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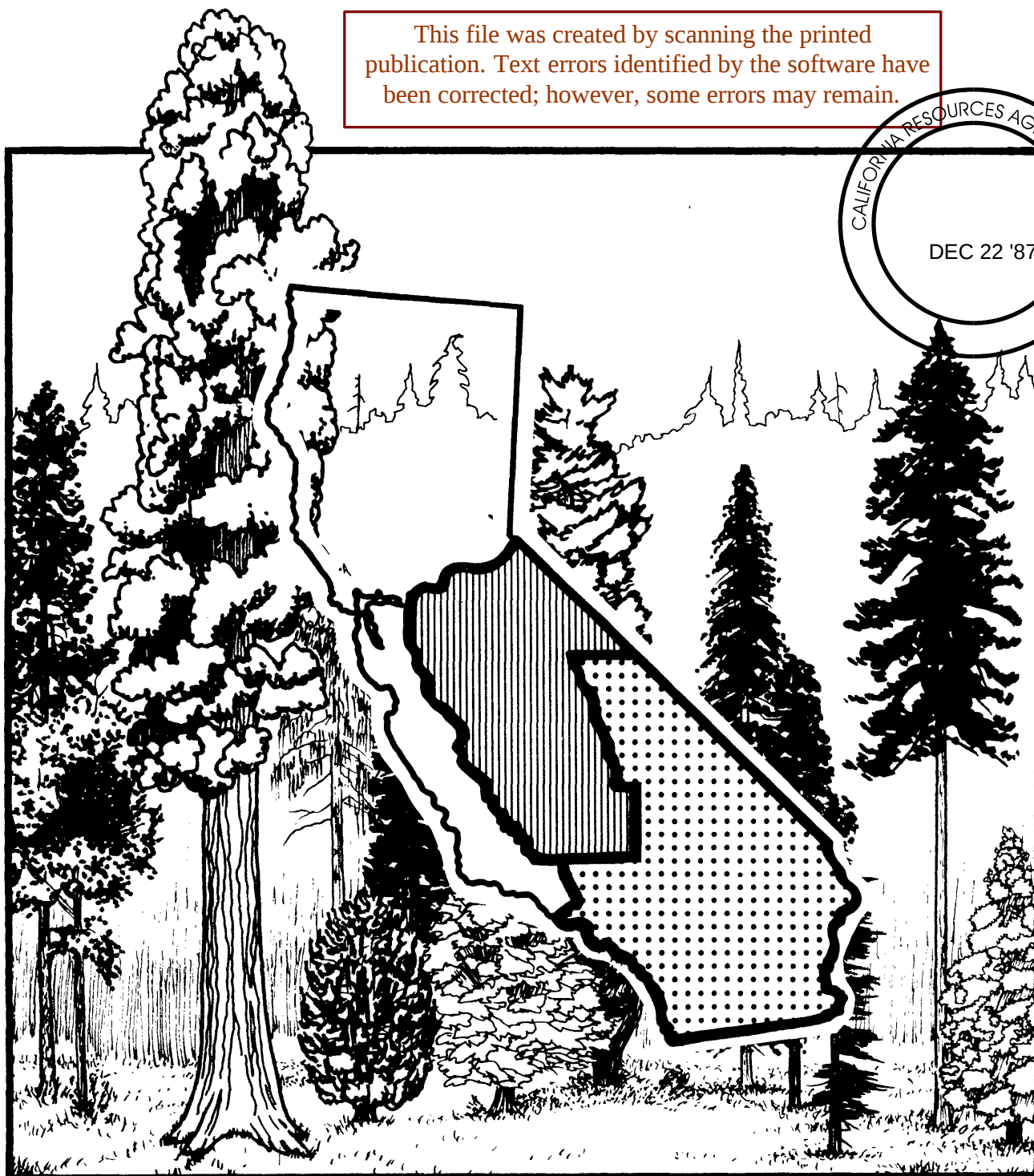
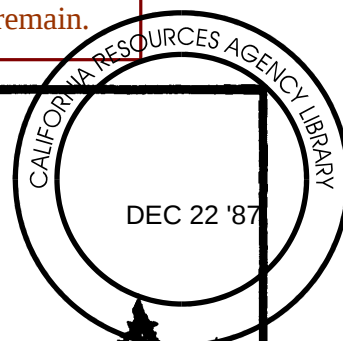
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Timber Resource Statistics for the San Joaquin and Southern California Resource Areas

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Abstract

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This report is one of five that provide timber resource statistics for 57 of the 58 counties in California (San Francisco is excluded). This report presents statistics from a **1982-84** inventory of the timber resources of Alpine, Amador, Calaveras, Fresno, Imperial, Inyo, Kern, Kings, **Los** Angeles, Madera, Mariposa, Merced, Mono, Orange, Riverside, San Bernardino, San Diego, San Joaquin, Stanislaus, Tulare, and Tuolumne Counties, California. Tables presented are of forest area and timber volume, growth, and mortality.

The San Joaquin and southern California resource areas contain 56 percent of the land area for the State, but only 15 percent of the timberland area. Timberland area is an estimated 2.4 million acres containing growing-stock volume estimated to be 8.5 billion cubic feet.

Keywords: Forest surveys, statistics (forest), timber resources, resources (forest), California (southern).

Preface

Forest Inventory and Analysis is a nationwide project of the USDA Forest Service authorized by the Forest and Rangeland Renewable Resources Research Act of 1978. Work units of the project, located at Forest Service Experiment Stations, conduct forest inventories throughout the 50 States. The Pacific Northwest Research Station at Portland, Oregon, is responsible for inventories in California, Hawaii, Oregon, and Washington.

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Highlights

- o Total land area is 55.7 million acres, 56 percent of the land area in California.
- o Total forest land is an estimated 12 million acres, 22 percent of the resource area, and 32 percent of the total forest land in the State.
- o Timberland area is estimated to be 2.4 million acres, 4 percent of the total area in the San Joaquin and southern California resource areas, and 15 percent of the total timberland in the State.
- o Seventy-eight percent of the timberland is in National Forests; 7 percent is in forest industry ownership; 13 percent is in farmer and miscellaneous private; and 2 percent is other public.
- o Total growing stock volume on timberland is estimated to be 8.5 billion cubic feet, 15 percent of the total volume in the State.
- o Ninety-three percent of the growing stock volume is in softwood species.

- o Eighty-one percent of the growing stock volume is in National Forest lands; 8 percent is on forest industry-owned lands; 9 percent is on farmer and miscellaneous private ownerships; and 2 percent is on other public ownerships.
- o Two-thirds of the timberland area and three-fourths of the cubic volume are in five counties: Calaveras, Fresno, Madera, Tulare, and Tuolumne.
- o Sawtimber stands occupy 90 percent of the timberland area.
- o Two percent of the timberland area is nonstocked.
- Mixed conifer type occupies 48 percent of the timberland area, ponderosa pine 26 percent, and California red fir 11 percent.
- o White fir accounts for 26 percent of the softwood growing stock volume, California red fir 18 percent, and ponderosa pine 17 percent.
- o Seven percent of the growing stock volume on timberland is hardwood, of this 76 percent is California black oak.
- o Seventy-three percent of the softwood volume is in trees 21 inches and larger.

Volume change

Data from 46 forest plots, in the San Joaquin resource area^{1/} outside National Forests, originally established in 1972 and remeasured in the current inventory were analyzed to determine volume change. For each tree, volume was calculated for both occasions using the current gross volume equations, culling procedures, and expansion factors. Ingrowth trees and trees that died or were cut during the period were also accounted for using the current procedures. The results of this analysis show that the cubic volume of softwood growing stock increased 15.8 percent over an average of 11.5 growing seasons, and hardwood growing stock volume increased 18.4 percent. On an annual basis this is a 1.37-percent increase for softwoods and a 1.60-percent increase for hardwoods.

1984 California Wilderness Bill

At the time the information for this report was compiled, specific data for lands dedicated as wilderness in the 1984 California Wilderness Bill were not available. For most National Forests the 1984 wilderness additions correspond closely to the area of deferred forest shown in table 1.

^{1/}No remeasurement **plots** were done in the southern California resource area.

Introduction

The information contained in this report summarizes the results of the 1982-84 inventory of the forest lands outside the National Forests and the most recent inventory of National Forest lands for the San Joaquin and southern California resource areas.

Included in the San Joaquin Resource Area are Alpine, Amador, Calaveras, Fresno, Kern, Kings, Madera, Mariposa, Merced, Mono, San Joaquin, Stanislaus, Tulare, and Tuolumne Counties. The southern California resource area is made up of Imperial, Inyo, Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties (fig. 1).

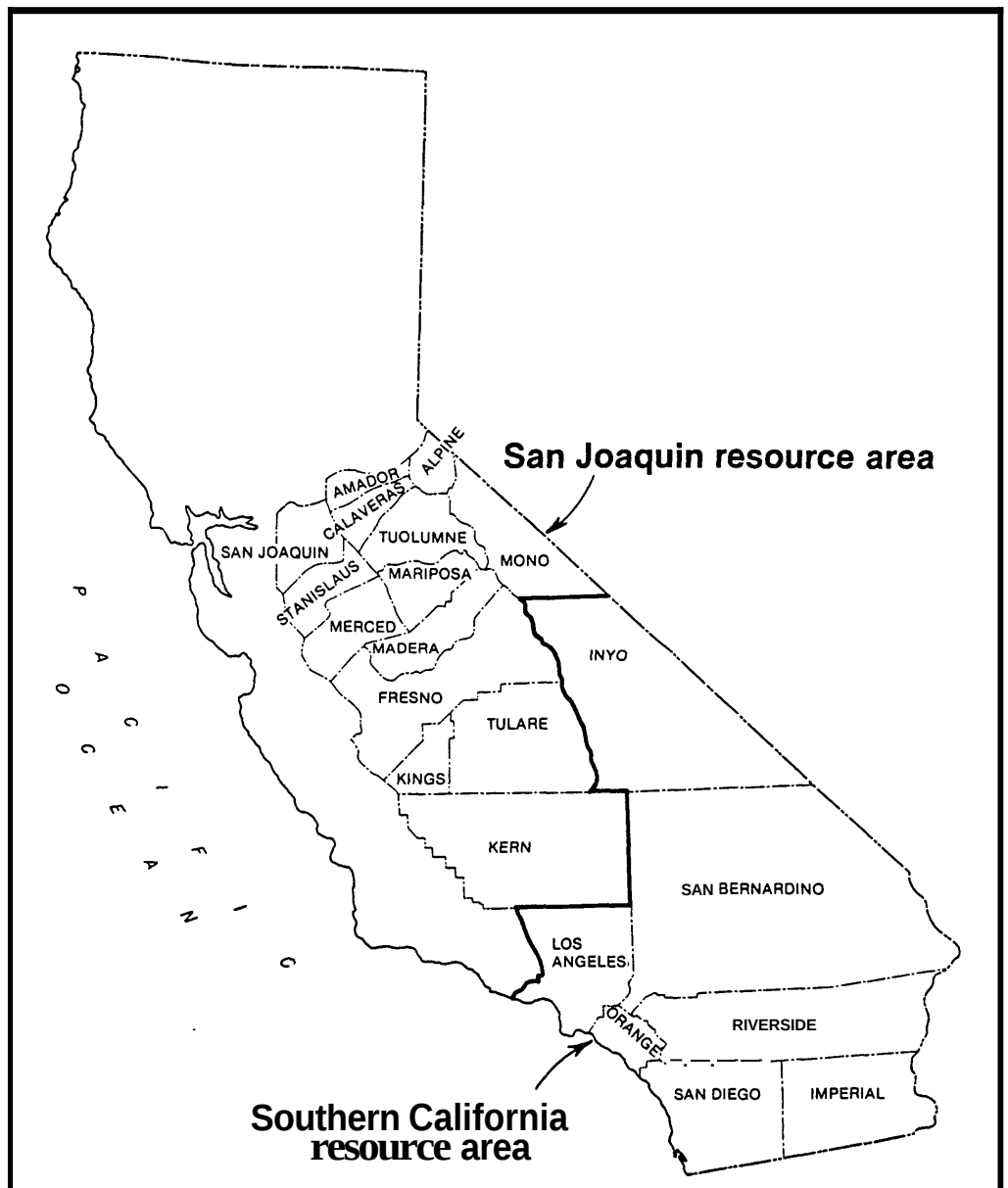


Figure 1.— Counties included in the San Joaquin and southern California resource areas of California.

Inventory Procedures

This report presents inventory data collected by the National Forest System for the seven National Forests in the San Joaquin resource area (Eldorado, Inyo, Los Padres, Sequoia, Sierra, Stanislaus, and Toiyabe) and three additional National Forests in the southern California resource area (Angeles, Cleveland, and San Bernardino) with inventory data for State, county, municipal, Indian trust, other Federal, and private forest lands collected by the Forest Inventory and Analysis Work Unit of the Pacific Northwest Research Station.

Inventorying National Forests involved two steps. In the first step, the area of each National Forest was classified into land class, broad forest type, stand size, and tree density using aerial photographs. The second step was sampling on the ground to determine volume per acre within forest type, stand size, and tree density classes. The ground sample consisted of five points, 2 chains (132 feet) apart, arranged in an L-shape. At each of the five points, tree attributes were collected on a variable-radius plot, and a seedling count was done on a fixed-radius plot.

For lands outside National Forests and outside National, State, county, and regional parks, forest statistics were obtained by using Cochran's (1963) double sampling for stratification. The primary sample consisted of aerial photo points located as follows: A computer-generated grid was projected over the State, which divided the area into squares 0.85 miles on a side. Within each square a randomly located point was plotted on a U.S. Geological Survey quadrangle map. Each point was transferred to an aerial photograph. Each point was classified by major land class (timberland, unproductive forest, and nonforest). Forest points were classified by owner group from county assessors' records. Timberland points were further stratified into stand volume classes, and unproductive forest points were classified into broad types (such as oak woodland, chaparral, and pinyon-juniper).

The secondary sample, a subsample of about 1 out of 16 of the aerial photo points, was selected on a systematic grid with a 3.4-mile interval. Each selected point was examined to determine the accuracy of the aerial photo classification. At each of the 3.4-mile grid points in timberland, ground plots were established to obtain detailed information on trees, other vegetation and site characteristics. In unproductive forest, ground plots were established on every other grid point (6.8 miles).

Timberland plots consisted of five subplots distributed over a 5-acre area. Unproductive forest plots had either five or three subplots. Trees were tallied and attribute data were recorded on a series of fixed- and variable-radius plots. In addition, ground vegetation and physical attribute data were recorded from a fixed-radius plot.

Some of the plot locations in timberland were established during previous inventories and were remeasured to determine growth and mortality rates. Regression estimators of growth and mortality that were developed from these plots were applied to all trees tallied in the inventory to estimate total growth and mortality. Tree and stand characteristics and environmental factors were used as variables in the growth and mortality estimators.

The following tabulation shows the number of photo points and ground plots outside National Forests, by category, for the San Joaquin and southern California resource areas:

	<u>Number of points or plots</u>
Forest photo points	13,777
Forest ground plots (examined to verify land class)	726
Timberland ground plots with tree and vegeta- tion tally (including 46 plots remeasured) ^{2/}	87
Unproductive forest ground plots with tree and vegetation tally	158

Reliability of Inventory Data

Data From National Forests

The forest resource statistics for National Forests were collected by National Forest System personnel. The Pacific Southwest Region of the National Forest System, headquartered at San Francisco, administers most of the timberland in National Forests in the San Joaquin and southern California resource areas. A small portion is administered by the Intermountain Region at Ogden, Utah.

Timber inventories in these National Forests have been designed to estimate total growing stock and sawtimber volume within a ± 10 -percent confidence band at the 68-percent probability level.

Area of forest land by broad type (stratum) is determined by mapping technique and hence, has no sampling error. A check of the classification for two National Forests determined that the strata were accurately defined as to type 85 percent of the time.^{3/}

Data From Outside National Forests

For lands outside National Forests, all area and volume statistics reported are based on sampling and are subject to sampling error. The following are estimates of timberland area, volume, and growth with associated confidence intervals (68-percent probability level).

^{2/}San Joaquin resource area only; no plots were measured in the southern California resource area at the time of the previous inventory.

^{3/}For more information contact **USDA** Forest Service, **630** Sansome Street, San Francisco, California **94111**; or **324 25th** Street, Ogden, Utah **84401**.

<u>Owner</u>	<u>Timberland area</u> (Thousand acres)	<u>Volume</u> (Million cubic feet)	<u>Gross growth</u> (Thousand cubic feet)
Other public	50 ± 14	128 ± 47	3,869 ± 1,455
Forest industry with mill	158 ± 8	619 ± 72	17,442 ± 2,003
Forest industry without mill	9 ± 9	58 ± 58	866 ± 866
Farmer and miscellaneous private	303 ± 25	780 ± 89	20,278 ± 2,504
Total	520 ± 31	1,586 ± 137	42,455 ± 3,618

Confidence intervals vary with both size of the estimate and variance of the item being estimated. Actual confidence intervals have been calculated for most of the tabular data in this report; they are available on request. The confidence intervals that follow are examples taken from the actual data for this report. Owner and land class data are based on the primary sample, and the data by type or class and the volume data are based on the double sample of photo and field plots.

<u>Forest land area by owner and land class</u>	<u>Estimated area</u> (Thousand acres)	<u>Confidence interval</u> (Thousand acres)
Timberland, all owners	520	±31
Timberland, farmer and miscellaneous private	302	±25
Timberland, Calaveras County, all owners	143	±9
Timberland, Tuolumne County, all owners	117	±8
Unproductive forest, Kern County, other public	98	±7
Timberland, Calaveras County, forest industry with mill	66	±5
Timberland, Tulare County, all owners	16	±5
Timberland, Riverside County, farmer and miscellaneous private	2	±1

<u>Timberland area by type or class</u>	<u>Estimated area</u> (Thousand acres)	<u>Confidence interval</u> (Thousand acres)
Sawtimber, all owners	451	± 32
Mixed conifer, all owners	282	± 31
Site class 120464 , all owners	105	± 22
Ponderosa pine ^{4/} type, other private owners	63	± 18
Interior live oak type, all owners	13	± 9
Lodgepole pine type, other public	4	+ , 4

<u>Timberland volume</u>	<u>Estimated volume</u> (Million cubic feet)	<u>Confidence interval</u> (Million cubic feet)
Growing stock, all owners	1,586	± 137
Softwoods, forest industry with mill	559	± 76
White fir, all owners	311	± 68
Ponderosa pine, forest industry with mill	157	± 43
Quaking aspen, farmer and miscellaneous private	2	± 2

Terminology

Bureau of Land Management lands—Federal lands administered by the Bureau of Land Management, U.S. Department of the Interior.

Chaparral—Areas covered with heavily branched dwarf trees or shrubs, usually evergreen, the crown canopy of which at maturity usually covers more than 50 percent of the ground. The principal genera are ***Adenostoma*, *Arctostaphylos*, *Ceanothus*, *Cercocarpus*, *Garrya*, and *Quercus***. Areas in which the predominant cover is ***Artemisia*, *Gutierrezia*, *Opuntia*, *Salvia*** or semidesert species are considered nonforest.

Class of timber—A classification of trees as growing stock, cull, and salvable dead. Growing stock trees are subdivided into poletimber and sawtimber trees.

County and municipal lands—Lands owned by county or other local public agencies.

Cull trees—Live trees that are more than 75-percent defective and are unlikely to become growing stock.

Cull trees, rotten—Cull trees with defect caused primarily by rot.

^{4/}Scientific names of all species are given at end of text.

Cull trees, sound—Trees with defect caused primarily by poor form

Diameter class—A classification of trees based on diameter outside the bark measured at breast height, 4½ feet above the ground. D.b.h. is the common abbreviation for “diameter at breast height.”

Farmer and miscellaneous private lands—All privately owned lands except those classed as forest industry lands, with or without mills.

Forest industry lands:

With mills—Lands owned by companies or individuals operating wood-using plants.

Without *mills*—Lands owned by companies or individuals that manage forests for timber production but do not operate mills.

Forest land—Land at least 10 percent covered by crowns of live trees, or 50 percent crown cover in chaparral species (see definition of chaparral); or land formerly having such cover and not currently developed for nonforest use.

Forest land, administratively withdrawn—National Forest lands withdrawn from resource management and utilization by local administrative order (but not by statute or ordinance).

Forest land, deferred—National Forest forest land that was under study for wilderness designation at the time the information for this report was collected. Most of this land was in fact dedicated as wilderness in the October 1984 California Wilderness Bill.

Forest land, reserved—Forest land withdrawn from forest management through statute or ordinance. Included are National Forest wilderness; National, State, and county parks; and other reservations.

Forest types—Stands in which 50 percent or more of the cover is in live conifer trees are classed as softwood types. Stands with a majority of the cover in live hardwood trees are classed as hardwood types. Within these two groups, the individual forest type is determined by plurality of species, with the exception of the mixed-conifer type. Mixed conifer includes stands containing two or more of the following species when no single species makes up 80 percent of the cover: Douglas-fir, white fir, red fir, ponderosa pine, Jeffrey pine, sugar pine, and incense-cedar.

Gross annual growth—The increase in volume of trees during a specified year. Components of gross annual growth of trees: (a) the increment in sound volume of trees alive at the beginning of the specified year and surviving to the year's end, plus (b) the sound volume of trees reaching sawtimber or poletimber size during the year.

Growing stock trees—All live trees with the exception of cull trees.

Growing stock volume—Net volume in cubic feet of live sawtimber and poletimber growing stock trees from stump to a minimum 4-inch top (of central stem) outside the bark. Net volume equals gross volume less deduction for rot and missing bole sections.

Hardwoods—Trees that are angiosperms, usually broad-leaved.

Indian lands—Tribal lands held in fee by the Federal Government but administered for Indian tribal groups, and Indian trust allotments.

Industrial wood—All commercial roundwood products except fuelwood. Roundwood includes logs or bolts that are in straight sections at least 8 feet long in hardwoods and 12 feet long in softwoods.

International **¼-inch** rule—The standard board-foot log rule adopted nationally by the USDA Forest Service for the presentation of inventory volume statistics.

Land area—Area reported as land by the Bureau of the Census. Total land area includes dry land and land temporarily or partially covered by water, such as marshes, swamps, and river flood plains, streams, sloughs, and canals less than 1/8-mile wide; and lakes, reservoirs, and ponds less than 40 acres in area.

Land class—A classification of land by major use. The minimum size area for classification is 1 acre.

Mean annual increment—A measure of the productivity of forest land in terms of the average increase in cubic-foot volume per acre per year. For a given species and site index the average is based on the age at which the mean annual increment culminates for fully stocked stands.

Mortality—Volume of sound wood in growing stock trees that died from natural causes during a specified period.

National Forest lands—Federal lands that have been designated by Executive order or statute as National Forest or purchase units and other lands under the administration of the Forest Service, including experimental areas and Bankhead-Jones Title III lands.

Nonforest land—Land that has never supported forests or was formerly forested and is currently developed for nonforest use. Included are lands used for agricultural crops, Christmas tree farms, improved pasture, residential areas, improved roads, operating railroads and their right-of-way clearings, powerline and pipeline clearings, streams over 30 feet wide, and 1- to 40-acre areas of water classified by the Bureau of the Census as land. If intermingled in forest areas, unimproved roads and other nonforest strips must be more than 120 feet wide, and clearings or other areas must be 1 acre or larger to qualify as nonforest land.

Nonstocked areas—In mapped areas, timberland with less than 10 percent crown cover; in sampled areas, timberland with no tally trees on 4 or 5 of the 5 subplots (see "Inventory Procedures").

Other Federal lands—Federal lands other than those administered by the USDA Forest Service.

Other public lands—Lands administered by public agencies other than the USDA Forest Service.

Poletimber stands—In National Forests, stands with less than 10 percent crown cover in sawtimber-sized trees and more than 10 percent crown cover in smaller trees, the predominance of which have crowns 6 to 12 feet in diameter. Outside National Forests, stands with a mean diameter (weighted by basal area) from 5.0 to 9.0 inches, if softwood, and from 5.0 to 11.0 inches, if hardwood.

Poletimber trees—Live trees at least 5.0 inches in d.b.h. but smaller than sawtimber size, and of good form and vigor.

Productive forest—Forest land capable of producing 20 cubic feet or more per acre per year in continuous crops of industrial wood.

Salvable dead trees—Dead, standing or downed trees, at least 9.0 inches in d.b.h. for softwoods and at least 11.0 inches in d.b.h. for hardwoods, containing 25 percent or more sound wood volume and at least one straight, sound, 12-foot log, if softwood, or one straight, sound, 8-foot log, if hardwood.

Sapling and seedling stands—In National Forests, stands with less than 10 percent crown cover in sawtimber-sized trees and more than 10 percent crown cover in smaller trees, the predominance of which have crowns less than 5 feet in diameter. Outside National Forests, stands with a mean diameter (weighted by basal area) less than 5.0 inches.

Sapling and seedling trees—Live trees less than 5.0 inches in d.b.h. with no disease, defects, or deformities likely to prevent their becoming poletimber trees.

Saw-log portion—The bole of sawtimber trees between the stump and the saw-log top.

Sawtimber stands—In National Forests, stands with 10 percent or more crown cover and the predominance of the trees having crowns 13 or more feet in diameter. Outside National Forests, stands with a mean diameter (weighted by basal area) at least 9.0 inches in d.b.h., if softwood, and at least 11.0 inches in d.b.h., if hardwood.

Sawtimber trees—Live softwood trees at least 9.0 inches in d.b.h. and hardwood trees at least 11.0 inches in d.b.h. At least 25 percent of the board-foot volume in a sawtimber tree must be free from defect. Softwood trees must contain at least one 12-foot saw log with a top diameter of not less than 6 inches inside bark; hardwood trees must contain at least one 8-foot saw log with a top diameter of not less than 8 inches inside bark.

Sawtimber volume—Net volume of sawtimber trees measured in board feet. Net volume equals gross volume less deduction for rot, sweep, crook, and other defects that affect use for lumber.

Scribner rule—The common board-foot log rule used locally in determining volume of sawtimber. Scribner volume is estimated in terms of 16-foot logs (short-log rule).

Site class—A classification of the potential productivity of forest land in terms of mean annual increment.

Softwoods—Coniferous trees, usually evergreen, with needles or scalelike leaves.

State lands—Lands owned or administered by State agencies.

Timber **harvest**—Volume of roundwood removed from forest land for products.

Timber volume—Includes the net volume in cubic feet of live poletimber and sawtimber trees, salvable dead sawtimber trees, and rotten cull trees; and the gross volume in sound cull trees. Volume is measured from stump to a minimum 4-inch top outside the bark.

Timberland (productive forest)—Forest land capable of continuously producing 20 cubic feet or more per acre per year of industrial wood, and not withdrawn by statute, ordinance, or administrative order from timber utilization.

Unproductive forest—Forest land incapable of continuously producing 20 cubic feet per acre per year of industrial wood because of adverse site conditions such as sterile soils, dry climate, poor drainage, high elevation, steepness, or rockiness. Includes low site and steep rocky areas supporting stands of conifers, such as ponderosa pine and Douglas-fir, and areas of oak, pinyon, juniper, and cypress woodlands, and chaparral.

Upper-stem portion—The bole of sawtimber trees above the saw-log top—7.0 inches outside bark for softwoods and 9.0 inches outside bark for hardwoods—to a minimum top diameter of 4.0 inches outside bark, or to the point where the central stem breaks into limbs.

Names of Trees^{5/}

Scientific name

Common name

Softwoods:

<i>Abies concolor</i> (Gord. & Glend.) Lindl. ex Hildebr.	white fir
<i>Abies magnifica</i> A. Murr.	California red fir
<i>Cupressus</i> L.	cypress
<i>Juniperus occidentalis</i> Hook.	western juniper
<i>Libocedrus decurrens</i> Torr.	incense-cedar
<i>Pinus albicaulis</i> Engelm.	whitebark pine
<i>Pinus aristata</i> Engelm.	bristlecone pine
<i>Pinus attenuata</i> Lemm.	knobcone pine
<i>Pinus balfouriana</i> Grev. & Balf.	foxtail pine
<i>Pinus contorta</i> Dougl. ex Loud.	lodgepole pine
<i>Pinus coulteri</i> D. Don	Coulter pine
<i>Pinus flexilis</i> James	limber pine
<i>Pinus jeffreyi</i> Grev. & Balf.	Jeffrey pine
<i>Pinus lambertiana</i> Dougl.	sugar pine
<i>Pinus monophylla</i> Torr. & Frem.	singleleaf pinyon
<i>Pinus monticola</i> Dougl. ex D. Don	western white pine
<i>Pinus ponderosa</i> Dougl. ex laws.	ponderosa pine
<i>Pinus sabiniana</i> Dougl.	Digger pine
<i>Pseudotsuga macrocarpa</i> (Vasey) Mayr	bigcone Douglas-fir
<i>Pseudotsuga menziesii</i> (Mirb.) Franco	Douglas-fir
<i>Sequoiadendron giganteum</i> (Lindl.) Buchholz	giant sequoia
<i>Torreya californica</i> Torr.	California torreyia
<i>Tsuga mertensiana</i> (Bong.) Carr.	mountain hemlock

Hardwoods:

<i>Acer macrophyllum</i> Pursh	bigleaf maple
<i>Aesculus californica</i> (Spach) Nutt.	California buckeye
<i>Alnus rhombifolia</i> Nutt.	white alder
<i>Arbutus menziesii</i> Pursh	Pacific madrone
<i>Eucalyptus</i> L'Her.	eucalyptus
<i>Juglans</i> L.	walnut
<i>Populus fremontii</i> Wats.	Fremont cottonwood
<i>Populus tremuloides</i> Michx.	quaking aspen
<i>Populus tricocarpa</i> Torr. & Gray	black cottonwood
<i>Quercus chrysolepis</i> Liebm.	canyon live oak
<i>Quercus kelloggii</i> Newb.	California black oak
<i>Quercus lobata</i> Nee	valley oak
<i>Quercus wislizeni</i> A. DC.	interior live oak
<i>Umbellularia californica</i> (Hook. & Arn.) Nutt.	California-laurel

^{5/}Names according to Little (1978).

Tables

Table 1—Area by county and land class, San Joaquin and southern California resource areas, January 1, 1985^{1/}

COUNTY	PRODUCTIVE FOREST					UNPRODUCTIVE FOREST					NONFOREST	TOTAL LAND AREA
	TIMBERLAND	RESERVED	DEFERRED ^{2/3/}	ADMINISTRATIVELY	TOTAL	UNRESERVED	RESERVED	DEFERRED ^{2/3/}	ADMINISTRATIVELY			
				WITHDRAWN ^{2/}					WITHDRAWN ^{2/}			
THOUSAND ACRES												
ALPINE	85	3	70	4	162	114	17	67	9	207	104	473
AMADOR	85	1	--	4	90	120	10	1	16	147	140	377
CALAVERAS	210	4	--	4/	214	257	1	--	4/	258	182	654
FRESNO	322	61	17	--	400	533	170	29	--	739	2,687	3,826
IMPERIAL	--	--	--	--	--	--	--	--	--	--	2,671	2,671
INYO	2	1	--	--	3	370	125	--	9	504	6,036	6,543
KERN	116	1	--	--	117	775	8	--	--	782	4,304	5,203
KINGS	--	--	--	--	--	15	--	--	--	15	875	891
LOS ANGELES	27	4	9	--	41	589	88	171	--	848	1,632	2,521
MADERA	230	66	14	--	311	378	67	15	--	460	602	1,373
MARIPOSA	143	175	--	--	318	335	5	--	4/	340	274	932
MERCED	1	--	--	--	1	56	3	--	--	58	1,185	1,244
MONO	170	3	9	2	104	516	60	--	4	580	1,168	1,932
ORANGE	--	--	--	--	--	126	6	--	--	131	379	511
RIVERSIDE	25	21	3	--	49	585	22	25	--	633	3,935	4,617
SAN BERNARDINO	100	31	3	--	134	506	17	12	--	535	12,172	12,841
SAN DIEGO	20	5	--	--	26	1,130	84	--	--	1,214	1,456	2,695
SAN JOAQUIN	4/	--	--	--	4/	23	1	--	--	24	881	906
STANISLAUS	2	--	--	--	2	132	26	--	--	158	804	964
TULARE	405	187	--	--	592	624	274	--	--	898	1,587	3,077
TUOLUMNE	475	304	14	3	795	253	46	10	4/	309	325	1,430
ALL COUNTIES	2,418	867	140	13	3,437	7,437	1,037	330	38	8,842	43,400	55,679

-- = none found.

^{1/}Totals may be off because of rounding.

^{2/}This category is used for National Forest lands only.

^{3/}For most National Forests the area of deferred forest corresponds closely to the 1984 wilderness additions.

^{4/}Less than 500 acres.

Table 2—Area of timberland by county and ownership class, San Joaquin and southern California resource areas, January 1, 1985^{1/}

COUNTY	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
			WITH MILLS	WITHOUT MILLS		
<u>THOUSAND ACRES</u>						
ALPINE	69	1	2/	2/	14	85
AMADOR	26	3	23	2	31	85
CALAVERAS	66	7	66	2/	71	210
FRESNO	290	1	3	7	22	322
INYO	--	2	--	--	2/	2
KERN	87	3	--	--	26	116
KINGS	--	--	--	--	--	--
LOS ANGELES	27	--	--	--	2/	27
MADERA	213	2/	5	--	12	230
MARIPOSA	100	2	1	--	40	143
MERCED	--	2/	--	--	1	1
MONO	162	1	--	--	7	170
ORANGE	--	--	--	--	--	--
RIVERSIDE	21	1	--	--	2	25
SAN BERNARDINO	94	2/	--	--	5	100
SAN DIEGO	12	5	--	--	4	20
SAN JOAQUIN	--	---	--	--	2/	2/
STANISLAUS	--	2/	--	--	2	2
TULARE	373	16	2/	--	16	405
TUOLUMNE	358	7	60	--	50	475
ALL COUNTIES	1,898	50	158	9	303	2,418

-- = none found.

^{1/}Totals may be off because of rounding.

^{2/}Less than 500 acres.

Table 3—Area of timberland by cubic-foot site and ownership classes, San Joaquin and southern California resource areas, January 1, 1985^{1/}

SITE CLASS	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
			WITH MILLS	WITHOUT MILLS		
<u>CUBIC FEET</u>	<u>THOUSAND ACRES</u>					
225 OR MORE	--	--	--	--	3	4
165-224	55	--	40	--	34	129
120-164	95	--	48	9	48	200
85-119	543	12	53	--	50	658
50-84	815	29	14	--	91	949
20-49	389	9	4	--	76	479
ALL CLASSES	1,898	50	158	9	303	2,418

-- = none found.

^{1/}Totals may be off because of rounding.

Table 4—Area of timberland by stand size and ownership classes, San Joaquin and southern California resource areas, January 1, 1985^{1/}

STAND SIZE CLASS	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
			WITH MILLS	WITHOUT MILLS		
SAWTIMBER STANDS:						
LARGE SAWTIMBER ^{2/}	865	--	13	--	75	953
SMALL SAWTIMBER ^{3/}	849	50	133	9	171	1,212
TOTAL	1,714	50	146	9	246	2,165
POLETIMBER STANDS:	105	--	a	--	20	133
SAPLING AND SEEDLING STANDS	37	--	4	--	37	79
NONSTOCKED AREAS	42	--	--	--	--	42
ALL CLASSES	1,898	50	158	9	303	2,418

-- = none found.

^{1/}Totals may be off because of rounding.

^{2/}Includes sawtimber stands with the majority of trees 21.0 inches in d.b.h. and larger (for National Forests, stands with the majority of trees having crown diameters 25 feet or larger).

^{3/}Includes sawtimber stands with the majority of trees 9.0 to 20.9 inches in d.b.h., if conifer, and 11.0 to 20.9 inches in d.b.h. if hardwood (for National Forests, stands with the majority of trees having crown diameters 13 to 24 feet).

Table 5—Area of timberland by forest type and ownership class, San Joaquin and southern California resource areas, January 1, 1985^{1/}

FOREST TYPE	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PR IVATE	ALL OWNERSHIPS
			WITH MILLS	WITHOUT MILLS		
			THOUSAND ACRES			
MIXED CONIFER	872	7	124	9	142	1,153
PONDEROSA PINE	521	19	34	--	63	636
CALIFORNIA RED FIR	270	--	--	--	--	270
LODGEPOLE PINE	99	4	--	--	--	103
JEFFREY PINE	6	5	--	--	19	31
COULTER PINE	25	4	--	--	--	29
DIGGER PINE	1	--	--	--	7	8
WHITE FIR	--	--	--	--	6	6
GIANT SEQUOIA	4	--	--	--	--	4
BIGCONE DOUGLAS-FIR	2	--	--	--	--	2
KNOBCOME PINE	1	--	--	--	--	1
WHITEBARK PINE	2/	--	--	--	--	2/
CALIFORNIA BLACK OAK	40	5	--	--	25	70
CANYON LIVE OAK	17	7	--	--	27	50
INTERIOR LIVE OAK	--	--	--	--	13	13
QUAKING ASPEN	2/	--	--	--	--	2/
NONSTOCKED	41	--	--	--	--	41
ALL TYPES	1,898	50	158	9	303	2,418

-- = none found.

^{1/}Totals may be off because of rounding.

^{2/}Less than 500 acres

Table 6A—Area of reserved, deferred, and administratively withdrawn forest land by land class, forest type, and ownership class, San Joaquin and southern California resource areas, January 1, 1985^{1/}

LAND CLASS AND FOREST TYPE	NATIONAL FOREST				OUTSIDE NATIONAL FOREST							ALL OWNERSHIPS
	RESERVED	DEFERRED//	ADMINISTRATIVELY WITHDRAWN 2/	TOTAL	NATIONAL PARKS	OTHER FEDERAL	STATE PARKS	OTHER STATE	COUNTY AND MUNICIPAL	PRIVATE	TOTAL	
	THOUSAND ACRES											
PRODUCTIVE:												
GIANT SEQUOIA	4/	--	--	4/	9	--	4/	--	--	--	9	9
MIXED CONIFER	35	55	3	146	212	4/	3	--	4/	--	221	367
TRUE FIRS	92	27	4	123	135	--	1	--	--	--	136	259
MOUNTAIN HEMLOCK	--	--	--	--	24	--	--	--	--	--	24	24
PONDEROSA PINE	31	11	1	43	7	--	4/	--	--	--	7	50
JEFFREY PINE	--	--	--	--	--	--	--	--	1	--	1	1
LOGEPOLE PINE	41	44	1	87	198	--	--	--	--	--	198	285
COULTER PINE	1	2	--	3	--	--	13	--	4/	--	13	16
EUCALYPTUS	--	--	--	--	--	--	--	--	4/	--	4/	4/
ALL OAKS	4/	--	4/	4/	--	--	--	--	--	--	--	4/
NONSTOCKED	3	--	--	3	--	--	--	--	--	--	--	3
TOTAL	257	140	13	409	585	4/	23	--	2	--	610	1,019
UNPRODUCTIVE:												
TRUE FIRS	32	44	10	86	--	--	--	--	--	--	--	66
MIXED CONIFER	7	--	2	53	--	--	--	--	--	--	--	53
BIGCONE DOUGLAS-FIR	6	21	--	27	--	--	--	--	--	--	--	27
MOUNTAIN HEMLOCK	3	--	--	3	--	--	--	--	--	--	--	3
SUBALPINE CONIFERS	--	--	--	--	200	--	--	--	--	--	200	200
PONDEROSA AND JEFFREY PINE	65	21	1	87	--	--	--	--	--	--	--	67
LOGEPOLE PINE	220	23	11	257	--	--	--	--	--	--	--	259
WHITE PINE	12	--	--	12	--	--	--	--	--	--	--	12
COULTER PINE	4	17	--	21	--	--	--	--	--	--	--	21
LIMBER PINE	--	--	--	--	--	--	4/	4/	--	--	1	1
WHITE BARK PINE	43	1	--	44	--	--	--	--	--	--	--	44
FOXTAIL PINE	19	--	--	19	--	--	--	--	--	--	--	13
BRISTLECONE PINE	--	--	3	3	--	--	--	--	--	--	--	8
DIGGER PINE	2	--	--	2	--	--	--	--	--	--	--	2
JUNIPER/PINYON	14	5	2	21	35	--	--	--	4/	4/	35	56
QUAKING ASPEN	4	--	--	4	--	--	--	--	--	--	--	4
COTTONWOOD 5/	--	--	--	--	--	--	2	--	1	--	2	2
ALL CACTS	31	27	1	60	42	4/	36	4/	4	4/	82	142
CHAPARRAL	109	141	3	253	26	2	32	4/	15	4	140	393
TOTAL	571	330	33	938	303	3	129	1	20	4	460	1,398
TOTAL	323	469	50	1,347	888	3	153	1	21	4	1,070	2,417

-- = none found.

1/Totals may be off because of rounding.

2/This category is used for National Forest only.

3/For most National Forests the area of deferred forest corresponds closely to the 1984 wilderness additions.

4/Less than 500 acres.

5/Includes black cottonwood and Fremont cottonwood.

Table 6B—Area of unreserved unproductive forest land by forest type and ownership class, San Joaquin and southern California resource areas, January 1, 19853

FOREST TYPE	NATIONAL FOREST	OTHER PUBLIC	PRIVATE	ALL OWNERSHIPS
TRUE FIRS	43	--	--	43
MIXED CONIFER	103	5	--	108
MOUNTAIN HEMLOCK	1	--	--	1
BIGCONE DOUGLAS-FIR	24	--	--	24
PONDEROSA AND JEFFREY PINE	195	4	12	211
LODGEPOLE PINE	146	--	--	146
WHITE PINE	17	--	--	17
COULTER PINE	4	--	--	4
WHITEBARK PINE	35	--	--	35
FOXTAIL PINE	34	--	--	34
BRISTLECONE PINE	34	--	--	34
KNOBCONE PINE	4	--	--	4
DIGGER PINE	84	34	170	288
JUNIPER/PINYON	485	384	148	1,017
CYPRESS	--	60	--	60
QUAKING ASPEN	13	--	--	13
EUCALYPTUS	--	--	35	35
BUCKEYE	--	--	136	136
ALL OAKS	394	172	1,434	2,000
CHAPARRAL	1,118	685	1,385	3,189
UNCLASSIFIED	1	--	34	35
ALL TYPES	2,736	1,344	3,354	7,434

-- = none found.

1/Totals may be off because of rounding.

° Table 7—Volume of timber on timberland by class of timber and by soft-woods and hardwoods, San Joaquin and southern California resource areas, January 1, 1985^{1/}

CLASS OF TIMBER	SOFTWOODS	HARDWOODS	ALL SPECIES
<u>MILLION CUBIC FEET</u>			
SAWTIMBER TREES:			
SAW-LOG PORTION	7,441	319	7,760
UPPER-STEP1 PORTION	153	187	340
TOTAL	7,594	506	8,100
POLETIMBER TREES	259	124	382
ALL GROWING STOCK	7,853	630	8,483
SOUND CULL TREES	23	39	62
ROTTEN CULL TREES	27	244	272
SALVABLE DEAD TREES	74	--	74
ALL TIMBER	7,977	914	8,891

-- - none found.

^{1/}Totals may be off because of rounding.

Table 8—Volume of growing stock and sawtimber on timberland by ownership class and by softwoods and hardwoods, San Joaquin and southern California resource areas, January 1, 1985^{1/}

OWNERSHIP CLASS	AVERAGE VOLUME	SOFTWOODS	HARDWOODS	ALL SPECIES
	<u>CUBIC FEET PER ACRE</u>	<u>MILLION CUBIC FEET</u>		
GROWING STOCK:				
NATIONAL FOREST	3,634	6,567	329	6,897
OTHER PUBLIC	2,560	98	30	128
FOREST INDUSTRY WITH MILL	3,918	559	60	619
FOREST INDUSTRY WITHOUT MILL	6,444	39	19	58
FARMER AND MISCELLANEOUS PRIVATE	2,574	589	191	780
ALL OWNERSHIPS	3,508	7,853	630	8,483
	<u>BOARD FEET PER ACRE</u>	<u>MILLION BOARD FEET</u>		
SAWTIMBER (INTERNATIONAL 1/4-INCH RULE):				
NATIONAL FOREST	22,786	42,022	1,229	43,248
OTHER PUBLIC	12,640	548	84	632
FOREST INDUSTRY WITH MILL	20,500	3,090	150	3,239
FOREST INDUSTRY WITHOUT MILL	30,444	230	44	274
FARMER AND MISCELLANEOUS PRIVATE	12,175	3,305	385	3,689
ALL OWNERSHIPS	21,126	49,195	1,891	51,083
SAWTIMBER (SCRIBNER RULE) :				
NATIONAL FOREST	20,548	37,826	1,174	39,001
OTHER PUBLIC	10,840	473	69	542
FOREST INDUSTRY WITH MILL	17,911	2,706	125	2,830
FOREST INDUSTRY WITHOUT MILL	27,111	207	38	244
FARMER AND MISCELLANEOUS PRIVATE	10,495	2,864	316	3,180
ALL OWNERSHIPS	18,940	44,076	1,722	45,798

^{1/}Totals may be off because of rounding.

Table 9—Volume of growing stock and sawtimber on timberland by county and ownership class, San Joaquin and southern California resource areas, January 1, 1985^{1/}

COUNTY	FOREST INDUSTRY				FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
	NATIONAL FOREST	OTHER PUBLIC	WITH MILLS	WITHOUT MILLS		
MILLION CUBIC FEET						
GROWING STOCK :						
ALPINE	295	2	2	3	29	332
AMADOR	182	11	96	10	90	309
CALAVERAS	339	22	282	2	187	831
FRESNO	1,380	1	10	43	52	1,486
INYO	--	4	--	--	1	5
KERN	266	6	--	--	56	328
LOS ANGELES	41	--	--	--	1	42
MADERA	1,000	2	20	--	35	1,056
MARIPOSA	317	5	4	--	113	439
MERCED	--	2	--	--	2	2
MONO	211	2	--	--	16	229
RIVERSIDE	27	3	--	--	7	37
SAN BERNARDINO	151	1	--	--	15	168
SAN DIEGO	14	10	--	--	11	34
SAN JOAQUIN	--	--	--	--	1	1
STANISLAUS	--	2	--	--	4	4
TULARE	1,337	44	1	--	40	1,223
TUOLUMNE	1,417	16	205	--	119	1,758
ALL COUNTIES	6,897	128	619	58	700	8,483
MILLION BOARD FEET						
SAWTIMBER (INTERNATIONAL 1/4-INCH RULE):						
ALPINE	1,913	11	11	14	136	2,085
AMADOR	645	57	505	49	445	1,700
CALAVERAS	2,191	110	1,491	7	913	4,717
FRESNO	8,588	5	50	203	232	9,079
INYO	--	22	--	--	4	26
KERN	1,657	30	--	--	232	1,919
LOS ANGELES	266	--	--	--	4	270
MADERA	6,305	2	103	--	160	6,571
MARIPOSA	1,949	24	21	--	553	2,547
MERCED	--	1	--	--	4	5
MONO	1,370	6	--	--	76	1,452
RIVERSIDE	171	15	--	--	35	220
SAN BERNARDINO	967	4	--	--	79	1,050
SAN DIEGO	73	55	--	--	52	180
SAN JOAQUIN	--	--	--	--	2	2
STANISLAUS	--	2	--	--	10	12
TULARE	8,221	211	7	--	174	8,612
TUOLUMNE	8,932	78	1,052	--	572	10,634
ALL COUNTIES	43,248	632	3,239	274	3,689	51,083
SAWTIMBER (SCRIBNER RULE):						
ALPINE	1,719	10	9	13	116	1,867
AMADOR	584	49	442	44	385	1,504
CALAVERAS	1,985	94	1,308	6	795	4,189
FRESNO	7,720	5	43	181	199	8,149
INYO	--	19	--	--	4	22
KERN	1,491	26	--	--	197	1,714
LOS ANGELES	243	--	--	--	4	247
MADERA	5,669	2	90	--	138	5,899
MARIPOSA	1,757	21	18	--	478	2,273
MERCED	--	1	--	--	4	5
MONO	1,244	5	--	--	64	1,314
RIVERSIDE	155	12	--	--	30	198
SAN BERNARDINO	875	3	--	--	69	947
SAN DIEGO	67	47	--	--	45	160
SAN JOAQUIN	--	--	--	--	2	2
STANISLAUS	--	1	--	--	9	10
TULARE	7,413	180	6	--	149	7,748
TUOLUMNE	8,079	66	914	--	494	9,553
ALL COUNTIES	39,001	542	2,830	244	3,180	45,798

-- = none found.

^{1/}Totals may be off because of rounding.

^{2/}Less than 500,000 cubic feet.

Table 10—Volume of growing stock on timberland by species and ownership class, San Joaquin and southern California resource areas, January 1, 19853

SPECIES	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
			WITH MILLS	WITHOUT MILLS		
<u>MILLION CUBIC FEET</u>						
SOFTWOODS:						
WHITE FIR	1,736	25	183	4	99	2,047
CALIFORNIA RED FIR	1,391	--	--	--	25	1,415
PONDEROSA PINE	942	30	157	4	163	1,296
JEFFREY PINE	743	5	--	--	83	831
INCENSE-CEDAR	572	9	103	10	80	774
SUGAR PINE	429	10	77	--	70	586
LOGEPOLE PINE	319	14	--	--	41	374
DOUGLAS-FIR	127	1	39	21	12	201
GIANT SEQUOIA	128	--	--	--	3	131
WESTERN WHITE PINE	112	--	--	--	--	112
MOUNTAIN HEMLOCK	31	--	--	--	--	31
WESTERN JUNIPER	17	--	--	--	--	17
COULTER PINE	9	3	--	--	1	13
DIGGER PINE	4	1	--	--	9	13
BIGONE DOUGLAS-FIR	7	--	--	--	3	10
ALL PINYON PINE	2/	--	--	--	--	2/
CALIFORNIA TORREYA	--	--	--	--	2/	2/
TOTAL	6,567	98	559	39	589	7,853
HARDWOODS:						
CALIFORNIA BLACK OAK	287	16	42	15	115	476
CANYON LIVE OAK	28	11	13	--	57	109
WHITE ALDER	3	3	6	4	5	19
QUAKING ASPEN	3	--	--	--	2	6
VALLEY OAK	1	--	--	--	5	6
INTERIOR LIVE OAK	1	--	--	--	3	4
PACIFIC MADRONE	--	--	--	--	2	2
WALNUT	--	--	--	--	1	1
CALIFORNIA LAUREL	--	--	--	--	1	1
BIG LEAF MAPLE	2/	--	--	--	--	2/
UNCLASSIFIED HARDWOODS	3	--	--	--	--	3
TOTAL	329	30	60	19	191	630
ALL SPECIES	6,897	128	619	58	780	8,483

-- = none found.

1/Totals may be off because of rounding.

2/Less than 500,000 cubic feet.

Table 11—Volume of sawtimber, International ¼-inch rule, on timberland by species and ownership class, San Joaquin and southern California resource areas, January 1, 1985^{1/}

SPECIES	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
			WITH MILLS	WITHOUT MILLS		
MILLION BOARD FEET						
SOFTWOODS:						
WHITE FIR	11,241	141	1,021	11	538	12,952
CALIFORNIA RED FIR	8,983	--	--	--	138	9,121
PONDEROSA PINE	6,402	167	883	30	914	8,396
JEFFREY PINE	5,105	23	--	--	459	5,588
INCENSE-CEDAR	3,421	43	471	45	388	4,368
SUGAR PINE	3,039	68	474	--	452	4,033
LOGPOLE PINE	1,897	83	--	--	241	2,221
DOUGLAS-FIR	846	9	240	144	81	1,320
GIANT SEQUOIA	7	--	--	--	20	27
WESTERN WHITE PINE	759	--	--	--	--	753
MOUNTAIN HEMLOCK	212	--	--	--	--	212
WESTERN JUNIPER	8	--	--	--	--	8
COULTER PINE	53	12	--	--	6	71
DIGGER PINE	4	2	--	--	48	54
BIGCONE DOUGLAS-FIR	47	--	--	--	20	67
TOTAL	42,022	548	3,090	230	3,305	49,195
HARDWOODS:						
CALIFORNIA BLACK OAK	1,155	38	97	25	237	1,552
CANYON LIVE OAK	47	29	30	--	94	200
WHITE ALDER	5	17	22	20	23	87
QUAKING ASPEN	5	--	--	--	9	14
VALLEY OAK	1	--	--	--	15	16
INTERIOR LIVE OAK	--	--	--	--	1	1
PACIFIC MADRONE	--	--	--	--	5	5
UNCLASSIFIED HARDWOODS	15	--	--	--	--	15
TOTAL	1,229	84	150	44	385	1,891
ALL SPECIES	43,248	632	3,239	274	3,689	51,083

-- = none found.

^{1/}Totals may be off because of rounding.

Table 12—Volume of sawtimber, Scribner rule, on timberland by species and ownership class, San Joaquin and southern California resource areas, January 1, 1985^{1/}

SPECIES	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
			WITH MILLS	WITHOUT MILLS		
MILLION BOARD FEET						
SOFTWOODS:						
WHITE FIR	9,911	120	894	8	460	11,394
CALIFORNIA RED FIR	8,257	--	--	--	122	8,379
PONDEROSA PINE	5,707	144	779	28	788	7,447
JEFFREY PINE	4,714	19	--	--	396	5,129
INCENSE-CEDAR	3,082	36	387	37	324	3,866
SUGAR PINE	2,765	62	429	--	408	3,665
LOGSPOLE PINE	1,614	72	--	--	212	1,898
DOUGLAS-FIR	811	8	216	133	73	1,241
GIANT SEQUOIA	7	--	--	--	18	25
WESTERN WHITE PINE	673	--	--	--	--	673
MOUNTAIN HEMLOCK	186	--	--	--	--	186
WESTERN JUNIPER	8	--	--	--	--	8
COULTER PINE	44	10	--	--	5	59
DIGGER PINE	2	1	--	--	40	44
BIGCONE DOUGLAS-FIR	42	--	--	--	18	60
TOTAL	37,826	473	2,706	207	2,864	44,076
HARDWOODS:						
CALIFORNIA BLACK OAK	1,103	31	80	20	196	1,430
CANYON LIVE OAK	48	24	26	--	76	174
WHITE ALDER	4	14	18	18	19	73
QUAKING ASPEN	3	--	--	--	7	10
VALLEY OAK	1	--	--	--	13	14
INTERIOR LIVE OAK	--	--	--	--	1	1
PACIFIC MADRONE	--	--	--	--	4	4
UNCLASSIFIED HARDWOODS	14	--	--	--	--	14
TOTAL	1,174	69	125	38	316	1,722
ALL SPECIES	39,001	542	2,830	244	3,180	45,798

-- = none found.

^{1/}Totals may be off because of rounding.

Table 13—Volume of growing stock on timberland by species and diameter class, San Joaquin and southern California resource areas, January 1, 19853

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	21.0-28.9	29.0 AND LARGER	
	MILLION CUBIC FEET										
SOFTWOODS:											
WHITE FIR	24	48	50	73	88	96	103	80	442	1,037	2,047
CALIFORNIA RED FIR	8	15	16	24	27	32	38	45	227	983	1,415
PONDEROSA PINE	23	28	37	47	67	82	87	84	301	538	1,296
JEFFREY PINE	7	13	14	22	28	29	33	39	158	489	831
INCENSE-CEDAR	24	22	31	56	55	41	53	38	132	321	774
SUGAR PINE	3	7	10	13	9	16	21	11	80	414	586
LOGEPOLE PINE	7	17	14	20	22	29	29	27	112	97	374
DOUGLAS-FIR	2	2	3	6	13	9	6	7	32	121	201
GIANT SEQUOIA	2/	--	--	2/	1	1	1	1	4	124	131
WESTERN WHITE PINE	1	1	1	2	2	2	2	3	34	63	112
MOUNTAIN HEMLOCK	2/	1	1	1	2	2	2	1	10	10	31
WESTERN JUNIPER	2/	2/	1	2/	2/	1	2/	--	2	13	17
COULTER PINE	2/	2/	1	1	1	1	2	1	4	2	13
DIGGER PINE	--	--	1	1	1	1	2	--	5	--	13
BIGCONE DOUGLAS-FIR		--	--	2/	2/	2/	2/	2/	2	3	10
ALL PINYON PINE		2/	2/	--	--	--	--	--	--	--	2/
CALIFORNIA TORREYA		2/	--	--	--	--	--	--	--	--	2/
TOTAL	102	157	182	274	316	342	378	338	1,544	4,221	7,853
HARDWOODS:											
CALIFORNIA BLACK OAK	14	26	36	36	43	45	35	35	114	91	476
CANYON LIVE OAK	10	12	15	7	7	9	12	6	17	15	109
WHITE ALDER	--	1	--	2/	1	5	3	4	3	2	19
QUAKING ASPEN	1	2/	1	1	1	1	1	--	1	--	6
VALLEY OAK	2/	2/	2/	--	--	--	--	2	1	1	6
INTERIOR LIVE OAK	2	2/	2/	--	1	--	--	--	--	--	4
PACIFIC MADRONE	--	--	2/	1	--	1	--	--	--	--	2
WALNUT	1	--	--	--	--	--	--	--	--	--	1
CALIFORNIA-LAUREL	1	--	--	--	--	--	--	--	--	--	1
BIGLEAF MAPLE	--	--	--	--	--	--	--	--	--	--	2/
UNCLASSIFIED HARDWOODS	1	1	1	2/	2/	1	2/	--	1	1	5
TOTAL	30	40	54	47	52	61	50	47	138	110	630
ALL SPECIES	131	197	235	322	368	403	428	385	1,683	4,331	8,483

-- = none found.

1/Totals may be off because of rounding.

2/Less than 500,000 cubic feet.

Table 14—Volume of sawtimber, International ¼-inch rule, on timberland by species and diameter class, San Joaquin and southern California resource areas, January 1, 19853

	DIAMETER CLASS (INCHES AT BREAST HEIGHT)								
SPECIES	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 AND LARGER	ALL CLASSES
MILLION BOARD FEET									
SOFTWOODS:									
WHITE FIR	294	467	538	606	652	520	2,948	6,920	12,952
CALIFORNIA RED FIR	99	132	156	199	232	285	1,500	6,516	9,121
PONDEROSA PINE	194	268	394	512	547	553	2,075	3,857	8,396
JEFFREY PINE	74	133	162	174	191	254	1,084	3,502	5,588
INCENSE-CEDAR	163	302	309	243	306	228	804	2,008	4,368
SUGAR PINE	56	77	60	102	136	75	544	2,978	4,033
LODGEPOLE PINE	84	111	132	176	183	176	725	639	2,221
DOUGLAS-FIR	18	41	80	63	35	47	212	824	1,320
GIANT SEQUOIA	--	--	--	--	--	--	6	21	27
WESTERN WHITE PINE	10	12	14	17	11	21	235	438	759
MOUNTAIN HEMLOCK	3	8	14	15	15	9	75	75	212
WESTERN JUNIPER	--	--	--	--	--	--	6	1	8
COULTER PINE	5	3	7	6	9	7	23	11	71
DIGGER PINE	4	6	3	4	9	--	29	--	54
BIGCONE DOUGLAS-FIR	--	--	--	--	--	1	10	52	67
TOTAL	1,005	1,554	1,869	2,119	2,323	2,178	10,271	27,853	49,195
HARDWOODS:									
CALIFORNIA BLACK OAK	--	133	153	167	126	132	459	379	1,552
CANYON LIVE OAK	--	17	17	26	33	15	36	50	200
WHITE ALDER	--	2	3	26	13	17	14	11	87
QUAKING ASPEN	--	2	1	3	3	--	4	--	14
VALLEY OAK	--	--	--	--	--	9	4	2	16
INTERIOR LIVE OAK	--	--	1	--	--	--	--	--	1
PACIFIC MADRONE	--	4	--	1	--	--	--	--	5
UNCLASSIFIED HARDWOODS	--	1	1	2	--	--	6	3	15
TOTAL	--	161	179	225	178	175	524	446	1,891
ALL SPECIES	1,005	1,714	2,050	2,344	2,502	2,353	10,794	28,300	51,083

-- = none found.

1/Totals may be off because of rounding.

Table 15—Volume of sawtimber, Scribner rule, on timberland by species and diameter class, San Joaquin and southern California resource areas, January 1, 1985^{1/}

	DIAMETER CLASS (INCHES AT BREAST HEIGHT)								
SPECIES	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 AND LARGER	ALL CLASSES
MILLION BOARD FEET									
SOFTWOODS:									
WHITE FIR	250	390	457	523	561	453	2,600	6,151	11,394
CALIFORNIA RED FIR	90	125	138	176	204	258	1,374	6,011	8,379
PONDEROSA PINE	158	225	327	436	462	478	1,849	3,505	7,447
JEFFREY PINE	66	116	153	157	163	228	993	3,251	5,129
INCENSE-CEDAR	138	254	264	210	264	200	713	1,017	3,866
SUGAR PINE	4c	67	52	38	117	67	487	2,733	3,665
LOGEPOLE PINE	71	90	111	146	155	150	622	547	1,898
DOUGLAS-FIR	16	37	70	56	33	38	196	790	1,241
GIANT SEQUOIA	--	--	--	--	--	--	5	20	25
WESTERN WHITE PIJE	9	9	12	15	8	18	207	391	673
MOUNTAIN HEKOCK	3	7	12	13	12	8	67	67	186
WESTERN JUNIPER	--	--	--	--	--	--	6	1	8
COULTER PINE	4	2	6	6	7	5	19	7	59
DIGGER PINE	3	3	2	3	7	--	25	--	44
BIGCONE DOUGLAS-FIR	--	--	--	--	--	1	9	49	60
TOTAL	855	1,334	1,605	1,837	2,000	1,910	9,177	25,358	44,076
HARDWOODS:									
CALIFORNIA BLACK OAK	--	108	128	141	111	117	433	387	1,430
CANYON LIVE OAK	--	13	13	22	26	13	32	51	174
UHITE ALDER	--	1	3	20	11	14	12	10	73
QUAKING ASPEN	--	1	1	3	2	--	3	--	10
VALLEY OAK	--	--	--	--	--	8	3	1	14
INTERIOR LIVE OAK	--	--	1	--	--	--	--	--	1
PACIFIC MADRONE	--	3	--	1	--	--	--	--	4
UNCLASSIFIED HARDWOODS	--	1	1	2	--	--	5	3	14
TOTAL	--	130	149	192	154	153	490	453	1,722
ALL SPECIES	855	1,461	1,756	2,025	2,152	2,062	9,669	25,812	45,798

-- = none found.

^{1/}Totals may be off because of rounding.

Table 16—Gross annual growth of growing stock and sawtimber on timberland by ownership class and by softwoods and hardwoods, San Joaquin and southern California resource areas, 1984^{1/}

OWNERSHIP CLASS	AVERAGE	SOFTWOODS	HARDWOODS	ALL SPECIES
	<u>CUBIC FEET PER ACRE</u>	- - - - -	<u>THOUSAND CUBIC FEET</u>	- - - - -
GROWING STOCK:				
NATIONAL FOREST	54	95,300	8,000	103,300
OTHER PUBLIC	77	3,224	645	3,869
FOREST INDUSTRY WITH MILL	110	16,191	1,251	17,442
FOREST INDUSTRY WITHOUT MILL	96	680	186	866
FARMER AND MISCELLANEOUS PRIVATE	67	15,508	4,770	20,278
ALL OWNERSHIPS	60	130,904	14,851	145,755
	<u>BOARD FEET PER ACRE</u>	- - - - -	<u>THOUSAND BOARD FEET</u>	- - - - -
SAWTIMBER (INTERNATIONAL 1/4-INCH RULE):				
NATIONAL FOREST	335	607,000	28,000	635,000
OTHER PUBLIC	464	20,250	2,929	23,179
FOREST INDUSTRY WITH MILL	641	98,616	2,726	101,342
FOREST INDUSTRY WITHOUT MILL	526	4,259	478	4,737
FARMER AND MISCELLANEOUS PRIVATE	335	92,976	8,413	101,390
ALL OWNERSHIPS	358	823,102	42,546	865,648
SAWTIMBER (SCRIBNER RULE) :				
NATIONAL FOREST	306	554,000	27,000	581,000
OTHER PUBLIC	397	17,471	2,403	19,874
FOREST INDUSTRY WITH MILL	563	86,592	2,315	88,907
FOREST INDUSTRY WITHOUT MILL	480	3,899	420	4,319
FARMER AND MISCELLANEOUS PRIVATE	298	83,252	7,180	90,432
ALL OWNERSHIPS	324	745,216	39,318	784,534

1/Totals may be off because of rounding.

Table 17—Gross annual growth of growing stock on timberland by species and ownership class, San Joaquin and southern California resource areas, 19843

SPECIES	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
			WITH MILLS	WITHOUT MILLS		
THOUSAND CUBIC FEET						
SOFTWOODS:						
WHITE FIR	29,300	1,027	5,967	101	3,370	40,365
CALIFORNIA RED FIR	16,700	--	--	--	586	17,286
PONDEROSA PINE	16,000	1,097	4,251	63	4,793	26,208
JEFFREY PINE	7,500	228	--	--	1,471	9,199
INCENSE-CEDAR	10,700	258	2,607	126	1,848	15,539
SUGAR PINE	7,500	181	2,016	--	1,994	11,691
LOGDPOLE PINE	4,200	193	--	--	469	4,862
DOUGLAS-FIR	500	30	1,350	385	571	2,836
GIANT SEQUOIA	1,100	--	--	--	30	1,130
WESTERN WHITE PINE	600	--	--	--	--	600
MOUNTAIN HEMLOCK	300	--	--	--	--	300
COULTER PINE	100	195	--	--	45	340
DIGGER PINE	200	15	--	--	2a1	496
BIGCONE DOUGLAS-FIR	--	--	--	--	23	23
CALIFORNIA TORREYA	--	--	--	--	29	29
TOTAL	95,300	3,224	16,191	680	15,508	130,904
HARDWOODS:						
CALIFORNIA BLACK OAK	7,200	253	881	148	2,431	10,913
CANYON LIVE OAK	700	283	218	--	1,475	2,675
WHITE ALDER	--	109	152	38	132	432
QUAKING ASPEN	--	--	--	--	55	55
VALLEY OAK	--	--	--	--	66	66
INTERIOR LIVE OAK	--	--	--	--	400	400
PACIFIC MADRONE	--	--	--	--	84	84
WALNUT	--	--	--	--	41	41
CALIFORNIA-LAUREL	--	--	--	--	85	85
UNCLASSIFIED HARDWOODS	100	--	--	--	--	100
TOTAL	8,000	645	1,251	186	4,770	14,851
ALL SPECIES	103,300	3,869	17,442	866	20,278	145,755

-- - none found.

1/Totals may be off because of rounding.

Table 18—Gross annual growth of sawtimber, International ¼-inch rule, on timberland by species and ownership class, San Joaquin and southern California resource areas, 19843

SPECIES	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
			WITH MILLS	WITHOUT MILLS		
THOUSAND BOARD FEET						
SOFTWOODS:						
WHITE FIR	200,000	6,478	37,043	398	20,201	264,120
CALIFORNIA RED FIR	109,000	--	--	--	2,978	111,978
PONDEROSA PINE	105,000	7,771	27,399	523	29,329	170,022
JEFFREY PINE	50,000	1,193	--	--	8,453	59,647
INCENSE-CEDAR	64,000	1,247	11,820	600	9,097	86,763
SUGAR PINE	53,000	1,240	13,479	--	13,730	81,449
LODGEPOLE PINE	20,000	1,088	--	--	2,823	23,911
DOUGLAS-FIR	1,000	216	8,875	2,739	4,102	16,932
GIANT SEQUOIA	--	--	--	--	193	193
WESTERN WHITE PINE	4,000	--	--	--	--	4,000
MOUNTAIN HEMLOCK	1,000	--	--	--	--	1,000
COULTER PINE	--	944	--	--	210	1,154
DIGGER PINE	--	73	--	--	1,706	1,779
BIGCONE DOUGLAS-FIR	--	--	--	--	154	154
TOTAL	607,000	20,250	98,616	4,259	92,976	823,102
HARDWOODS:						
CALIFORNIA BLACK OAK	28,000	1,527	1,978	246	4,761	36,512
CANYON LIVE OAK	--	700	293	--	2,214	3,207
WHITE ALDER	--	702	454	232	789	2,177
QUAKING ASPEN	--	--	--	--	138	138
VALLEY OAK	--	--	--	--	239	239
INTERIOR LIVE OAK	--	--	--	--	58	58
PACIFIC MADRONE	--	--	--	--	214	214
TOTAL	28,000	2,929	2,726	478	8,413	42,546
ALL SPECIES	635,000	23,179	101,342	4,737	101,390	865,648

-- = none found.

1/Totals may be off because of rounding.

Table 19—Gross annual growth of sawtimber, Scribner rule, on timberland by species and ownership class, San Joaquin and southern California resource areas, 1984 ^{1/}

SPECIES	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
			WITH MILLS	WITHOUT MILLS		
THOUSAND BOARD FEET						
SOFTWOODS:						
WHITE FIR	179,000	5,710	33,192	326	18,037	236,265
CALIFORNIA RED FIR	103,000	--	--	--	2,639	105,639
PONDEROSA PINE	96,000	6,532	23,996	494	26,410	153,433
JEFFREY PINE	47,000	1,020	--	--	7,332	55,352
INCENSE-CEDAR	58,000	1,053	9,924	509	7,760	77,245
SUGAR PINE	49,000	1,147	11,762	--	12,706	74,615
LODGEPOLE PINE	17,000	987	--	--	2,546	20,533
DOUGLAS-FIR	1,000	202	7,718	2,571	3,860	15,350
GIANT SEQUOIA	--	--	--	--	177	177
GIESTERN WHITE PINE	3,000	--	--	--	--	3,000
MOUNTAIN HEMLOCK	1,000	--	--	--	--	1,000
COULTER PINE	--	764	--	--	182	946
DIGGER PINE	--	57	--	--	1,463	1,520
BIGCONE DOUGLAS-FIR	--	--	--	--	141	141
TOTAL	554,000	17,471	86,592	3,899	83,252	745,216
HARDWOODS:						
CALIFORNIA BLACK OAK	27,000	1,193	1,667	210	4,074	34,145
CANYON LIVE OAK	--	597	261	--	1,847	2,705
WHITE ALDER	--	613	387	209	700	1,909
QUAKING ASPEN	--	--	--	--	121	121
VALLEY OAK	--	--	--	--	214	214
INTERIOR LIVE OAK	--	--	--	--	47	47
PACIFIC MADRONE	--	--	--	--	177	177
TOTAL	27,000	2,403	2,315	420	7,180	39,318
ALL SPECIES	581,000	19,874	88,907	4,319	90,432	784,534

-- = none found.

^{1/}Tables may be off because of rounding.

Table 20—Average annual mortality of growing stock on timberland by species and ownership class, San Joaquin and southern California resource areas, 19843

SPECIES	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
			WITH MILLS	WITHOUT MILLS		
THOUSAND CUBIC FEET						
SOFTWOODS:						
WHITE FIR	4,600	136	1,055	33	560	6,384
CALIFORNIA RED FIR	4,400	--	--	--	135	4,535
PONDEROSA PINE	700	175	1,216	9	698	2,798
JEFFREY PINE	800	4	--	--	104	907
INCENSE-CEDAR	400	14	313	214	258	1,200
SUGAR PINE	900	55	428	--	397	1,780
LODGEPOLE PINE	400	78	--	--	226	703
DOUGLAS-FIR	--	6	77	88	42	214
GIANT SEQUOIA	--	--	--	--	3	3
COULTER PINE	--	6	--	--	1	7
DIGGER PINE	--	3	--	--	48	51
BIGCONE DOUGLAS-FIR	--	--	--	--	5	5
TOTAL	12,200	478	3,088	344	2,477	18,587
HARDWOODS:						
CALIFORNIA BLACK OAK	200	71	127	52	290	740
CANYON LIVE OAK	--	19	22	--	157	198
WHITE ALDER	--	7	9	34	17	67
QUAKING ASPEN	--	--	--	--	8	8
VALLEY OAK	--	--	--	--	15	15
INTERIOR LIVE OAK	--	--	--	--	5	5
PACIFIC MADRONE	--	--	--	--	8	8
WALNUT	--	--	--	--	1	1
CALIFORNIA-LAUREL	--	--	--	--	2	2
TOTAL	200	96	158	87	503	1,043
ALL SPECIES	12,400	575	3,246	431	2,979	19,631

-- = none found.

1/Totals may be off because of rounding.

Table 21—Average annual mortality of sawtimber, International Winch rule, on timberland by species and ownership class, San Joaquin and southern California resource areas, 1984^{1/}

SPECIES	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIP
			WITH HILLS	WITHOUT MILLS		
THOUSAND BOARD FEET						
SOFTWOODS:						
WHITE FIR	34,000	768	5,787	95	2,990	43,639
CALIFORNIA RED FIR	28,000	--	--	--	749	28,749
PONDEROSA PINE	2,000	728	3,960	64	2,973	9,725
JEFFREY PINE	6,000	19	--	--	547	6,566
INCENSE-CEDAR	2,000	72	1,350	871	1,104	5,397
SUGAR PINE	6,000	368	2,619	--	2,563	11,550
LOGPOLE PINE	3,000	450	--	--	1,311	4,761
DOUGLAS-FIR	--	42	483	595	279	1,399
GIANT SEQUOIA	--	--	--	--	16	16
COULTER PINE	--	30	--	--	5	35
DIGGER PINE	--	11	--	--	265	275
BIGCONE DOUGLAS-FIR	--	--	--	--	31	31
TOTAL	81,000	2,487	14,199	1,625	12,833	112,143
HARDWOODS:						
CALIFORNIA BLACK OAK	--	189	297	83	614	1,184
CANYON LIVE OAK	--	51	52	--	270	372
WHITE ALDER	--	37	35	188	84	344
QUAKING ASPEN	--	--	--	--	29	29
VALLEY OAK	--	--	--	--	47	47
INTERIOR LIVE OAK	--	--	--	--	2	2
PACIFIC MADRONE	--	--	--	--	17	17
TOTAL	--	276	383	272	1,063	1,995
ALL SPECIES	80,000	2,764	14,582	1,897	13,897	114,138

-- = none found.

^{1/}Total s may be off because of rounding.

Table 22—Average annual mortality of sawtimber, Scribner rule, on timberland by species and ownership class, San Joaquin and southern California resource areas, 1984^{1/}

SPECIES	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
			WITH MILLS	WITHOUT MILLS		
THOUSAND BOARD FEET						
SOFTWOODS:						
WHITE FIR	29,000	652	5,050	71	2,550	37,322
CALIFORNIA RED FIR	24,000	--	--	--	662	24,662
PONDEROSA PINE	2,000	575	3,206	59	2,489	8,329
JEFFREY PINE	7,000	16	--	--	466	7,482
INCENSE-CEDAR	2,000	60	1,094	716	918	4,788
SUGAR PINE	5,000	338	2,364	--	2,311	10,013
LOGSPOLE PINE	3,000	390	--	--	1,155	4,545
DOUGLAS-FIR	--	37	434	550	252	1,273
GIANT SEQUOIA	--	--	--	--	15	15
COULTER PINE	--	24	--	--	4	29
DIGGER PINE	--	8	--	--	221	230
BIGCONE DOUGLAS-FIR	--	--	--	--	27	27
TOTAL	72,000	2,100	12,148	1,396	11,071	98,715
HARDWOODS:						
CALIFORNIA BLACK OAK	--	157	244	68	507	976
CANYON LIVE OAK	--	42	45	--	218	304
WHITE ALDER	--	31	28	172	71	302
QUAKING ASPEN	--	--	--	--	24	24
VALLEY OAK	--	--	--	--	40	40
INTERIOR LIVE OAK	--	--	--	--	2	2
PACIFIC MADRONE	--	--	--	--	13	13
TOTAL	--	229	317	240	876	1,661
ALL SPECIES	72,000	2,329	12,465	1,636	11,946	100,376

-- - none found.

^{1/}Totals may be off because of rounding.

Table 23—Timber harvest by county, San Joaquin and southern California resource areas, 1948-84^{1/}

YEAR	ALPINE, MONO, AND INYO	AMADOR	CALAVERAS	FRESNO	KERN AND TULARE ^{2/}	LOS ANGELES AND BERNARDINO	MADERA	MARIPOSA AND MERCED	RIVERSIDE AND SAN DIEGO	TUOLUMNE	TOTAL ^{3/}
THOUSAND BOARD FEET, LOCAL SCALE											
1948	12,799	14,826	155,884	40,755	65,287	2,875	18,628	22,386	1,550	164,840	499,830
1949	15,389	8,961	139,218	42,909	50,350	2,008	10,288	18,370	101	142,976	430,570
1950	14,194	17,109	185,819	43,043	103,657	2,560	40,541	5,185	700	162,789	575,597
1951	800	42,114	155,584	32,011	59,195	2,808	38,967	16,736	1,162	173,824	523,201
1952	22,034	22,805	108,157	62,761	55,548	3,450	39,208	12,068	1,471	143,626	471,128
1953	24,723	16,161	150,262	66,893	41,792	7,110	41,861	14,830	304	164,829	528,765
1954	22,563	23,474	128,195	64,976	35,414	23,254	26,095	15,055	263	117,075	456,364
1955	7,536	34,275	112,977	67,606	54,560	22,487	56,153	8,519	520	155,128	519,761
1956	23,055	35,552	125,183	86,304	43,740	12,596	72,768	13,725	4,493	132,135	554,551
1957	43,589	34,759	107,589	58,768	28,416	16,410	45,424	14,101	30	148,032	497,118
1958	28,024	39,088	98,925	68,326	39,041	9,348	61,964	5,558	2,396	114,203	466,873
1959	27,967	12,680	116,249	60,166	51,821	23,723	74,746	15,254	350	134,856	517,822
1960	16,676	16,178	74,188	52,534	39,968	11,805	64,020	18,593	381	74,186	371,966
1961	13,300	60,668	105,790	40,765	42,680	24,101	61,436	1,378	15	133,755	483,888
1962	11,607	43,786	73,563	74,989	63,707	9,332	59,724	6,504	7,840	26,988	378,040
1963	25,210	21,681	97,600	48,660	84,965	27,489	55,683	4,481	138	122,801	488,708
1964	8,098	36,076	54,627	74,017	88,000	9,303	62,630	19,853	190	110,146	462,940
1965	4,202	40,814	75,099	76,251	69,955	19,440	52,982	8,406	60	145,595	492,804
1966	4,019	11,462	50,581	87,980	70,922	11,062	70,312	10,506	100	191,725	508,669
1967	3,004	35,203	60,162	84,011	83,013	2,892	68,589	8,745	3,075	178,816	527,510
1968	15,630	25,405	85,137	104,256	98,025	450	60,898	1,188	325	189,012	580,326
1969	11,857	26,856	45,020	137,242	89,616	479	63,923	17,283	76	157,759	550,111
1970	9,210	12,849	72,016	109,840	79,192	5,284	77,043	11,004	51	153,861	530,350
1971	8,034	29,891	55,731	86,944	149,823	7,091	74,545	10,578	101	160,168	582,906
1972	25,284	38,893	47,767	88,520	155,211	18,895	82,009	7,782	352	150,666	615,379
1973	14,819	36,761	51,743	99,831	145,190	13,673	69,589	8,757	21	39,829	480,213
1974	5,620	35,043	21,071	121,284	77,637	9,641	58,882	1,606	3,628	165,966	500,378
1975	2,212	40,232	35,977	136,304	82,657	20,586	64,289	15,977	70	120,722	519,026
1976	8,424	39,503	60,378	94,448	86,235	11,055	52,413	20,516	1,265	184,520	558,757
1977	10,955	61,610	78,543	81,750	61,733	16,927	69,215	9,265	--	174,308	564,306
1978:											
Private	3,830	21,424	52,364	7,210	9,810	2,190	3,969	7,313	103	47,359	155,570
Public	3,903	12,314	22,156	80,121	84,008	190	71,672	8,315	--	110,903	393,582
Total	1,733	33,738	74,520	81,331	93,818	2,380	75,641	15,628	103	158,262	549,152
1979:											
Private	4,436	17,508	42,097	10,803	4,885	1,770	27,262	12,601	--	51,280	172,642
Public	5,197	16,351	9,289	92,186	80,973	413	59,810	10,933	3,938	86,093	365,183
Total	9,633	33,859	51,386	102,989	85,658	2,183	87,072	23,534	3,938	137,313	537,825
1980:											
Private	1,686	12,645	27,645	14,826	7,914	--	2,958	5,075	--	50,101	122,372
Public	10,444	10,596	3,837	41,983	50,947	59	59,496	6,985	--	66,600	250,947
Total	12,130	22,763	31,482	56,809	58,861	59	62,454	12,060	--	116,701	313,319
1981:											
Private	3,789	34,055	26,205	10,614	327	1,613	2,740	1,211	--	26,391	106,945
Public	1,739	5,699	8,687	46,160	37,943	331	35,615	7,826	--	37,538	209,140
Total	5,528	39,154	34,892	56,774	38,270	1,944	38,355	9,037	--	63,929	316,085
1982:											
Private	146	28,471	29,522	14,712	--	--	2,337	305	113	--	75,616
Public	28,687	1,128	8,666	45,444	57,719	--	5,024	11,662	--	56,274	214,604
Total	28,833	29,599	38,188	60,156	57,719	--	7,371	11,967	113	56,274	290,220
1983:											
Private	3,052	27,151	63,383	18,145	1,040	--	15,622	1,536	--	15,438	145,367
Public	20,816	5,607	20,936	57,870	69,600	86	28,552	17,351	--	68,339	289,157
Total	23,868	32,158	84,319	76,015	70,640	86	44,174	18,887	--	83,777	434,524
1984:											
Private	3,671	8,706	21,192	16,904	2,633	--	3,747	451	--	47,203	104,507
Public	4,816	5,648	37,113	70,630	70,972	87	18,805	13,856	--	48,089	270,016
Total	8,487	14,354	58,305	87,534	73,605	87	22,552	14,307	--	95,292	374,523

-- - none found.

^{1/} Various log rules are used in California; no attempt is made to correct the data to a common base; however, the majority of the Timber industry companies in the San Joaquin and southern California resource areas used the short-log Scribner rule.

^{2/}Includes Ventura County harvest for 1948-75.

^{3/}Kings, Imperial, Orange, San Joaquin, and Stanislaus Counties had no timber harvest.

Source: 1948-77 "Production of California Timber Operators," State Forest Notes published annually by the California Department of Forestry; 1978-84 "California Timber Harvest by County," Annual Report prepared by the California State Board of Equalization, Timber Tax Division.

Acknowledgments

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The Intermountain and Pacific Southwest Regions of the USDA Forest Service supplied inventory data for National Forest lands. Other cooperators were the California Department of Forestry; the California state offices of the Soil Conservation Service; the Pacific Southwest Experiment Station, USDA Forest Service; the University of California Cooperative Extension Service; and the California Forest Protective Association. Other public agencies and many private landowners cooperated by permitting forest inventory crews to enter lands to collect data. County tax assessors furnished ownership information on lands outside National Forests.

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Metric Equivalents

1,000 acres = 404.7 hectares
1,000 cubic feet = 28.3 cubic meters
1 cubic foot per acre = 0.07 cubic meter *per* hectare
1 inch = 2.54 centimeters
1 foot = 30.48 centimeters
1 mile = 1 609.3 meters

Literature Cited

Cochran, W.G. Sampling techniques. 2d ed. New York: John Wiley & Sons; **1963**. 413 p.

Little, Elbert L., Jr. Checklist of United States trees (native and naturalized). Agric. Handb. 541. Washington, DC: U.S. Department of Agriculture; **1978**. 375 p.

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This report is one of five that provide timber resource statistics for 57 of the 58 counties in California (San Francisco is excluded). This report presents statistics from a 1982-84 inventory of the timber resources of Alpine, Amador, Calaveras, Fresno, Imperial, Inyo, Kern, Kings, **Los** Angeles, Madera, Mariposa, Merced, Mono, Orange, Riverside, San Bernardino, San Diego, San Joaquin, Stanislaus, Tulare, and Tuolumne Counties, California. Tables presented are of forest area and timber volume, growth, and mortality.

The San Joaquin and southern California resource areas contain 56 percent of the land area for the State, but only 15 percent of the timberland area. Timberland area is an estimated 2.4 million acres containing growing-stock volume estimated to be 8.5 billion cubic feet.

Keywords: Forest surveys, statistics (forest), timber resources, resources (forest), California (southern).

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