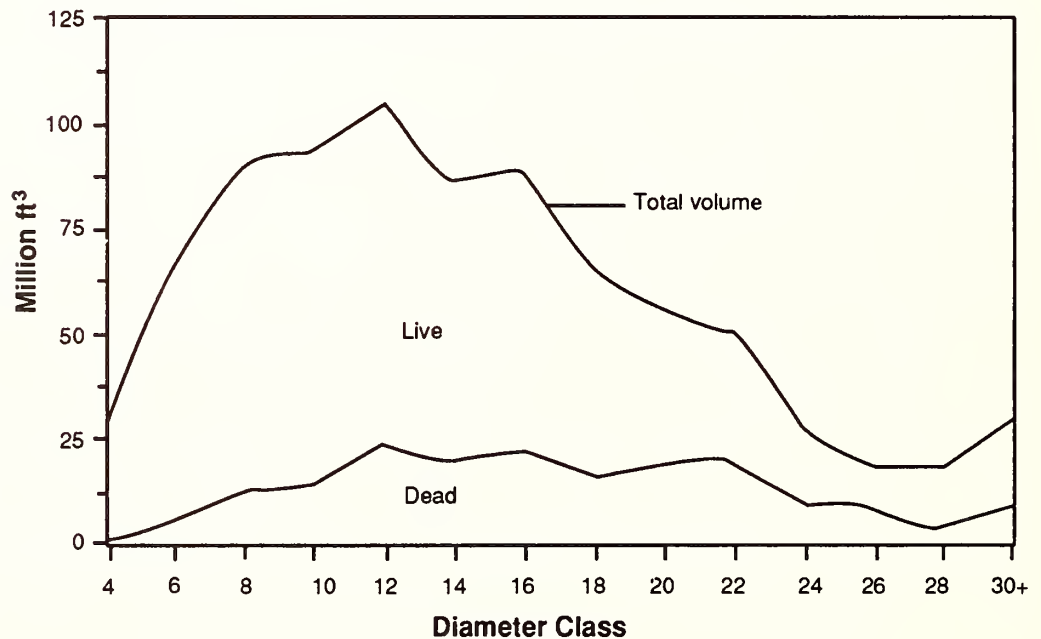


Figure 16—Distribution of cubic foot volume on woodland outside National Forests by diameter at root collar class in southern New Mexico, 1987.

HOW THE INVENTORY WAS CONDUCTED

The inventory was designed to provide reliable statistics primarily at the State and survey unit levels.

Prefield

Initial area estimates were based on the classification of 142,719 sample points systematically placed on the latest aerial photographs available. The sample points were summarized and grouped into strata for subsequent field sampling. The photo points, adjusted to meet known land areas, were used to compute area expansion factors for the sampling strata means.

Field

Land classification and estimates for timberland and woodland characteristics and volume were based on observations and measurements recorded at 5,770 field sample locations, of which 316 were forested (fig. 17).

Sample trees for timberland were selected using a 5-point cluster. Trees less than 5.0 inches d.b.h. were measured on a $1/300$ -acre fixed radius plot. Trees 5.0 inches d.b.h. or larger were selected using a variable radius plot. A 20 basal area factor was used for ponderosa pine locations. Other timberland locations were measured using a 40 basal area factor. Sample trees for woodland were selected using a $1/10$ -acre or a $1/5$ -acre fixed radius plot for trees 3.0 inches d.r.c. and larger. Trees less than 3.0 inches d.r.c. were tallied on $1/300$ -acre subplots.

Compilation

The photo and field data are encoded for subsequent computer manipulation to assure accuracy and consistency of codes and to produce quality control summaries. Final estimates from these data were based on statistical summaries, a portion of which is included in this bulletin. Volume and defect were computed using the most appropriate equations, including those developed by Chojnacky (1985), Hann and Bare (1978), and Edminster (1977).

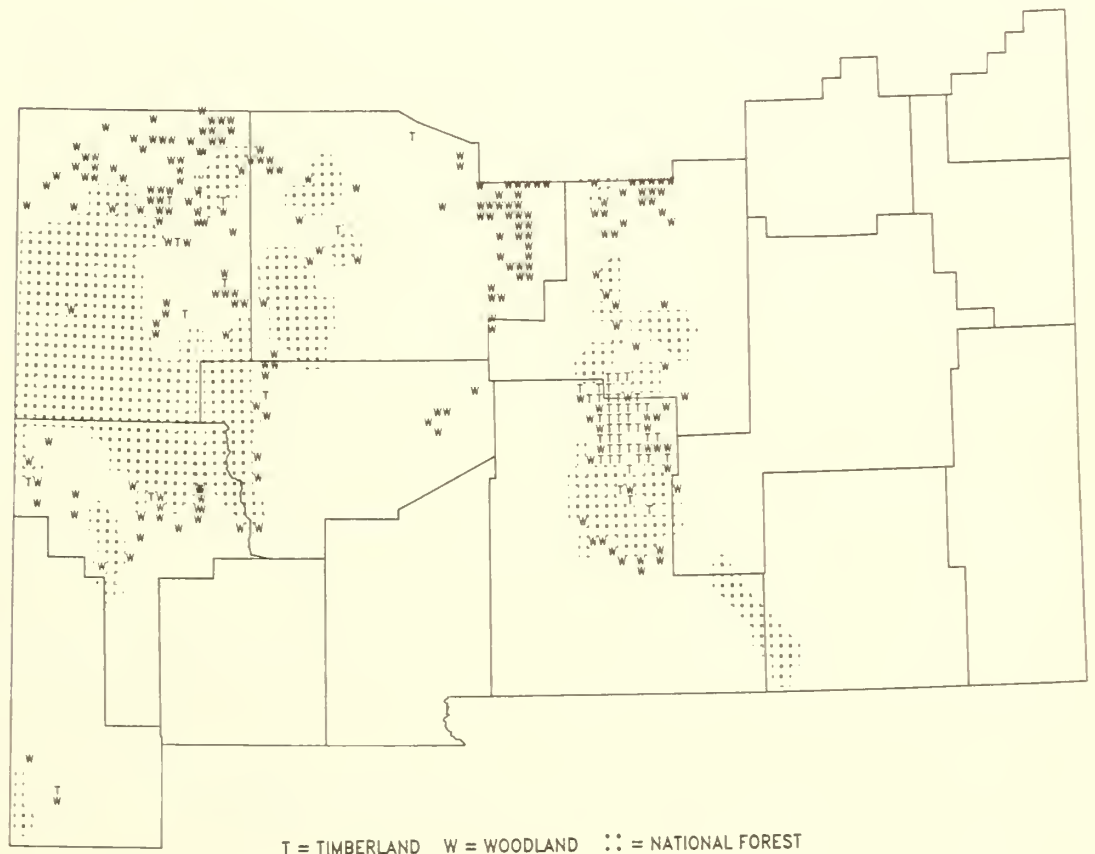


Figure 17—Distribution of timberland and woodland field locations outside National Forests in southern New Mexico, 1987.

DATA RELIABILITY

Individual cells within tables should be used with caution. Some are based on small sample sizes, which may result in high sampling errors. The standard error percentages shown in tables 2 and 3 were calculated at the 67 percent confidence level.

TERMINOLOGY

Acceptable trees—Growing-stock trees meeting specified standards of size and quality but not qualifying as desirable trees.

Area condition class—A classification of timberland reflecting the degree to which the site is being utilized by growing-stock trees and other conditions affecting current and prospective timber growth (see Stocking):

Class 10—Areas fully stocked with desirable trees and not overstocked.

Class 20—Areas fully stocked with desirable trees but overstocked with all live trees.

Class 30—Areas medium to fully stocked with desirable trees and with less than 30 percent of the area controlled by other trees, or inhibiting vegetation or surface conditions that will prevent occupancy by desirable trees, or both.

Class 40—Areas medium to fully stocked with desirable trees and with 30 percent or more of the area controlled by other trees, or conditions that ordinarily prevent occupancy by desirable trees, or both.

Class 50—Areas poorly stocked with desirable trees but fully stocked with growing-stock trees.

Class 60—Areas poorly stocked with desirable trees but with medium to full stocking of growing-stock trees.

Class 70—Areas nonstocked or poorly stocked with desirable trees and poorly stocked with growing-stock trees.

Class 80—Low-risk old-growth stands.

Class 90—High-risk old-growth stands.

Nonstocked—Areas less than 10 percent stocked with growing-stock trees.

Basal area—The cross-sectional area of a tree expressed in square feet. For timber species the calculation is based on diameter at breast height (d.b.h.); for woodland species it is based on diameter at root collar (d.r.c.).

Christmas-tree grade—Pinyon species are classified as Christmas trees using the following guidelines:

Premium—Excellent conical form with no gaps in branches and a straight bole.

Standard—Good conical form with small gaps in branches and bole slightly malformed.

Utility—Conical in form with branches missing and bole bent or malformed.

Cull—Not meeting one of the above classifications or over 12 feet in height.

Cord—A pile of stacked wood equivalent to 128 cubic feet of wood and air space having standard dimensions of 4 by 4 by 8 feet.

Cull trees—Live trees that are unmerchantable now or prospectively (see Rough trees and Rotten trees).

Cull volume—Portions of a tree's volume that are not usable for wood products because of rot, missing or dead material, or other cubic-foot defect.

Deferred forest land—Forest lands within the National Forest System that are under study for possible inclusion in the Wilderness System.

Desirable trees—Growing-stock trees (1) having no serious defect in quality to limit present or prospective use for timber products, (2) of relatively high vigor, and (3) containing no pathogens that may result in death or serious deterioration within the next decade.

Diameter at breast height (d.b.h.)—Diameter of the stem measured at 4.5 feet above the ground.

Diameter at root collar (d.r.c.)—Diameter equivalent at the point nearest the ground line that represents the basal area of the tree stem or stems.

Diameter classes—Tree diameters, either d.b.h. or d.r.c., grouped into 2-inch classes labeled by the midpoint of the class.

Farmer / rancher-owned lands—Lands owned by a person who operates a farm or a ranch and who either does the work or directly supervises the work.

Fenceposts—Juniper and oak species are evaluated for post potential using the following criteria:

Line post—A 7-foot minimum length with 5 to 7 inches diameter at the butt, 2.5 inch minimum small end diameter, and reasonably straight and solid.

Corner post—An 8-foot minimum length with 7 to 9 inches diameter at the butt, 2.5 inch minimum small end diameter, and reasonably straight and solid.

Forest industry lands—Lands owned by companies or individuals operating a primary wood-processing plant.

Forest lands—Lands at least 10 percent stocked by forest trees of any size, including lands that formerly had such tree cover and that will be naturally or artificially regenerated. The minimum area for classification of forest land is 1 acre. Roadside, streamside, and shelter-belt strips of timber must have a crown width at least 120 feet wide to qualify as forest land. Unimproved roads and trails, streams, and clearings in forest areas are classified as forest if less than 120 feet wide.

Forest trees—Woody plants having a well-developed stem or stems, usually more than 12 feet in height at maturity, with a generally well-defined crown.

Forest type—A classification of forest land based upon and named for the tree species presently forming a plurality of live-tree stocking.

Gross annual growth—The average annual increase in the net volume of trees during a specified period.

Growing-stock trees—Live sawtimber trees, poletimber trees, saplings, and seedlings of timber species meeting specified standards of quality and vigor; excludes cull trees.

Growing-stock volume—Net cubic-foot volume in live poletimber-size and sawtimber-size growing-stock trees from a 1-foot stump to a minimum 4-inch top (of central stem) outside bark or to the point where the central stem breaks into limbs.

Growth—See definition for Net annual growth.

Hardwood trees—Dicotyledonous trees, usually broad-leaved and deciduous.

High-risk old-growth stands—Timber stands over 100 years old in which the majority of the trees are not expected to survive more than 10 years.

Indian lands—Indian lands held in trust by the Federal Government.

Industrial wood—All commercial roundwood products except fuelwood.

Land area—The area of dry land and land temporarily or partially covered by water such as marshes, swamps, and river flood plains, streams, sloughs, estuaries, and canals less than 120 feet wide; and lakes, reservoirs, and ponds less than 1 acre in size.

Logging residues—The unused portions of growing-stock trees cut or killed by logging.

Low-risk old-growth stands—Timber stands over 100 years old in which the majority of the trees are expected to survive more than 10 years.

Miscellaneous Federal lands—Lands administered by Federal agencies other than the U.S. Department of Agriculture, Forest Service, or U.S. Department of the Interior, Bureau of Land Management.

Mortality—The net volume of growing-stock trees that have died from natural causes during a specified period.

National Forest lands—Public lands administered by the U.S. Department of Agriculture, Forest Service.

National Resource lands—Public lands administered by the U.S. Department of the Interior, Bureau of Land Management.

Net annual growth—Gross annual growth minus average annual mortality.

Net dead volume—Total net volume of dead trees plus the net volume of dead material in live trees.

Net volume in board feet—The gross board-foot volume in the sawlog portion of growing-stock trees, less deductions for cull volume.

Net volume in cubic feet—Gross cubic-foot volume in the merchantable portion of trees less deductions for cull volume. For timber species, volume is computed for the merchantable stem from a 1-foot stump to a minimum 4-inch top diameter outside bark (d.o.b.), or to the point where the central stem breaks into limbs. For woodland species, volume is computed outside bark (o.b.) for all woody material above d.r.c. that is larger than 1.5 inches d.o.b.

Nonforest lands—Lands that do not currently qualify as forest land.

Nonindustrial private—All private ownerships except forest industry.

Nonstocked areas—Forest land less than 10 percent stocked with live trees.

Old-growth stands—Stands of timber species over 100 years old.

Other private lands—Privately owned lands other than forest industry or farmer-owned.

Other public lands—Public lands administered by agencies other than the U.S. Department of Agriculture, Forest Service.

Other removals—The net volume of growing-stock trees removed from the inventory by cultural operations such as timber-stand improvement, by land clearing, and by changes in land use, such as a shift to wilderness.

Poletimber stands—Stands at least 10 percent stocked with growing-stock trees, in which half or more of the stocking is sawtimber or poletimber trees or both, with poletimber stocking exceeding that of sawtimber (see definition for Stocking).

Poletimber trees—Live trees of timber species at least 5 inches d.b.h. but smaller than sawtimber size.

Potential growth—The average net annual cubic-foot growth per acre at culmination of mean annual growth attainable in fully stocked natural stands.

Primary wood-processing plants—Plants using roundwood products such as sawlogs, pulpwood bolts, veneer logs, and so forth.

Productivity class—A classification of forest land that reflects biological potential. For timberlands the index used is the potential net annual growth at culmination of mean annual increment in fully stocked natural stands. For woodland, characteristics that affect the land's ability to produce wood, such as soil depth and aspect, are used. Furthermore, woodland is classified as high site where sustained wood production is likely, or low site where the continuous production of wood is unlikely.

Removals—The net volume of growing-stock trees removed from the inventory by harvesting, cultural operations, land clearings, or changes in land use.

Reserved forest land—Forest land withdrawn from tree utilization through statute or administrative designation.

Residues:

Coarse residues—Plant residues suitable for chipping, such as slabs, edgings, and ends.

Fine residues—Plant residues not suitable for chipping, such as sawdust, shavings, and veneer clippings.

Plant residues—Wood materials from primary manufacturing plants that are not used for any product.

Rotten trees—Live poletimber or sawtimber trees with more than 67 percent of their total volume cull (cubic-foot) and with more than half of the cull volume attributable to rotten or missing material.

Rough trees—Live poletimber or sawtimber trees with more than 67 percent of their total volume cull (cubic-foot) and with less than half of the cull volume attributable to rotten or missing material.

Roundwood—Logs, bolts, or other round sections cut from trees.

Salvable dead trees—Standing or down dead trees that are currently merchantable by regional standards.

Saplings—Live trees of timber species 1 to 4.9 inches d.b.h. or woodland species 1 to 2.9 inches d.r.c.

Sapling and seedling stands—Timberland stands at least 10 percent stocked on which more than half of the stocking is saplings or seedlings or both.

Sawlog portion—That part of the bole of sawtimber trees between a 1-foot stump and the sawlog top.

Sawlog top—The point on the bole of sawtimber trees above which a sawlog cannot be produced. The minimum sawlog top is 7 inches d.o.b. for softwoods and 9 inches d.o.b. for hardwoods.

Sawtimber stands—Stands at least 10 percent stocked with growing-stock trees, with half or more of total stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

Sawtimber trees—Live trees of timber species meeting regional size and defect specifications. Softwood trees must be at least 9 inches d.b.h. and hardwood trees 11 inches d.b.h.

Sawtimber volume—Net volume in board feet of the sawlog portion of live sawtimber trees.

Seedlings—Established live trees of timber species less than 1 inch d.b.h. or woodland species less than 1 inch d.r.c.

Softwood trees—Monocotyledonous trees, usually evergreen, having needle or scalelike leaves.

Standard error—An expression of the degree of confidence that can be placed on an estimated total or average obtained by statistical sampling methods. Standard errors do not include technique errors that could occur in photo classification of areas, field measurements, or compilation of data.

Stand-size classes—A classification of forest land based on the predominant size of trees present (see Sawtimber stands, Poletimber stands, and Sapling and seedling stands).

State, county, and municipal lands—Lands administered by States, counties, and local public agencies, or lands leased by these governmental units for more than 50 years.

Stocking—An expression of the extent to which growing space is effectively utilized by present or potential growing-stock trees of timber species.

Timberland—Forest land where timber species make up at least 10 percent stocking.

Timber species—Tree species traditionally used for industrial wood products. In the Rocky Mountain States, these include aspen and cottonwood hardwood species and all softwood species except pinyon and juniper.

Timber stand improvement—Treatments such as thinning, pruning, release cutting, girdling, weeding, or poisoning of unwanted trees aimed at improving growing conditions for the remaining trees.

Upper-stem portion—That part of the main stem or fork of sawtimber trees above the sawlog top to a minimum top diameter of 4 inches outside bark or to the point where the main stem or fork breaks into limbs.

Water—Streams, sloughs, estuaries, and canals more than 120 feet wide, and lakes, reservoirs, and ponds more than 1 acre in size at mean high water level.

Wilderness—An area of undeveloped land currently included in the Wilderness System, managed so as to preserve its natural conditions and retain its primeval character and influence.

Woodland—Forest land where timber species make up less than 10 percent stocking.

Woodland species—Tree species not usually converted into industrial wood products. Common uses are fuelwood, fenceposts, and Christmas trees.

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FOREST SURVEY TABLES

Table 1--Total land and water area by ownership class
in southern New Mexico, 1987

Ownership class	Area
	- - <u>Acres</u> - -
Land:	
Public:	
National Forest	4,221,793
Other public:	
Bureau of Land Management	9,783,888
National Parks ¹	191,398
Miscellaneous federal	3,341,338
State	6,506,700
County and municipal	6,939
Total other public	<u>19,830,263</u>
Total public	<u>24,052,056</u>
Private:	
Indian	536,613
Other private	<u>15,429,048</u>
Total private	<u>15,965,661</u>
Total land area	<u>40,017,717</u>
Census water	<u>49,657</u>
Total land and water ²	40,067,374

¹Not included with miscellaneous Federal, a component of other public, for purpose of clarity. These lands are reserved and are included in tables 1, 2, and 4 only.

²U.S. Department of Commerce, Bureau of Census. Area measurement reports, GE-20 No. 1, 22 p., 1970, updated to account for changes in inland water estimates obtained from the USDA, Soil Conservation Service's National Resource Inventory, 1982.

Table 2--Area of forest land outside National Forests with percent standard error in southern New Mexico, 1987

Item	Acres	Percent standard error
Timberland	365,439	±7.9
Woodland	1,370,078	±5.1
Reserved forest land: ¹		
Timberland	4,767	
Woodland	53,608	
Total forest land ²	1,793,892	

¹Reserved land areas are estimated from aerial photos without field verification; therefore, standard errors are not calculated.

²On this and all following tables, totals may vary due to rounding.

Table 3--Net volume, net annual growth, and annual mortality of growing stock and sawtimber on forest land outside National Forests with percent standard error in southern New Mexico

Forest land	Item	All species	
		Volume	Percent standard error
Timberland:	Net volume, 1987:		
	Growing stock (M cubic feet)	348,536	±11.3
	Sawtimber ¹ (M board feet)	1,379,892	±12.1
	Sawtimber ² (M board feet)	1,174,824	±12.1
	Net annual growth, 1986:		
	Growing stock (M cubic feet)	11,557	±12.4
	Sawtimber ¹ (M board feet)	60,040	±21.5
	Sawtimber ² (M board feet)	49,809	±20.2
	Annual mortality, 1986:		
	Growing stock (M cubic feet)	405	±75.4
Sawtimber ¹ (M board feet)	1,678	±81.9	
Sawtimber ² (M board feet)	1,493	±81.9	
Woodland:	Volume, 1987 (M cubic feet)	643,547	±6.9
	Growth, 1986 (M cubic feet)	7,236	±7.4
	Mortality, 1986 (M cubic feet)	45	±82.2

¹International ½-inch rule.

²Scribner rule.

Table 4--Total land area outside National Forests by major land class and ownership class in southern New Mexico, 1987

Land class	Ownership class		
	Other public	Private	Total
	- - - - - Acres - - - - -		
Timberland:			
Reserved	267	4,500	4,767
Nonreserved	36,317	329,122	365,439
Total	36,584	333,622	370,206
Woodland:			
Reserved	1,642	51,966	53,608
Nonreserved	531,909	838,169	1,370,078
Total	533,551	890,135	1,423,686
Total forest land:			
Reserved	1,909	56,466	58,375
Nonreserved	568,226	1,167,291	1,735,517
Total	570,135	1,223,757	1,793,892
Nonforest land	19,260,128	14,741,904	34,002,032
Total land area	19,830,263	15,965,661	35,795,924

TIMBERLAND TABLES

Table 5--Area of timberland outside National Forests by forest type, stand-size class, and productivity class in southern New Mexico, 1987

Forest type and stand-size class	Productivity class				Total acres
	85-119	50-84	20-49	0-19	
	----- Acres -----				
Douglas-fir:					
Sawtimber	6,014	47,839	31,313	--	85,166
Poletimber	--	6,013	9,800	--	15,813
Sapling and seedling	--	--	--	--	--
Nonstocked	--	13,486	12,027	--	25,513
Total	6,014	67,338	53,140	--	126,492
Ponderosa pine:					
Sawtimber	--	25,477	128,967	--	154,444
Poletimber	--	--	19,088	--	19,088
Sapling and seedling	--	--	--	--	--
Nonstocked	--	--	9,987	--	9,987
Total	--	25,477	158,042	--	183,519
White fir:					
Sawtimber	14,405	12,027	1,993	--	28,425
Poletimber	1,992	--	--	--	1,992
Sapling and seedling	--	--	--	--	--
Nonstocked	--	--	--	--	--
Total	16,397	12,027	1,993	--	30,417
Other softwoods:					
Sawtimber	--	6,014	--	--	6,014
Poletimber	--	--	--	--	--
Sapling and seedling	--	--	--	--	--
Nonstocked	--	--	--	--	--
Total	--	6,014	--	--	6,014
Aspen:					
Sawtimber	--	--	--	--	--
Poletimber	--	1,992	--	--	1,992
Sapling and seedling	--	--	--	--	--
Nonstocked	--	--	--	--	--
Total	--	1,992	--	--	1,992
Cottonwood:					
Sawtimber	--	17,005	--	--	17,005
Poletimber	--	--	--	--	--
Sapling and seedling	--	--	--	--	--
Nonstocked	--	--	--	--	--
Total	--	17,005	--	--	17,005
All types:					
Sawtimber	20,419	108,362	162,273	--	291,054
Poletimber	1,992	8,005	28,888	--	38,885
Sapling and seedling	--	--	--	--	--
Nonstocked	--	13,486	22,014	--	35,500
Total	22,411	129,853	213,175	--	365,439

Table 6--Area of other publicly owned timberland by forest type, stand-size class, and productivity class in southern New Mexico, 1987

Forest type and stand-size class	Productivity class				Total acres
	85-119	50-84	20-49	0-19	
----- Acres -----					
Douglas-fir:					
Sawtimber	--	--	1,883	--	1,883
Poletimber	--	--	--	--	--
Sapling and seedling	--	--	--	--	--
Nonstocked	--	--	--	--	--
Total	--	--	1,883	--	1,883
Ponderosa pine:					
Sawtimber	--	--	26,268	--	26,268
Poletimber	--	--	--	--	--
Sapling and seedling	--	--	--	--	--
Nonstocked	--	--	941	--	941
Total	--	--	27,209	--	27,209
White fir:					
Sawtimber	941	--	--	--	941
Poletimber	--	--	--	--	--
Sapling and seedling	--	--	--	--	--
Nonstocked	--	--	--	--	--
Total	941	--	--	--	941
Other softwoods:					
Sawtimber	--	--	--	--	--
Poletimber	--	--	--	--	--
Sapling and seedling	--	--	--	--	--
Nonstocked	--	--	--	--	--
Total	--	--	--	--	--
Aspen:					
Sawtimber	--	--	--	--	--
Poletimber	--	--	--	--	--
Sapling and seedling	--	--	--	--	--
Nonstocked	--	--	--	--	--
Total	--	--	--	--	--
Cottonwood:					
Sawtimber	--	6,284	--	--	6,284
Poletimber	--	--	--	--	--
Sapling and seedling	--	--	--	--	--
Nonstocked	--	--	--	--	--
Total	--	6,284	--	--	6,284
All types:					
Sawtimber	941	6,284	28,151	--	35,376
Poletimber	--	--	--	--	--
Sapling and seedling	--	--	--	--	--
Nonstocked	--	--	941	--	941
Total	941	6,284	29,092	--	36,317

Table 7--Area of privately owned timberland by forest type, stand-size class, and productivity class in southern New Mexico, 1987

Forest type and stand-size class	Productivity class				Total acres
	85-119	50-84	20-49	0-19	
	----- Acres -----				
Douglas-fir:					
Sawtimber	6,014	47,839	29,430	--	83,283
Poletimber	--	6,013	9,800	--	15,813
Sapling and seedling	--	--	--	--	--
Nonstocked	--	13,486	12,027	--	25,513
Total	6,014	67,338	51,257	--	124,609
Ponderosa pine:					
Sawtimber	--	25,477	102,699	--	128,176
Poletimber	--	--	19,088	--	19,088
Sapling and seedling	--	--	--	--	--
Nonstocked	--	--	9,046	--	9,046
Total	--	25,477	130,833	--	156,310
White fir:					
Sawtimber	13,464	12,027	1,993	--	27,484
Poletimber	1,992	--	--	--	1,992
Sapling and seedling	--	--	--	--	--
Nonstocked	--	--	--	--	--
Total	15,456	12,027	1,993	--	29,476
Other softwoods:					
Sawtimber	--	6,014	--	--	6,014
Poletimber	--	--	--	--	--
Sapling and seedling	--	--	--	--	--
Nonstocked	--	--	--	--	--
Total	--	6,014	--	--	6,014
Aspen:					
Sawtimber	--	--	--	--	--
Poletimber	--	1,992	--	--	1,992
Sapling and seedling	--	--	--	--	--
Nonstocked	--	--	--	--	--
Total	--	1,992	--	--	1,992
Cottonwood:					
Sawtimber	--	10,721	--	--	10,721
Poletimber	--	--	--	--	--
Sapling and seedling	--	--	--	--	--
Nonstocked	--	--	--	--	--
Total	--	10,721	--	--	10,721
All types:					
Sawtimber	19,478	102,078	134,122	--	255,678
Poletimber	1,992	8,005	28,888	--	38,885
Sapling and seedling	--	--	--	--	--
Nonstocked	--	13,486	21,073	--	34,559
Total	21,470	123,569	184,083	--	329,122

Table 8--Area of timberland outside National Forests by stand volume and ownership class in southern New Mexico, 1987

Stand volume per acre ¹	Ownership class			Total
	Other public	Private		
Less than 1,500 board feet	14,474	90,484		104,958
1,500 to 4,999 board feet	13,677	152,659		166,336
5,000 to 9,999 board feet	8,166	66,180		74,346
10,000 board feet or more	--	19,799		19,799
All classes	36,317	329,122		365,439

¹International 1/4-inch rule.

Table 9--Area of timberland outside National Forests by forest type and area condition class in southern New Mexico, 1987

Forest type	Area condition class										Nonstocked	All classes
	10	20	30	40	50	60	70	80	90	90		
Douglas-fir	--	--	--	1,993	1,794	44,947	46,231	--	6,014	25,513	126,492	
Ponderosa pine	--	--	--	--	86,582	57,071	18,053	--	11,825	9,987	183,518	
White fir	--	--	--	--	12,027	6,399	3,985	--	8,006	--	30,417	
Other softwoods	--	--	--	--	--	--	6,014	--	--	--	6,014	
Aspen	--	--	--	--	--	1,993	--	--	--	--	1,993	
Cottonwood	--	--	--	--	--	--	17,005	--	--	--	17,005	
All types	--	--	--	1,993	100,403	110,410	91,288	--	25,845	35,500	365,439	

Table 10--Number of growing-stock trees on timberland outside National Forests by species and diameter class in southern New Mexico, 1987

Species	Diameter class (inches at breast height)														All classes	
	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- 22.9	23.0- 24.9	25.0- 26.9	27.0- 28.9		29.0+
	----- Thousand trees -----															
Douglas-fir	9,626	3,761	3,348	2,454	1,170	956	500	222	232	254	117	25	40	16	77	22,798
Ponderosa pine	3,921	6,908	6,238	3,777	4,296	2,039	1,405	524	400	182	136	105	41	12	41	30,025
Limber pine	1,157	630	743	344	219	181	67	106	22	24	28	17	17	--	8	3,563
White fir	5,124	2,434	1,594	955	354	410	250	155	115	111	58	15	--	--	16	11,591
Total softwoods	19,828	13,733	11,923	7,530	6,039	3,586	2,222	1,007	769	571	339	162	98	28	142	67,977
Aspen	--	--	80	169	150	190	128	10	--	--	--	--	--	--	--	727
Cottonwood	643	--	--	--	652	218	--	32	75	22	--	27	15	--	--	1,684
Total hardwoods	643	--	80	169	802	408	128	42	75	22	--	27	15	--	--	2,411
All species	20,471	13,733	12,003	7,699	6,841	3,994	2,350	1,049	844	593	339	189	113	28	142	70,388

Table 11--Number of cull and salvable dead trees on timberland outside National Forests by ownership class, and softwoods and hardwoods in southern New Mexico, 1987

Ownership class and species group	Cull trees			Salvable dead trees	Total
	Rough	Rotten	Total		
	- - - - -	- - - - -	Thousand trees	- - - - -	- - - - -
Other public:					
Softwoods	--	--	--	43	43
Hardwoods	--	--	--	--	--
Total	--	--	--	43	43
Private:					
Softwoods	--	20	20	1,063	1,083
Hardwoods	--	40	40	60	100
Total	--	60	60	1,123	1,183
Total:					
Softwoods	--	20	20	1,106	1,126
Hardwoods	--	40	40	60	100
Total	--	60	60	1,166	1,226

Table 12--Net volume of growing stock on timberland outside National Forests by ownership class, forest type, and stand-size class in southern New Mexico, 1987

Ownership class	Forest type	Stand-size class					All classes
		Sawtimber	Pole timber	Sapling/ seedling	Nonstocked		
		----- Thousand cubic feet -----					
Other public:							
	Douglas-fir	1,862	--	--	--	--	1,862
	Ponderosa pine	13,391	--	--	--	--	13,391
	White fir	1,967	--	--	--	--	1,967
	Other softwoods	--	--	--	--	--	--
	Aspen	--	--	--	--	--	--
	Cottonwood	10,987	--	--	--	--	10,987
	All types	28,207	--	--	--	--	28,207
Private:							
	Douglas-fir	100,908	4,827	--	4,914	--	110,649
	Ponderosa pine	123,942	11,484	--	495	--	135,921
	White fir	51,174	1,337	--	--	--	52,511
	Other softwoods	8,347	--	--	--	--	8,347
	Aspen	--	4,741	--	--	--	4,741
	Cottonwood	8,160	--	--	--	--	8,160
	All types	292,531	22,389	--	5,409	--	320,329
Total:							
	Douglas-fir	102,770	4,827	--	4,914	--	112,511
	Ponderosa pine	137,333	11,484	--	495	--	149,312
	White fir	53,141	1,337	--	--	--	54,478
	Other softwoods	8,347	--	--	--	--	8,347
	Aspen	--	4,741	--	--	--	4,741
	Cottonwood	19,147	--	--	--	--	19,147
	All types	320,738	22,389	--	5,409	--	348,536

Table 13--Net volume of sawtimber (International 4-inch rule) on timberland outside National Forests by ownership class, forest type, and stand-size class in southern New Mexico, 1987

Ownership class	Forest type	Stand-size class				All classes
		Sawtimber	Poletimber	Sapling/ seedling	Nonstocked	
- - - - Thousand board feet, International 4-inch rule - - - -						
Other public:						
	Douglas-fir	6,251	--	--	--	6,251
	Ponderosa pine	63,322	--	--	--	63,322
	White fir	8,093	--	--	--	8,093
	Other softwoods	--	--	--	--	--
	Aspen	--	--	--	--	--
	Cottonwood	39,373	--	--	--	39,373
	All types	117,039	--	--	--	117,039
Private:						
	Douglas-fir	418,742	8,239	--	26,383	453,364
	Ponderosa pine	500,019	21,126	--	2,219	523,364
	White fir	215,359	2,043	--	--	217,402
	Other softwoods	36,492	--	--	--	36,492
	Aspen	--	9,493	--	--	9,493
	Cottonwood	22,738	--	--	--	22,738
	All types	1,193,350	40,901	--	28,602	1,262,853
Total:						
	Douglas-fir	424,993	8,239	--	26,383	459,615
	Ponderosa pine	563,341	21,126	--	2,219	586,686
	White fir	223,452	2,043	--	--	225,495
	Other softwoods	36,492	--	--	--	36,492
	Aspen	--	9,493	--	--	9,493
	Cottonwood	62,111	--	--	--	62,111
	All types	1,310,389	40,901	--	28,602	1,379,892

Table 14--Net volume of sawtimber (Scribner rule) on timberland outside National Forests by ownership class, forest type, and stand-size class in southern New Mexico, 1987

Ownership class	Forest type	Stand-size class					All classes
		Sawtimber	Poletimber	Sapling/ seedling	Nonstocked		
		----- Thousand board feet, Scribner rule -----					
Other public:							
	Douglas-fir	5,223	--	--	--	--	5,223
	Ponderosa pine	55,031	--	--	--	--	55,031
	White fir	7,044	--	--	--	--	7,044
	Other softwoods	--	--	--	--	--	--
	Aspen	--	--	--	--	--	--
	Cottonwood	33,904	--	--	--	--	33,904
	All types	101,202	--	--	--	--	101,202
Private:							
	Douglas-fir	356,769	7,259	--	22,842	--	386,870
	Ponderosa pine	424,346	18,065	--	1,948	--	444,359
	White fir	181,805	1,818	--	--	--	183,623
	Other softwoods	31,622	--	--	--	--	31,622
	Aspen	--	7,432	--	--	--	7,432
	Cottonwood	19,716	--	--	--	--	19,716
	All types	1,014,258	34,574	--	24,790	--	1,073,622
Total:							
	Douglas-fir	361,992	7,259	--	22,842	--	392,093
	Ponderosa pine	479,377	18,065	--	1,948	--	499,390
	White fir	188,849	1,818	--	--	--	190,667
	Other softwoods	31,622	--	--	--	--	31,622
	Aspen	--	7,432	--	--	--	7,432
	Cottonwood	53,620	--	--	--	--	53,620
	All types	1,115,460	34,574	--	24,790	--	1,174,824

Table 15--Net volume of growing stock on timberland outside National Forests by species and ownership class in southern New Mexico, 1987

Species	Ownership class		Total
	Other public	Private	
	- - - - - <u>Thousand cubic feet</u> - - - - -		
Douglas-fir	2,510	89,873	92,383
Ponderosa pine	12,653	153,739	166,392
Limber pine	736	17,291	18,027
White fir	1,321	40,944	42,265
Total softwoods	17,220	301,847	319,067
Aspen	--	10,322	10,322
Cottonwood	10,987	8,160	19,147
Total hardwoods	10,987	18,482	29,469
All species	28,207	320,329	348,536

Table 16--Net volume of sawtimber (International ½-inch rule) on timberland outside National Forests by species and ownership class in southern New Mexico, 1987

Species	Ownership class		
	Other public	Private	Total
- Thousand board feet, International ½-inch rule -			
Douglas-fir	11,448	378,350	389,798
Ponderosa pine	59,334	614,458	673,792
Limber pine	2,730	72,106	74,836
White fir	4,154	135,625	139,779
Total softwoods	77,666	1,200,539	1,278,205
Aspen	--	39,576	39,576
Cottonwood	39,373	22,738	62,111
Total hardwoods	39,373	62,314	101,687
All species	117,039	1,262,853	1,379,892

Table 17--Net volume of sawtimber (Scribner rule) on timberland outside National Forests by species and ownership class in southern New Mexico, 1987

Species	Ownership class		
	Other public	Private	Total
- - - Thousand board feet, Scribner rule - - -			
Douglas-fir	9,761	323,029	332,790
Ponderosa pine	51,550	524,815	576,365
Limber pine	2,403	61,414	63,817
White fir	3,584	113,846	117,430
Total softwoods	67,298	1,023,104	1,090,402
Aspen	--	30,801	30,801
Cottonwood	33,904	19,717	53,621
Total hardwoods	33,904	50,518	84,422
All species	101,202	1,073,622	1,174,824

Table 18--Net volume of growing stock on timberland outside National Forests by species and diameter class in southern New Mexico, 1987

Species	Diameter class (inches at breast height)														All classes
	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	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+		
	----- Thousand cubic feet -----														
Douglas-fir	6,387	9,484	8,427	11,220	9,215	5,308	7,789	9,929	6,353	1,097	3,136	1,609	12,429	92,383	
Ponderosa pine	9,909	14,612	32,972	24,790	24,767	13,498	12,910	7,448	8,186	6,420	2,972	894	7,014	166,392	
Limber pine	1,217	1,352	1,651	2,753	1,159	2,667	537	944	1,484	1,316	1,731	--	1,216	18,027	
White fir	3,360	4,214	3,047	5,814	4,898	4,489	4,203	5,264	3,316	811	--	--	2,849	42,265	
Total softwoods	20,873	29,662	46,097	44,577	40,039	25,962	25,439	23,585	19,339	9,644	7,839	2,503	23,508	319,067	
Aspen	164	1,169	1,652	3,788	3,297	252	--	--	--	--	--	--	--	10,322	
Cottonwood	--	--	6,325	4,750	--	1,280	2,988	1,281	--	1,470	1,053	--	--	19,147	
Total hardwoods	164	1,169	7,977	8,538	3,297	1,532	2,988	1,281	--	1,470	1,053	--	--	29,469	
All species	21,037	30,831	54,074	53,115	43,336	27,494	28,427	24,866	19,339	11,114	8,892	2,503	23,508	348,536	

Table 19--Net volume of sawtimber (International 1/4-inch rule) on timberland outside National Forests by species and diameter class in southern New Mexico, 1987

Species	Diameter class (inches at breast height)												All classes
	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- 22.9	23.0- 24.9	25.0- 26.9	27.0- 28.9	29.0+		
	----- Thousand board feet, International 1/4-inch rule -----												
Douglas-fir	28,051	49,577	45,019	27,798	42,192	55,075	35,991	6,269	18,088	9,306	72,432	389,798	
Ponderosa pine	110,087	108,264	121,441	71,194	71,056	42,252	47,386	37,249	17,422	5,259	42,182	673,792	
Limber pine	4,960	11,772	5,410	13,243	2,704	4,847	7,890	7,202	9,710	--	7,097	74,835	
White fir	9,734	22,347	20,366	19,173	17,812	21,874	13,428	3,231	--	--	11,815	139,780	
Total softwoods	152,832	191,960	192,236	131,408	133,764	124,048	104,695	53,951	45,220	14,565	133,526	1,278,205	
Aspen	XXXX	19,846	18,313	1,417	--	--	--	--	--	--	--	39,576	
Cottonwood	XXXX	23,817	--	6,299	14,424	6,022	--	6,735	4,814	--	--	62,111	
Total hardwoods	XXXX	43,663	18,313	7,716	14,424	6,022	--	6,735	4,814	--	--	101,687	
All species	152,832	235,623	210,549	139,124	148,188	130,070	104,695	60,686	50,034	14,565	133,526	1,379,892	

Table 20--Net volume of sawtimber (Scribner rule) on timberland outside National Forests by species and diameter class in southern New Mexico, 1987

Species	Diameter class (inches at breast height)											All classes.
	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- 22.9	23.0- 24.9	25.0- 26.9	27.0- 28.9	29.0+	
	----- Thousand board feet, Scribner rule -----											
Douglas-fir	22,632	38,780	36,711	23,499	36,413	48,322	32,008	5,579	16,098	8,283	64,465	332,790
Ponderosa pine	89,721	87,980	102,855	62,071	63,081	37,604	42,173	33,151	15,506	4,681	37,542	576,365
Limber pine	3,411	9,535	4,497	11,363	2,346	4,274	7,022	6,410	8,642	--	6,317	63,817
White fir	6,989	17,526	16,683	16,148	15,463	19,280	11,951	2,875	--	--	10,515	117,430
Total softwoods	122,753	153,821	160,746	113,081	117,303	109,480	93,154	48,015	40,246	12,964	118,839	1,090,402
Aspen	XXXXX	15,111	14,527	1,163	--	--	--	--	--	--	--	30,801
Cottonwood	XXXXX	19,693	--	5,495	12,796	5,359	--	5,994	4,284	--	--	53,621
Total hardwoods	XXXXX	34,804	14,527	6,658	12,796	5,359	--	5,994	4,284	--	--	84,422
All species	122,753	188,625	175,273	119,739	130,099	114,839	93,154	54,009	44,530	12,964	118,839	1,174,824

Table 21--Net volume of timber on timberland outside National Forests
by class of timber, and softwoods and hardwoods in southern
New Mexico, 1987

Class of timber	Softwoods	Hardwoods	Total
- - - - - <u>Thousand cubic feet</u> - - - - -			
Sawtimber trees:			
Sawlog portion	258,362	16,808	275,170
Upper-stem portion	10,170	3,351	13,521
Total	268,532	20,159	288,691
Poletimber trees	50,535	9,310	59,845
All growing-stock trees	319,067	29,469	348,536
Rough cull trees	--	--	--
Rotten cull trees	223	378	601
Salvable dead trees	9,432	117	9,549
All timber	328,722	29,964	358,686

Table 22--Net volume of growing stock on timberland outside National Forests by forest type and species in southern New Mexico, 1987

Forest type	Species							All species
	Douglas-fir	Ponderosa pine	Limber pine	White fir	Total softwoods	Aspen	Cottonwood	
	----- Thousand cubic feet -----							
Douglas-fir	72,636	24,079	11,286	4,511	112,512	--	--	112,512
Ponderosa pine	8,850	135,901	1,151	3,410	149,312	--	--	149,312
White fir	10,897	3,965	1,747	32,287	48,896	5,581	--	5,581
Other softwoods	--	2,447	3,843	2,057	8,347	--	--	--
Aspen	--	--	--	--	--	4,741	--	4,741
Cottonwood	--	--	--	--	--	--	19,147	19,147
All types	92,383	166,392	18,027	42,265	319,067	10,322	19,147	29,469
								348,536

Table 23--Net volume of sawtimber (International 1/4-inch rule) on timberland outside National Forests by forest type and species in southern New Mexico, 1987

Forest type	Species							All species
	Douglas-fir	Ponderosa pine	Limber pine	White fir	Total softwoods	Aspen	Cottonwood	
	----- Thousand board feet, International 1/4-inch rule -----							
Douglas-fir	300,572	102,893	42,591	13,559	459,615	--	--	459,615
Ponderosa pine	34,669	535,601	3,647	12,769	586,686	--	--	586,686
White fir	54,558	23,571	9,245	108,039	195,413	30,083	--	30,083
Other softwoods	--	11,726	19,352	5,413	36,491	--	--	--
Aspen	--	--	--	--	--	9,493	--	9,493
Cottonwood	--	--	--	--	--	--	62,111	62,111
All types	389,799	673,791	74,835	139,780	1,278,205	39,576	62,111	101,687
								1,379,892

Table 24--Net volume of sawtimber (Scribner rule) on timberland outside National Forests by forest type and species in southern New Mexico, 1987

Forest type	Species								Total hardwoods	All species
	Douglas-fir	Ponderosa pine	Limber pine	White fir	Total softwoods	Aspen	Cottonwood	Total		
	----- Thousand board feet, Scribner rule -----									
Douglas-fir	256,122	89,203	35,888	10,880	392,093	--	--	--	392,093	
Ponderosa pine	29,654	455,747	3,034	10,955	499,390	--	--	--	499,390	
White fir	47,015	20,978	8,228	91,076	167,297	23,370	--	23,370	190,667	
Other softwoods	--	10,436	16,667	4,519	31,622	--	--	--	31,622	
Aspen	--	--	--	--	--	7,431	--	7,431	7,431	
Cottonwood	--	--	--	--	--	--	53,621	53,621	53,621	
All types	332,791	576,364	63,817	117,430	1,090,402	30,801	53,621	84,422	1,174,824	

Table 25--Net annual growth of growing stock on timberland outside National Forests by species and ownership class in southern New Mexico, 1986

Species	Ownership class		
	Other public	Private	Total
	- - - - - <u>Thousand cubic feet</u> - - - - -		
Douglas-fir	21	2,466	2,487
Ponderosa pine	367	5,898	6,265
Limber pine	24	430	454
White fir	38	1,295	1,333
Total softwoods	450	10,089	10,539
Aspen	--	227	227
Cottonwood	423	368	791
Total hardwoods	423	595	1,018
All species	873	10,684	11,557

Table 26--Net annual growth of sawtimber (International 1/4-inch rule) on timberland outside National Forests by species and ownership class in southern New Mexico, 1986

Species	Ownership class		
	Other public	Private	Total
- Thousand board feet, International 1/4-inch rule -			
Douglas-fir	133	10,767	10,900
Ponderosa pine	2,450	28,733	31,183
Limber pine	56	3,764	3,820
White fir	82	4,075	4,157
Total softwoods	2,721	47,339	50,060
Aspen	--	8,000	8,000
Cottonwood	1,247	733	1,980
Total hardwoods	1,247	8,733	9,980
All species	3,968	56,072	60,040

Table 27--Net annual growth of sawtimber (Scribner rule) on timberland outside National Forests by species and ownership class in southern New Mexico, 1986

Species	Ownership class		
	Other public	Private	Total
- - - Thousand board feet, Scribner rule - - -			
Douglas-fir	117	9,482	9,599
Ponderosa pine	1,974	24,043	26,017
Limber pine	50	2,771	2,821
White fir	76	3,481	3,557
Total softwoods	2,217	39,777	41,994
Aspen	--	6,046	6,046
Cottonwood	1,094	675	1,769
Total hardwoods	1,094	6,721	7,815
All species	3,311	46,498	49,809

Table 28--Net annual growth of growing stock on timberland outside National Forests by species and diameter class in southern New Mexico, 1986

Species	Diameter class (inches at breast height)														All classes
	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	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+		
	----- Thousand cubic feet -----														
Douglas-fir	402	422	132	412	366	166	202	245	120	-159	38	24	117	2,487	
Ponderosa pine	1,163	806	1,450	1,087	719	393	262	92	106	82	27	10	68	6,265	
Limber pine	93	60	58	63	32	71	9	11	8	29	14	--	5	453	
White fir	269	217	103	209	154	116	104	60	68	8	--	--	25	1,333	
Total softwoods	1,927	1,505	1,743	1,771	1,271	746	577	408	302	-40	79	34	215	10,538	
Aspen	8	35	38	80	63	3	--	--	--	--	--	--	--	227	
Cottonwood	--	--	372	155	--	29	135	41	--	44	16	--	--	792	
Total hardwoods	8	35	410	235	63	32	135	41	--	44	16	--	--	1,019	
All species	1,935	1,540	2,153	2,006	1,334	778	712	449	302	4	95	34	215	11,557	

Table 29--Net annual growth of sawtimber (International 1/4-inch rule) on timberland outside National Forests by species and diameter class in southern New Mexico, 1986

Species	Diameter class (inches at breast height)											All classes
	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+	
	----- Thousand board feet, International 1/4-inch rule -----											
Douglas-fir	1,820	2,377	2,150	989	1,212	1,476	721	-906	227	142	691	10,899
Ponderosa pine	13,961	6,471	4,377	2,415	1,609	570	641	493	160	62	425	31,184
Limber pine	2,435	361	184	388	47	62	51	177	83	--	31	3,819
White fir	855	1,028	730	513	417	224	249	32	--	--	110	4,158
Total softwoods	19,071	10,237	7,441	4,305	3,285	2,332	1,662	-204	470	204	1,257	50,060
Aspen	XXXX	7,601	384	15	--	--	--	--	--	--	--	8,000
Cottonwood	XXXXX	829	--	127	584	175	--	194	71	--	--	1,980
Total hardwoods	XXXXX	8,430	384	142	584	175	--	194	71	--	--	9,980
All species	19,071	18,667	7,825	4,447	3,869	2,507	1,662	-10	541	204	1,257	60,040

Table 30--Net annual growth of sawtimber (Scribner rule) on timberland outside National Forests by species and diameter class in southern New Mexico, 1986

Species	Diameter class (inches at breast height)												All classes
	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- 22.9	23.0- 24.9	25.0- 26.9	27.0- 28.9	29.0+		
	----- Thousand board feet, Scribner rule -----												
Douglas-fir	1,527	2,016	1,886	895	1,111	1,370	656	-806	203	126	615	9,599	
Ponderosa pine	10,507	5,731	3,985	2,239	1,463	507	571	439	143	55	378	26,018	
Limberr pine	1,587	313	163	353	43	57	45	158	74	--	28	2,821	
White fir	608	884	648	468	388	212	221	29	--	--	98	3,556	
Total softwoods	14,229	8,944	6,682	3,955	3,005	2,146	1,493	-180	420	181	1,119	41,994	
Aspen	XXXX	5,700	333	13	--	--	--	--	--	--	--	6,046	
Coltonwood	XXXX	698	--	124	555	156	--	172	64	--	--	1,769	
Total hardwoods	XXXX	6,398	333	137	555	156	--	172	64	--	--	7,815	
All species	14,229	15,342	7,015	4,092	3,560	2,302	1,493	-8	484	181	1,119	49,809	

Table 31--Annual mortality of growing stock on timberland outside National Forests by species and ownership class in southern New Mexico, 1986

Species	Ownership class		
	Other public	Private	Total
- - - - - <u>Thousand cubic feet</u> - - - - -			
Douglas-fir	41	358	399
Ponderosa pine	--	6	6
Limber pine	--	--	--
White fir	--	--	--
Total softwoods	41	364	405
Aspen	--	--	--
Cottonwood	--	--	--
Total hardwoods	--	--	--
All species	41	364	405

Table 32--Annual mortality of sawtimber (International ¼-inch rule) on timberland outside National Forests by species and ownership class in southern New Mexico, 1986

Species	Ownership class		
	Other public	Private	Total
- <u>Thousand board feet, International ¼-inch rule</u> -			
Douglas-fir	196	1,482	1,678
Ponderosa pine	--	--	--
Limber pine	--	--	--
White fir	--	--	--
Total softwoods	196	1,482	1,678
Aspen	--	--	--
Cottonwood	--	--	--
Total hardwoods	--	--	--
All species	196	1,482	1,678

Table 33--Annual mortality of sawtimber (Scribner rule) on timberland outside National Forests by species and ownership class in southern New Mexico, 1986

Species	Ownership class		Total
	Other public	Private	
	- - - Thousand board feet, Scribner rule - - -		
Douglas-fir	174	1,319	1,493
Ponderosa pine	--	--	--
Limber pine	--	--	--
White fir	--	--	--
Total softwoods	174	1,319	1,493
Aspen	--	--	--
Cottonwood	--	--	--
Total hardwoods	--	--	--
All species	174	1,319	1,493

Table 34--Annual mortality of growing stock on timberland outside National Forests by species and diameter class in southern New Mexico, 1986

Species	Diameter class (inches at breast height)												All classes	
	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	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9		29.0+
	----- Thousand cubic feet -----													
Douglas-fir	--	--	221	--	--	--	--	--	--	179	--	--	--	400
Ponderosa pine	--	5	--	--	--	--	--	--	--	--	--	--	--	5
Limber pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--
White fir	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total softwoods	--	5	221	--	--	--	--	--	--	179	--	--	--	405
Aspen	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cottonwood	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total hardwoods	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All species	--	5	221	--	--	--	--	--	--	179	--	--	--	405

Table 35--Annual mortality of sawtimber (International 4-inch rule) on timberland outside National Forests by species and diameter class in southern New Mexico, 1986

Species	Diameter class (inches at breast height)												All classes
	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+		
	----- Thousand board feet, International 4-inch rule -----												
Douglas-fir	656	--	--	--	--	--	--	1,022	--	--	--	--	1,678
Ponderosa pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Lumber pine	--	--	--	--	--	--	--	--	--	--	--	--	--
White fir	--	--	--	--	--	--	--	--	--	--	--	--	--
Total softwoods	656	--	--	--	--	--	--	1,022	--	--	--	--	1,678
Aspen	XXXXX	--	--	--	--	--	--	--	--	--	--	--	--
Cottonwood	XXXXX	--	--	--	--	--	--	--	--	--	--	--	--
Total hardwoods	XXXXX	--	--	--	--	--	--	--	--	--	--	--	--
All species	656	--	--	--	--	--	--	1,022	--	--	--	--	1,678

Table 36--Annual mortality of sawtimber (Scribner rule) on timberland outside National Forests by species and diameter class in southern New Mexico, 1986

Species	Diameter class (inches at breast height)											All classes
	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+	
	- - - - - Thousand board feet, Scribner rule - - - - -											
Douglas-fir	583	--	--	--	--	--	--	910	--	--	--	1,493
Ponderosa pine	--	--	--	--	--	--	--	--	--	--	--	--
Limber pine	--	--	--	--	--	--	--	--	--	--	--	--
White fir	--	--	--	--	--	--	--	--	--	--	--	--
Total softwoods	583	--	--	--	--	--	--	910	--	--	--	1,493
Aspen	XXXXX	--	--	--	--	--	--	--	--	--	--	--
Cottonwood	XXXXX	--	--	--	--	--	--	--	--	--	--	--
Total hardwoods	XXXXX	--	--	--	--	--	--	--	--	--	--	--
All species	583	--	--	--	--	--	--	910	--	--	--	1,493

Table 37--Annual mortality of growing stock on timberland outside National Forests by species and cause of death in southern New Mexico, 1986

Species	Cause of death							Total	
	Insects	Disease	Fire	Animal	Weather	Suppression	Logging		Unknown ¹
	----- Thousand cubic feet -----								
Douglas-fir	282	--	--	--	--	--	--	117	399
Ponderosa pine	--	6	--	--	--	--	--	--	6
Limber pine	--	--	--	--	--	--	--	--	--
White fir	--	--	--	--	--	--	--	--	--
Total softwoods	282	6	--	--	--	--	--	117	405
Aspen	--	--	--	--	--	--	--	--	--
Cottonwood	--	--	--	--	--	--	--	--	--
Total hardwoods	--	--	--	--	--	--	--	--	--
All species	282	6	--	--	--	--	--	117	405

¹Because many destructive agents often attack trees in concert or in succession, it is often difficult to identify the actual causal agent. When the primary cause of death cannot be precisely determined, it is listed as unknown.

Table 38--Annual mortality of sawtimber (International 4-inch rule) on timberland outside National Forests by species and cause of death in southern New Mexico, 1986

Species	Cause of death								Total					
	Insects	Disease	Fire	Animal	Weather	Suppression	Logging	Unknown						
	-	-	-	-	-	-	-	-	Thousand board feet, International 4-inch rule	-	-	-	-	-
Douglas-fir	1,328	--	--	--	--	--	--	--	350	1,678				
Ponderosa pine	--	--	--	--	--	--	--	--	--	--				
Limberr pine	--	--	--	--	--	--	--	--	--	--				
White fir	--	--	--	--	--	--	--	--	--	--				
Total softwoods	1,328	--	--	--	--	--	--	--	350	1,678				
Aspen	--	--	--	--	--	--	--	--	--	--				
Cottonwood	--	--	--	--	--	--	--	--	--	--				
Total hardwoods	--	--	--	--	--	--	--	--	--	--				
All species	1,328	--	--	--	--	--	--	--	350	1,678				

Table 39--Annual mortality of sawtimber (Scribner rule) on timberland outside National Forests by species and cause of death in southern New Mexico, 1986

Species	Cause of death									Total	
	Insects	Disease	Fire	Animal	Weather	Suppression	Logging	Unknown			
						<u>Thousand board feet, Scribner rule</u>					
Douglas-fir	1,182	--	--	--	--	--	--	311	--	1,493	
Ponderosa pine	--	--	--	--	--	--	--	--	--	--	
Limber pine	--	--	--	--	--	--	--	--	--	--	
White fir	--	--	--	--	--	--	--	--	--	--	
Total softwoods	1,182	--	--	--	--	--	--	311	--	1,493	
Aspen	--	--	--	--	--	--	--	--	--	--	
Cottonwood	--	--	--	--	--	--	--	--	--	--	
Total hardwoods	--	--	--	--	--	--	--	--	--	--	
All species	1,182	--	--	--	--	--	--	311	--	1,493	

WOODLAND TABLES

Table 40--Area of woodland outside National Forests by forest type and ownership class in southern New Mexico, 1987

Forest type	Ownership class		
	Other public	Private	Total
	- - - - - <u>Acres</u> - - - - -		
Pinyon-juniper	456,313	690,324	1,146,637
Juniper	63,012	104,575	167,587
Total woodland softwoods	519,325	794,899	1,314,224
Oak	12,584	43,270	55,854
Total woodland hardwoods	12,584	43,270	55,854
All types	531,909	838,169	1,370,078

Table 41--Area of woodland outside National Forests by ownership class, forest type, and productivity class in southern New Mexico, 1987

Ownership class	Forest type	Productivity class		
		High	Low	All classes
		- - - - - Acres - - - - -		
Other public:	Pinyon-juniper	381,743	74,570	456,313
	Juniper	56,251	6,761	63,012
	Oak	5,822	6,762	12,584
	Total	443,816	88,093	531,909
Private:	Pinyon-juniper	573,201	117,123	690,324
	Juniper	76,048	28,527	104,575
	Oak	38,775	4,495	43,270
	Total	688,024	150,145	838,169
Total:	Pinyon-juniper	954,944	191,693	1,146,637
	Juniper	132,299	35,288	167,587
	Oak	44,597	11,257	55,854
	Total	1,131,840	238,238	1,370,078

Table 42--Area of woodland outside National Forests by ownership class, forest type, and volume class in southern New Mexico, 1987

Ownership class	Forest type	Volume class							All classes
		0 - 199 cu ft/acre	200 - 399 cu ft/acre	400 - 599 cu ft/acre	600 - 799 cu ft/acre	800 - 999 cu ft/acre	1,000+ cu ft/acre	Acres	
Other public:	Pinyon-juniper	69,636	101,907	86,958	94,105	48,867	54,840	456,313	
	Juniper	5,822	31,084	6,761	6,761	12,584	--	63,012	
	Oak	--	--	12,584	--	--	--	12,584	
	Total	75,458	132,991	106,303	100,866	61,451	54,840	531,909	
Private:	Pinyon-juniper	94,700	215,626	87,416	107,655	52,237	132,690	690,324	
	Juniper	21,555	31,157	32,855	7,541	11,467	--	104,575	
	Oak	8,989	10,898	--	4,495	--	18,888	43,270	
	Total	125,244	257,681	120,271	119,691	63,704	151,578	838,169	
Total:	Pinyon-juniper	164,336	317,533	174,374	201,760	101,104	187,530	1,146,637	
	Juniper	27,377	62,241	39,616	14,302	24,051	--	167,587	
	Oak	8,989	10,898	12,584	4,495	--	18,888	55,854	
	Total	200,702	390,672	226,574	220,557	125,155	206,418	1,370,078	

Table 43--Number of trees on woodland outside National Forests by ownership class, species, and diameter class in southern New Mexico, 1987

Ownership class and species	Diameter class (inches at root collar)																All classes
	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	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+		
----- Thousand trees -----																	
Other public:																	
Pinyon	40,177	19,219	11,760	5,015	2,184	1,311	559	615	189	103	54	36	--	--	--	--	
Juniper	10,474	5,809	6,376	6,845	5,646	5,145	3,460	2,564	1,444	941	912	460	263	297	180	81,222	
Oak	--	622	380	380	263	241	171	270	--	36	--	--	--	--	--	50,816	
Other woodland	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,363	
Total	50,651	25,650	18,516	12,240	8,093	6,697	4,190	3,449	1,633	1,080	966	496	263	297	180	134,401	
Private:																	
Pinyon	25,604	25,460	20,364	11,590	5,488	2,675	1,001	350	374	197	57	--	--	--	70	93,230	
Juniper	10,791	9,386	10,644	8,459	7,158	5,402	3,186	3,779	2,014	1,227	703	426	266	258	219	63,918	
Oak	4,262	3,558	2,745	1,253	885	1,009	953	86	134	128	182	45	35	64	109	15,448	
Other woodland	2,588	184	100	40	20	40	60	20	20	120	20	--	--	--	--	3,212	
Total	43,245	38,588	33,853	21,342	13,551	9,126	5,200	4,235	2,542	1,672	962	471	301	322	398	175,808	
Total:																	
Pinyon	65,781	44,679	32,124	16,605	7,672	3,986	1,560	965	563	300	111	36	--	--	70	174,452	
Juniper	21,265	15,195	17,020	15,304	12,804	10,547	6,646	6,343	3,458	2,168	1,615	886	529	555	399	114,734	
Oak	4,262	4,180	3,125	1,633	1,148	1,250	1,124	356	134	164	182	45	35	64	109	17,811	
Other woodland	2,588	184	100	40	20	40	60	20	20	120	20	--	--	--	--	3,212	
Total	93,896	64,238	52,369	33,582	21,644	15,823	9,390	7,684	4,175	2,752	1,928	967	564	619	578	310,209	

Table 44--Net volume on woodland outside National Forests by species and ownership class in southern New Mexico, 1987

Species	Ownership class		Total
	Other public	Private	
	- - - - - <u>Thousand cubic feet</u> - - - - -		
Ponderosa pine	981	5,982	6,963
Pinyon	92,784	182,420	275,204
Juniper	134,847	175,693	310,540
Oak	4,699	41,367	46,066
Other woodland	--	4,774	4,774
All species	233,311	410,236	643,547

Table 45--Net volume of woodland species on woodland outside National Forests by ownership class, species, and diameter class in southern New Mexico, 1987

Ownership class and species	Diameter class (inches at root collar)														All classes				
	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	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+					
	----- Thousand cubic feet -----																		
Other public:																			
Pinyon	7,421	13,566	14,689	12,128	11,987	8,852	12,832	4,955	2,828	1,881	1,645								92,784
Juniper	1,550	4,831	9,908	12,851	18,055	14,347	17,248	12,327	8,001	11,384	7,033	5,216	7,006	5,090					134,847
Oak	149	302	537	576	550	800	1,630	--	155	--	--	--	--	--	--	--	--	--	4,699
Other woodland	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	9,120	18,699	25,134	25,555	30,592	23,999	31,710	17,282	10,984	13,265	8,678	5,216	7,006	5,090					232,330
Private:																			
Pinyon	13,088	30,491	35,417	30,911	23,305	15,597	8,631	11,314	6,670	1,845									182,419
Juniper	2,859	8,431	14,164	20,068	21,044	16,691	24,742	18,798	15,263	10,829	6,579	4,501	5,098	6,627					175,694
Oak	1,520	3,156	2,702	2,574	6,191	9,587	417	1,181	1,501	3,915	1,720	108	1,782	5,013					41,367
Other woodland	124	219	122	19	166	701	54	207	3,068	94	--	--	--	--	--	--	--	--	4,774
Total	17,591	42,297	52,405	53,572	50,706	42,576	33,844	31,500	26,502	16,683	8,299	4,609	6,880	16,790					404,254
Total:																			
Pinyon	20,509	44,057	50,106	43,039	35,292	24,449	21,463	16,269	9,498	3,726	1,645								275,203
Juniper	4,409	13,262	24,072	32,919	39,099	31,038	41,990	31,125	23,264	22,213	13,612	9,717	12,104	11,717					310,541
Oak	1,669	3,458	3,239	3,150	6,741	10,387	2,047	1,181	1,656	3,915	1,720	108	1,782	5,013					46,066
Other woodland	124	219	122	19	166	701	54	207	3,068	94	--	--	--	--	--	--	--	--	4,774
Total ¹	26,711	60,996	77,539	79,127	81,298	66,575	65,554	48,782	37,486	29,948	16,977	9,825	13,886	21,880					636,584

¹Timberland species are not included in this table because of the difference between point of diameter measurement.

Table 46--Net volume on woodland outside National Forests by ownership class, forest type, and productivity class in southern New Mexico, 1987

Ownership class	Forest type	Productivity class		
		High	Low	All classes
- - - - Thousand cubic feet - - - - -				
Other public:	Pinyon-juniper	172,947	31,274	204,221
	Juniper	20,780	2,076	22,856
	Oak	3,175	3,059	6,234
	Total	196,902	36,409	233,311
Private:	Pinyon-juniper	299,513	38,123	337,636
	Juniper	30,878	7,690	38,568
	Oak	33,426	606	34,032
	Total	363,817	46,419	410,236
Total:	Pinyon-juniper	472,460	69,397	541,857
	Juniper	51,658	9,766	61,424
	Oak	36,601	3,665	40,266
	Total	560,719	82,828	643,547

Table 47--Net volume on woodland outside National Forests by ownership class, forest type, and volume class in southern New Mexico, 1987

Ownership class	Forest type	Volume class							All classes
		0 - 199 cu ft/acre	200 - 399 cu ft/acre	400 - 599 cu ft/acre	600 - 799 cu ft/acre	800 - 999 cu ft/acre	1,000+ cu ft/acre	Thousand cubic feet	
Other public:	Pinyon-juniper	9,502	26,738	37,689	49,499	31,938	48,855	204,221	
	Juniper	652	6,884	2,078	3,296	9,946	--	22,856	
	Oak	--	--	6,234	--	--	--	6,234	
	Total	10,154	33,622	46,001	52,795	41,884	48,855	233,311	
Private:	Pinyon-juniper	11,406	50,031	31,587	60,495	34,650	149,467	337,636	
	Juniper	3,329	7,981	15,362	3,824	8,072	--	38,568	
	Oak	993	3,111	--	2,639	--	27,289	34,032	
	Total	15,728	61,123	46,949	66,958	42,722	176,756	410,236	
Total:	Pinyon-juniper	20,908	76,769	69,276	109,994	66,588	198,322	541,857	
	Juniper	3,981	14,865	17,440	7,120	18,018	--	61,424	
	Oak	993	3,111	6,234	2,639	--	27,289	40,266	
	Total	25,882	94,745	92,950	119,753	84,606	225,611	643,547	

Table 48--Net dead volume of woodland species on woodland outside National Forests by ownership class, species, and diameter class in southern New Mexico, 1987

Ownership class and species	Diameter class (inches at root collar)													All classes		
	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	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9		29.0+	
	Thousand cubic feet															
Other public:																
Pinyon	317	1,639	2,588	2,247	1,957	1,876	2,251	1,141	638	2,852	87	--	--	--	--	17,593
Juniper	104	422	1,834	3,917	5,214	7,032	5,827	6,711	6,780	5,971	2,720	2,312	1,816	2,108	52,768	
Oak	3	155	257	82	47	162	175	220	45	--	--	--	--	--	1,146	
Other woodland	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	424	2,216	4,679	6,246	7,218	9,070	8,253	8,072	7,463	8,823	2,807	2,312	1,816	2,108	71,507	
Private:																
Pinyon	729	2,423	5,295	4,517	8,860	2,826	3,889	785	2,698	1,499	--	2,991	--	--	36,512	
Juniper	134	595	1,981	3,615	5,750	7,385	9,984	7,033	6,248	7,675	6,684	2,302	2,066	4,574	66,026	
Oak	181	185	191	252	1,211	572	126	120	325	1,001	--	--	238	972	5,374	
Other woodland	43	81	51	76	144	121	179	138	944	374	--	--	--	--	2,151	
Total	1,087	3,284	7,518	8,460	15,965	10,904	14,178	8,076	10,215	10,549	6,684	5,293	2,304	5,546	110,063	
Total:																
Pinyon	1,046	4,062	7,883	6,764	10,817	4,702	6,140	1,926	3,336	4,351	87	2,991	--	--	54,105	
Juniper	238	1,017	3,815	7,532	10,964	14,417	15,811	13,744	13,028	13,646	9,404	4,614	3,882	6,682	118,794	
Oak	184	340	448	334	1,258	734	301	340	370	1,001	--	--	238	972	6,520	
Other woodland	43	81	51	76	144	121	179	138	944	374	--	--	--	--	2,151	
Total	1,511	5,500	12,197	14,706	23,183	19,974	22,431	16,148	17,678	19,372	9,491	7,605	4,120	7,654	181,570	

Table 49--Net dead volume of woodland species on woodland outside National Forests by ownership class, forest type, and productivity class in southern New Mexico, 1987

Ownership class	Forest type	Productivity class		
		High	Low	All classes
		- - - - <u>Thousand cubic feet</u> - - - -		
Other public:	Pinyon-juniper	52,262	12,526	64,788
	Juniper	5,325	456	5,781
	Oak	81	857	938
	Total	57,668	13,839	71,507
Private:	Pinyon-juniper	82,865	12,688	95,553
	Juniper	4,991	2,510	7,501
	Oak	6,990	19	7,009
	Total	94,846	15,217	110,063
Total:	Pinyon-juniper	135,127	25,214	160,341
	Juniper	10,316	2,966	13,282
	Oak	7,071	876	7,947
	Total	152,514	29,056	181,570

Table 50--Net dead volume of woodland species on woodland outside National Forests by ownership class, forest type, and volume class in southern New Mexico, 1987

Ownership class	Forest type	Volume class							All classes
		0 - 199 cu ft/acre	200 - 399 cu ft/acre	400 - 599 cu ft/acre	600 - 799 cu ft/acre	800 - 999 cu ft/acre	1,000+ cu ft/acre	Thousand cubic feet	
Other public:	Pinyon-Juniper	975	3,953	8,885	14,986	11,424	24,565	64,788	
	Juniper	221	2,194	1,186	988	1,192	--	5,781	
	Oak	--	--	938	--	--	--	938	
	Total	1,196	6,147	11,009	15,974	12,616	24,565	71,507	
Private:	Pinyon-Juniper	781	11,923	11,592	14,298	13,406	43,553	95,553	
	Juniper	347	1,749	1,284	1,956	2,165	--	7,501	
	Oak	19	149	--	71	--	6,770	7,009	
	Total	1,147	13,821	12,876	16,325	15,571	50,323	110,063	
Total:	Pinyon-Juniper	1,756	15,876	20,477	29,284	24,830	68,118	160,341	
	Juniper	568	3,943	2,470	2,944	3,357	--	13,282	
	Oak	19	149	938	71	--	6,770	7,947	
	Total	2,343	19,968	23,885	32,299	28,187	74,888	181,570	

Table 51--Net annual growth on woodland outside National Forests by species and ownership class in southern New Mexico, 1986

Species	Ownership class		
	Other public	Private	Total
	- - - - - <u>Thousand cubic feet</u> - - - - -		
Ponderosa pine	8	167	175
Pinyon	1,516	2,815	4,331
Juniper	906	1,384	2,290
Oak	55	362	417
Other woodland	--	23	23
All species	2,485	4,751	7,236

Table 52--Net annual growth of woodland species on woodland outside National Forests by ownership class, species, and diameter class in southern New Mexico, 1986

Ownership class and species	Diameter class (inches at root collar)														All classes
	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	21.0-22.9	23.0-24.9	25.0-26.9	27.0-28.9	29.0+	
----- Thousand cubic feet -----															
Other public:															
Pinyon	459	289	240	166	133	84	92	31	11	7	4	--	--	--	1,516
Juniper	53	78	117	116	135	93	96	59	35	44	27	19	20	14	906
Oak	8	6	8	7	5	7	13	--	1	--	--	--	--	--	55
Other woodland	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	520	373	365	289	273	184	201	90	47	51	31	19	20	14	2,477
Private:															
Pinyon	570	679	591	423	235	147	71	57	29	5	--	--	--	8	2,815
Juniper	134	147	183	197	172	112	146	100	72	43	21	17	18	22	1,384
Oak	64	51	35	29	53	63	3	5	8	23	5	1	8	14	362
Other woodland	2	3	1	(1)	1	4	(1)	1	11	(1)	--	--	--	--	23
Total	770	880	810	649	461	326	220	163	120	71	26	18	26	44	4,584
Total:															
Pinyon	1,029	968	831	589	368	231	163	88	40	12	4	--	--	8	4,331
Juniper	187	225	300	313	307	205	242	159	107	87	48	36	38	36	2,290
Oak	72	57	43	36	58	70	16	5	9	23	5	1	8	14	417
Other woodland	2	3	1	(1)	1	4	(1)	1	11	(1)	--	--	--	--	23
Total ²	1,290	1,253	1,175	938	734	510	421	253	167	122	57	37	46	58	7,061

¹Less than 500 cubic feet.

²Timberland species are not included in this table because of the difference between point of diameter measurement.

Table 53--Net annual growth on woodland outside National Forests by ownership class, forest type, and productivity class in southern New Mexico, 1986

Ownership class	Forest type	Productivity class		
		High	Low	All classes
		- - - - - <u>Thousand cubic feet</u> - - - - -		
Other public:	Pinyon-juniper	1,995	313	2,308
	Juniper	122	8	130
	Oak	23	24	47
	Total	2,140	345	2,485
Private:	Pinyon-juniper	3,651	483	4,134
	Juniper	253	62	315
	Oak	293	9	302
	Total	4,197	554	4,751
Total:	Pinyon-juniper	5,646	796	6,442
	Juniper	375	70	445
	Oak	316	33	349
	Total	6,337	899	7,236

Table 54--Net annual growth on woodland outside National Forests by ownership class, forest type, forest type, and volume class in southern New Mexico, 1986

Ownership class	Forest type	Volume class							All classes
		0 - 199 cu ft/acre	200 - 399 cu ft/acre	400 - 599 cu ft/acre	600 - 799 cu ft/acre	800 - 999 cu ft/acre	1,000+ cu ft/acre	Thousand cubic feet	
Other public:	Pinyon-juniper	166	292	486	549	374	441	2,308	
	Juniper	6	52	13	13	46	--	130	
	Oak	--	--	47	--	--	--	47	
	Total	172	344	546	562	420	441	2,485	
Private:	Pinyon-juniper	258	727	481	736	354	1,578	4,134	
	Juniper	33	87	106	17	72	--	315	
	Oak	23	24	--	30	--	225	302	
	Total	314	838	587	783	426	1,803	4,751	
Total:	Pinyon-juniper	424	1,019	967	1,285	728	2,019	6,442	
	Juniper	39	139	119	30	118	--	445	
	Oak	23	24	47	30	--	225	349	
	Total	486	1,182	1,133	1,345	846	2,244	7,236	

Table 55--Annual mortality on woodland outside National Forests by species and ownership class in southern New Mexico, 1986

Species	Ownership class		
	Other public	Private	Total
- - - - - <u>Thousand cubic feet</u> - - - - -			
Ponderosa pine	--	--	--
Pinyon	8	37	45
Juniper	--	--	--
Oak	--	--	--
Other woodland	--	--	--
All species	8	37	45

Table 56--Number of pinyon Christmas trees on woodland outside National Forests by ownership class, grade, and height class in southern New Mexico, 1987

Ownership class	Christmas-tree grade	Height class			All classes
		0' - 5'	6' - 10'	11' - 12'	
- - - - - <u>Thousand trees</u> - - - - -					
Other public:	Premium	--	--	--	--
	Standard	--	1,036	471	1,507
	Utility	1,480	4,610	859	6,949
	Total	1,480	5,646	1,330	8,456
Private:	Premium	--	168	--	168
	Standard	134	876	267	1,277
	Utility	1,278	4,078	471	5,827
	Total	1,412	5,122	738	7,272
Total:	Premium	--	168	--	168
	Standard	134	1,912	738	2,784
	Utility	2,758	8,688	1,330	12,776
	Total	2,892	10,768	2,068	15,728

Table 57--Number of fenceposts on woodland outside National Forests by ownership class, species, and type of post in southern New Mexico, 1987

Ownership class	Species	Type of post		
		Line	Corner	Total
- - - - <u>Thousand fenceposts</u> - - - -				
Other public:	Juniper	7,943	3,685	11,628
	Oak	--	34	34
	Total	7,943	3,719	11,662
Private:	Juniper	6,942	4,057	10,999
	Oak	2,021	673	2,694
	Total	8,963	4,730	13,693
Total:	Juniper	14,885	7,742	22,627
	Oak	2,021	707	2,728
	Total	16,906	8,449	25,355

COUNTY TABLES

Table 58--Area of timberland outside
National Forests by county
in southern New Mexico,
1987

County	Area
	- - <u>Acres</u> - -
Catron	40,302
Chaves	515
Curry	--
De Baca	691
Dona Ana	1,910
Eddy	--
Grant	13,170
Hidalgo	4,268
Lea	--
Lincoln	20,435
Luna	1,733
Otero	270,263
Roosevelt	--
Sierra	2,282
Socorro	9,870
Total	365,439

Table 59--Net volume of growing stock and sawtimber on timberland outside National Forests by county in southern New Mexico, 1987

County	Growing stock		Sawtimber	
	Thousand cubic feet	Thousand board feet International 1/4-inch rule	Thousand board feet Scribner rule	
Catron	25,377	99,276	85,303	
Chaves	499	2,077	1,792	
Curry	--	--	--	
De Baca	669	2,787	2,404	
Dona Ana	2,582	9,090	7,821	
Eddy	--	--	--	
Grant	13,996	50,085	42,341	
Hidalgo	4,215	14,734	12,484	
Lea	--	--	--	
Lincoln	19,935	80,349	68,253	
Luna	1,733	5,903	5,070	
Otero	268,696	1,077,514	916,783	
Roosevelt	--	--	--	
Sierra	2,470	8,544	7,343	
Socorro	8,364	29,533	25,230	
Total	348,536	1,379,892	1,174,824	

Table 60--Net annual growth of growing stock and sawtimber on timberland outside National Forests by county in southern New Mexico, 1986

County	Growing stock		Sawtimber	
	Thousand cubic feet	Thousand board feet International 1/4-inch rule	Thousand board feet Scribner rule	
Catron	781	3,209	2,746	
Chaves	10	56	45	
Curry	--	--	--	
De Baca	13	75	61	
Dona Ana	106	285	250	
Eddy	--	--	--	
Grant	328	1,560	1,255	
Hidalgo	125	452	368	
Lea	--	--	--	
Lincoln	458	2,467	2,064	
Luna	78	183	160	
Otero	9,243	50,653	41,878	
Roosevelt	--	--	--	
Sierra	107	264	232	
Socorro	308	836	750	
Total	11,557	60,040	49,809	

Table 61--Annual mortality of growing stock and sawtimber on timberland outside National Forests by county in southern New Mexico, 1986

County	Growing stock		Sawtimber	
	Thousand cubic feet	Thousand board feet International 1-inch rule	Thousand board feet Scribner rule	Thousand board feet Scribner rule
Catron	--	--	--	--
Chaves	3	15	14	14
Curry	--	--	--	--
De Baca	4	21	18	18
Dona Ana	--	--	--	--
Eddy	--	--	--	--
Grant	--	--	--	--
Hidalgo	--	--	--	--
Lea	--	--	--	--
Lincoln	85	401	356	356
Luna	--	--	--	--
Otero	313	1,241	1,105	1,105
Roosevelt	--	--	--	--
Sierra	--	--	--	--
Socorro	--	--	--	--
Total	405	1,678	1,493	1,493

Table 62--Area, net volume, net annual growth, and annual mortality of woodland species on woodland outside National Forests by county in southern New Mexico

County	Area (1987)	Net volume (1987)	Net annual growth (1986)	Annual mortality (1986)
	- - Acres - -	- - - - -	- - - - -	- - - - -
Catron	422,393	226,803	2,175	6
Chaves	5,504	1,435	22	--
Curry	1,945	578	8	--
De Baca	3,007	912	13	--
Dona Ana	35,532	11,463	123	(1)
Eddy	2,499	490	9	--
Grant	100,271	44,041	427	29
Hidalgo	50,283	18,658	180	8
Lea	4,262	1,107	16	--
Lincoln	209,023	79,461	1,038	--
Luna	26,456	7,916	79	(1)
Otero	155,061	111,639	1,657	--
Roosevelt	3,189	929	13	--
Sierra	54,847	19,730	210	(1)
Socorro	295,806	118,385	1,266	2
Total	1,370,078	643,547	7,236	45

¹Less than 500 cubic feet.

Van Hooser, Dwane D. 1989. Timberland and woodland resources outside National Forests in southern New Mexico, 1987. Resour. Bull. INT-64. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station. 72 p.

Presents land area, timberland and woodland area, associated volume, and components of change for the forest lands outside the National Forests in southern New Mexico.

KEYWORDS: forest survey, inventory, volume, pinyon-juniper



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