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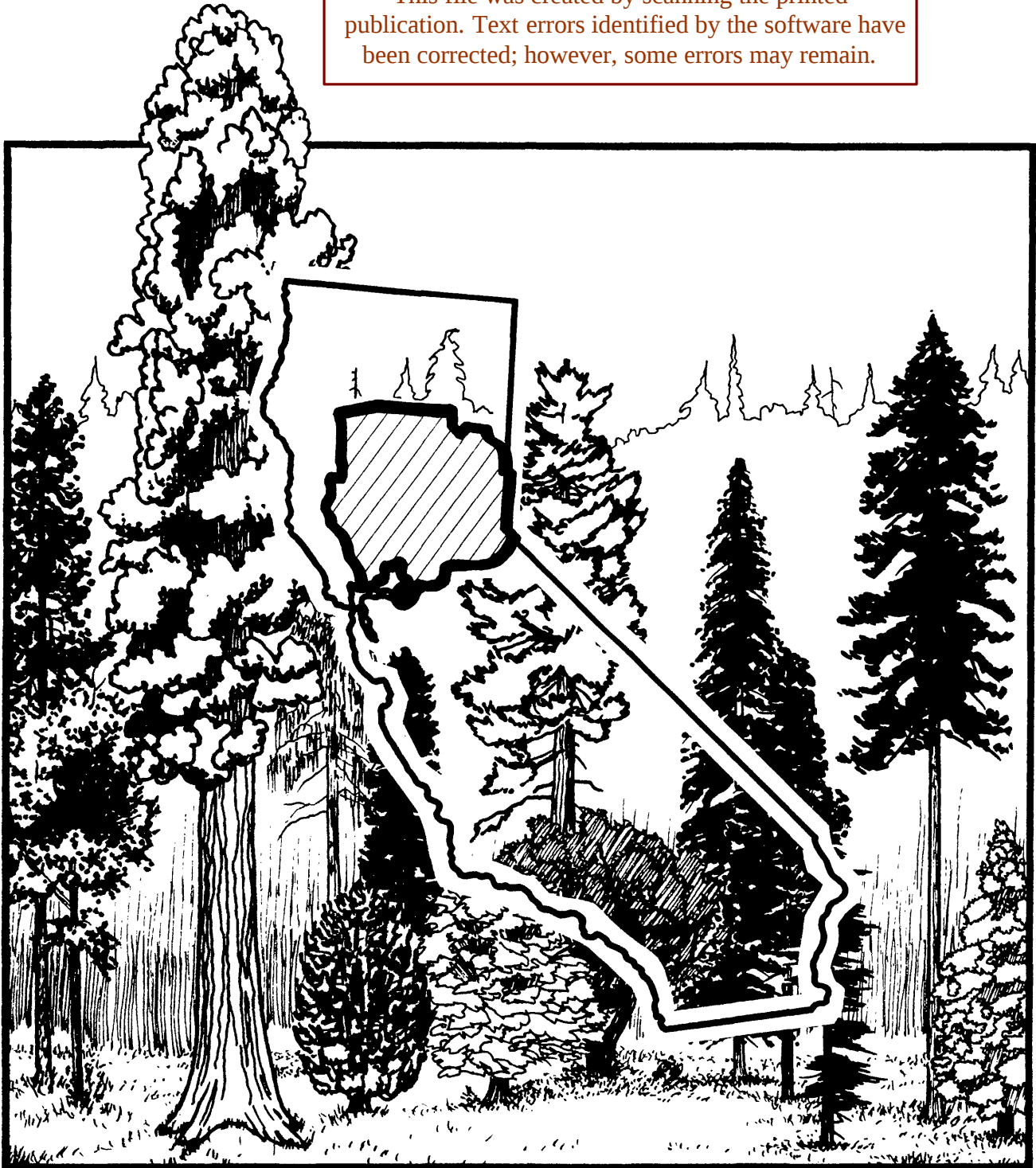
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Timber Resource Statistics for the Sacramento Resource Area

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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 1981-84 inventory of the timber resources of Butte, Colusa, El Dorado, Glenn, Lake, Napa, Nevada, Placer, Plumas, Sacramento, Sierra, Sutter, Tehama, Yolo, and Yuba Counties. Tables presented are of forest area and of timber volume, growth, and mortality.

Timberland area is an estimated **4** million acres, which is 33 percent of the Sacramento resource area. Growing stock volume is 15 billion cubic feet. The three most common species are white fir—29 percent of the volume; Douglas-fir—15 percent; and ponderosa pine—14 percent.

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

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 The total land area of the 15 counties in the Sacramento resource area is 12.8 million acres or 13 percent of California.

Area

- Timberland area is an estimated 4.2 million acres, 33 percent of the resource area and 26 percent of all timberlands in the State.
- o Unproductive forest is an estimated 3.1 million acres, 24 percent of the resource area.
- o Sixty percent of the timberland is in National Forests, 38 percent is in private ownership, and 2 percent is other public.
- Conifer types cover an estimated 3.9 million acres. Mixed conifers comprise about 70 percent of this total, California red fir plus white fir make up 15 percent, and ponderosa pine plus Jeffrey pine make up 14 percent.
- Hardwood types cover an estimated 366 thousand acres, of which nearly one-half is black oak.

Volume

- Growing stock volume in the Sacramento resource area is an estimated 14.9 billion cubic feet, 27 percent of the total in California.
- o White fir makes up 29 percent of the total growing stock volume; Douglas-fir, 15 percent; ponderosa pine, 14 percent.
- Hardwood species make up 8 percent of the total volume; 61 percent of the hardwood volume is California black oak.
- Conifer growing stock growth is an estimated 268 million cubic feet annually. Conifer mortality is 74 million cubic feet.

Volume Change

Data from 104 forest plots 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 10.5 percent over an average of 11.5 growing seasons, and hardwood growing stock volume increased 30.1 percent. On an annual basis this is a 0.91-percent increase for softwoods and a 2.62-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.

Introduction

This report includes inventory data for the Sacramento resource area of California, which is comprised of Butte, Colusa, El Dorado, Glenn, Lake, Napa, Nevada, Placer, Plumas, Sacramento, Sierra, Sutter, Tehama, Yolo, and Yuba Counties (fig. 1).

Results are summarized from the **1981-84** inventory of forest lands outside the National Forests and from the most recent inventory of National Forest lands.



Figure 1.—Counties included in the Sacramento resource area of California.

Inventory Procedures

This report presents inventory data from the seven National Forests in the Sacramento resource area (Eldorado, Lassen, Mendocino, Plumas, Tahoe, Toiyabe, and Shasta-Trinity) 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 and on 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, in the Sacramento resource area:

	<u>Number of points or plots</u>
Forest photo points	9,065
Forest ground plots (examined to verify land class)	503
Timberland ground plots with tree and vegeta- tion tally (including 104 plots remeasured)	210
Unproductive forest ground plots with tree and vegetation tally	71

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 National Forest System, headquartered at San Francisco, administers most of the timberland in National Forests in the Sacramento resource area. A small portion is administered by the Inter-mountain 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.^{1/}

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):

<u>Owner group</u>	<u>Timberland area</u> (Thousand acres)	<u>Volume</u> (Million cubic feet)	<u>Gross growth</u> (Thousand cubic feet)
Other public	70 $\pm$ 10	230 $\pm$ 43	5,763 $\pm$ 1,293
Forest industry	703 $\pm$ 22	2,225 $\pm$ 157	59,532 $\pm$ 5,063
Other private timber growers	232 $\pm$ 20	885 $\pm$ 16	23,486 $\pm$ 3,673
Other private	708 $\pm$ 40	1,819 $\pm$ 144	53,126 $\pm$ 4,350
Total	1,715 $\pm$ 50	5,159 $\pm$ 267	141,907 $\pm$ 7,649

^{1/} For more information contact USDA Forest Service, 630 Sansome Street, San Francisco, CA 94111, or 324 25th Street, Ogden, UT 84401.

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)
Farmer and miscellaneous private	709	± 40
Timberland, Plumas County	301	± 28
Timberland, Butte County	240	± 11
Timberland, Placer County	186	± 10
Timberland, Glenn County	25	± 17
Timberland, Colusa County	9	± 9

<u>Timberland area by type or class</u>	<u>Estimated area</u> (Thousand acres)	<u>Confidence interval</u> (Thousand acres)
Small sawtimber, all owners	1,147	± 59
Site class 50-84 , all owners	484	± 55
Large sawtimber, all owners	244	± 41
Ponderosa pine type," all owners	181	± 37
White fir type, all owners	94	± 28
Tanoak type, all owners	15	± 10

<u>Timber volume</u>	<u>Estimated volume</u> (Million cubic feet)	<u>Confidence Interval</u> (Million cubic feet)
Total softwood	4,476	± 258
Conifer, forest industry with mill	2,004	± 158
Conifer, farmer and miscellaneous private	1,486	± 130
Total hardwood	683	± 80
Incense-cedar, forest industry with mill	225	± 38
Digger pine, farmer and miscellaneous private	10	± 4

*/Scientific names for all species are given at end of text.

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.

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 $\frac{1}{8}$ 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, juniper pinyon, 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**³

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>Juniperus occidentalis</i> Hook.	western juniper
<i>Libocedrus decurrens</i> Torr.	incense-cedar
<i>Pinus albicaulis</i> Engelm.	whitebark pine
<i>Pinus attenuata</i> Lemm.	knobcone pine
<i>Pinus contorta</i> Dougl. ex Loud.	lodgepole pine
<i>Pinus jeffreyi</i> Grev. & Balf.	Jeffrey pine
<i>Pinus lambertiana</i> Dougl.	sugar pine
<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 menziesii</i> (Mirb.) Franco	Douglas-fir
<i>Sequoia sempervirens</i> (D. Don) Endl.	redwood
<i>Taxus brevifolia</i> Nutt.	Pacific yew
<i>Tsuga mertensiana</i> (Bong.) Carr.	mountain hemlock

Hardwoods:

<i>Acer macrophyllum</i> Pursh	bigleaf maple
<i>Alnus rhombifolia</i> Nutt.	white alder
<i>Alnus rubra</i> Bong.	red alder
<i>Arbutus menziesii</i> Pursh	Pacific madrone
<i>Castanopsis chrysophylla</i> (Dougl.) A. DC.	giant chinkapin
<i>Lithocarpus densiflorus</i> (Hook. & Arn.) Rehd.	tanoak
<i>Populus fremontii</i> Wats.	Fremont cottonwood
<i>Populus tremuloides</i> Michx.	quaking aspen
<i>Populus trichocarpa</i> Torr. & Gray	black cottonwood
<i>Quercus agrifolia</i> Nee	coast live oak
<i>Quercus chrysolepis</i> Liebm.	canyon live oak
<i>Quercus douglasii</i> Hook. & Arn.	blue oak
<i>Quercus garryana</i> Dougl. ex Hook.	Oregon white oak
<i>Quercus kelloggii</i> Newb.	California black oak
<i>Quercus wislizeni</i> A. DC.	interior live oak
<i>Umbellularia californica</i> (Hook. & Arn.) Nutt.	California-laurel

³/Names according to Little (1978).

Tables

Table 1—Area by land class and county, Sacramento resource area, California, January 1, 1985^{1/}

LAND CLASS	BUTTE	COLUSA	EL DORADO	GLENN	LAKE	NAPA	NEVADA	PLACER	PLUMAS	SACRAMENTO	SIERRA	SUTTER	TEHAMA	YOLO	YUBA	ALL COUNTIES
THOUSAND ACRES																
PRODUCTIVE FOREST:																
TIMBERLAND	356	31	546	104	182	27	342	424	1,260	--	442	4	427	6	88	4,241
RESERVED	5	41	23	--	--	2	3	19	21	4/	--	--	46	--	--	118
DEFERRED 2/ 3/	--	3	1	4	8	--	--	--	1	--	--	--	2	--	--	19
ADMINISTRATIVELY																
WITHDRAWN 2/	2	--	21	--	--	--	--	3	17	--	2	--	--	--	4	47
TOTAL	363	34	590	108	190	29	344	446	1,298	41	444	4	475	6	92	4,424
UNPRODUCTIVE FOREST:																
UNRESERVED	184	197	232	180	458	277	129	143	118	19	46	18	689	121	77	2,888
RESERVED	1	1	48	--	2	1	4/	20	5	:/	--	--	12	4/	--	92
DEFERRED 2/ 3/	4/	1	4/	3	5	--	--	--	--	--	--	--	36	--	--	44
ADMINISTRATIVELY																
WITHDRAWN 2/	--	--	27	--	--	--	--	6	--	--	--	--	--	--	--	33
TOTAL	185	198	307	183	465	279	129	169	123	20	46	18	737	121	77	3,057
NONFOREST	505	505	200	553	153	169	141	291	225	602	124	364	678	522	241	5,273
TOTAL LAND AREA	1,054	738	1,098	844	808	476	615	906	1,647	622	614	385	1,890	649	410	12,755

-- = none found.

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

^{2/}This category 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, Sacramento resource area, California, January 1, 19853

COUNTY	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
			WITH MILLS	WITHOUT MILLS		
THOUSAND ACRES						
BUTTE	116	12	120	15	92	356
COLUSA	23	--	1	1	7	31
ELDORADO	301	7	119	2	117	546
GLENN	79	--	18	2/	6	104
LAKE	108	11	8	3	53	182
NAPA	--	1	1	1	24	27
NEVADA	130	14	5	55	137	342
PLACER	238	11	63	32	79	424
PLUMAS	959	4	138	77	82	1,260
SIERRA	346	2	27	22	44	442
SUTTER	--	--	--	--	4	4
TEHAMA	189	3	195	4	35	427
YOLO	--	2/	1	2/	4	6
YUBA	36	2	5	21	23	88
ALL COUNTIES	2,526	70	702	232	709	4,241

-- = 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 class, Sacramento resource area, California, January 1, 19853

SITE CLASS	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
			WITH MILLS	WITHOUT MILLS		
CUBIC FEET	----- THOUSAND ACRES -----					
225 OR MORE	52	--	--	--	--	52
165-224	92	4	83	10	15	205
120-164	365	14	114	83	108	684
85-119	698	21	196	58	194	1,168
50-84	900	10	233	62	178	1,383
20-49	418	20	77	20	213	748
ALL CLASSES	2,526	70	703	232	708	4,241

-- = none found.

1/Totals may be off because of rounding.

Table 4—Area of timberland by stand size and ownership class, Sacramento resource area, California, January 1, 1985^{1/}

STAND SIZE CLASS	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
			WITH MILLS	WITHOUT MILLS		
THOUSAND ACRES						
SAWTIMBER STANDS :						
LARGE SAWTIMBER ^{2/}	1,116	14	128	8	94	1,360
SMALL SAWTIMBER ^{3/}	933	48	483	190	425	2,080
TOTAL	2,049	62	612	198	519	3,440
POLETIMBER STANDS	324	7	14	18	81	444
SAPLING AND						
SEEDLING STANDS	98	--	71	--	103	272
WONSTOCKED AREAS	55	--	7	16	7	84
ALL CLASSES	2,526	70	703	232	708	4,241

-- = 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, Sacramento resource area, California, January 1, 1985^{1/}

FOREST TYPE	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
			WITH MILLS	WITHOUT MILLS		
THOUSAND ACRES						
MIXED CONIFER	1,657	32	516	142	305	2,651
PONDEROSA PINE	317	10	63	--	108	498
CALIFORNIA RED FIR	271	--	20	18	16	325
WHITE FIR	154	--	43	28	23	248
JEFFREY PINE	--	5	7	--	41	52
DOUGLAS-FIR	15	--	--	--	36	50
LOGDGEPOLE PINE	32	--	--	--	8	40
KNOBCONE PINE	--	--	--	--	8	8
NONCOMMERCIAL CONIFER	1	--	--	--	--	1
DIGGER PINE	2/	--	--	--	--	2/
MOUNTAIN HEMLOCK	2/	--	--	--	--	2/
CALIFORNIA BLACK OAK	25	12	29	28	81	175
CANYON LIVE OAK	1	12	10	--	23	46
INTERIOR LIVE OAK	--	--	--	--	24	24
RED ALDER	--	--	--	--	16	16
TANOAK	--	--	7	--	8	15
PACIFIC MADRONE	--	--	--	--	7	7
OREGON WHITE OAK	2/	--	--	--	--	2/
NONSTOCKED	54	--	7	16	7	83
ALL TYPES	2,526	70	703	232	708	4,241

-- = 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, Sacramento resource area, California, January 1, 1985^{1/}

LAND CLASS AND FOREST TYPE	NATIONAL FOREST				OUTSIDE NATIONAL FOREST						TOTAL	ALL OWNERSHIPS
	RESERVED	2/3/ DEFERRED—	ADMINISTRATIVELY WITHDRAWN	2/ TOTAL	NATIONAL PARKS	OTHER FEDERAL	STATE PARKS	OTHER STATE	COUNTY AND MUNICIPAL	PRIVATE		
	THOUSAND ACRES											
PRODUCTIVE:												
REDWOOD	--	--	--	--	--	--	4/	--	--	--	4/	4/
DOUGLAS-FIR	1	4/	--	1	--	--	--	--	--	--	--	1
MIXED CONIFER	32	11	27	69	2	1	7	1	--	--	11	80
TRUE FIRS	19	5	11	35	5	--	3	1	--	--	9	44
MOUNTAIN HEMLOCK	4/	--	--	4/	4/	--	--	--	--	--	4/	4/
PONDEROSA AND JEFFREY PINE	4	4	1	10	2	--	28	4/	--	--	30	10
LOGSPOLE PINE	4	4/	1	5	4	--	1	--	--	--	5	10
FOXTAIL PINE	4/	--	--	4/	--	--	--	--	--	--	--	4/
TANOAK	--	--	--	--	--	--	4/	--	--	--	4/	4/
WHITE ALDER	--	--	--	--	--	--	4/	--	--	--	4/	4/
COTTONWOOD 5/	--	--	--	--	--	--	4/	--	--	--	4/	4/
ALL OAKS	2	--	4	6	--	--	--	--	--	--	--	6
NONSTOCKED	4/	--	3	4	--	--	--	--	--	--	--	4
TOTAL	63	19	47	129	14	1	39	1	--	--	56	186
UNPRODUCTIVE:												
TRUE FIRS	10	--	10	20	--	--	--	--	--	--	--	20
MIXED CONIFER	5	--	10	16	--	--	--	--	--	--	--	16
PONDEROSA PINE	1	--	1	2	--	--	--	--	--	--	--	2
LOGSPOLE PINE	16	4/	5	21	--	--	--	--	--	--	--	21
WHITEBARK PINE	--	--	--	--	4/	--	--	--	--	--	4/	4/
FOXTAIL PINE	4/	--	--	4/	--	--	--	--	--	--	--	4/
KNOBONE PINE	--	1	--	1	--	4/	4/	--	--	--	4/	2
DIGGER PINE	4/	--	3	3	--	--	--	--	--	--	--	3
CYPRESS	--	--	--	--	--	4/	--	--	--	--	4/	4/
TANOAK	4/	1	--	1	--	--	--	--	--	--	--	1
PACIFIC MADRONE	4/	1	--	1	--	--	--	--	--	--	--	1
QUAKING ASPEN	--	--	--	--	--	--	--	4/	--	--	4/	4/
COTTONWOOD 5/	4/	--	--	4/	--	--	2	--	--	4/	2	3
ALL OAKS	10	23	5	38	4/	--	30	4/	4/	--	31	69
CHAPARRAL	2	18	--	20	1	--	9	4/	4/	--	13	33
UNCLASSIFIED	4/	--	--	4/	--	--	--	--	--	--	--	4/
TOTAL	46	44	33	123	2	1	42	1	4/	4/	46	170
TOTAL	109	63	80	252	16	2	81	2	4/	4/	102	355

-- = none found.

1/Totals may be off because of rounding.

2/This category 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.

5/Includes black cottonwood and Fremont cottonwood.

Table 6B—Area of unreserved unproductive forest land by forest type and ownership class, Sacramento resource area, California, January 1, 19853

FOREST TYPE	NATIONAL FOREST	OTHER PUBLIC	PRIVATE	ALL OWNERSHIPS
	THOUSAND ACRES			
TRUE FIRS	8	--	--	8
DOUGLAS-FIR	1	--	--	1
MIXED CONIFER	77	--	43	120
MOUNTAIN HEMLOCK	--	--	35	35
PONDEROSA AND JEFFREY PINE	44	--	44	88
LODGEPOLE PINE	13	--	--	13
KNOBCONE PINE	30	--	--	30
DIGGER PINE	9	33	138	180
JUNIPER/PINYON	10	--	--	10
TANOAK	6	--	--	6
PACIFIC MADRONE	6	--	--	6
BIGLEAF MAPLE	--	--	33	33
QUAKING ASPEN	1	--	--	1
COTTONWOOD	2	--	33	34
CALIFORNIA-LAUREL	--	--	33	33
BUCKEYE	--	--	33	33
ALL OAKS	150	131	81.8	1,099
CHAPARRAL	208	255	439	902
UNCLASSIFIED	6	--	--	6
ALL FOREST TYPES	571	41.9	1,648	2,638

-- = none found.

1/Totals may be off because of rounding.

Table 7—Volume of timber on timberland by class of timber and by softwoods and hardwoods, Sacramento resource area, California, January 1, 1985^{1/}

CLASS OF TIMBER	SOFTWOODS	HARDWOODS	ALL SPECIES
<u>MILLION CUBIC FEET</u>			
SAWTIMBER TREES:			
SAW-LOG PORTION	12,879	514	13,393
UPPER-STEM PORTION	266	289	555
TOTAL	13,145	803	13,948
POLETIMBER TREES	655	341	996
ALL GROWING STOCK	13,800	1,145	14,945
SOUND CULL TREES	131	76	207
ROTTEN CULL TREES	84	139	222
SALVABLE DEAD TREES	173	1	174
ALL TIMBER	14,187	, 1,361	15,548

^{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, Sacramento resource area, California, 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	3,874	9,324	462	9,785
OTHER PUBLIC	3,286	169	61	230
FOREST INDUSTRY WITH MILL	3,165	2,004	221	2,225
FOREST INDUSTRY WITHOUT MILL	3,815	817	69	885
FARMER AND MISCELLANEOUS PRIVATE	2,569	1,486	333	1,819
ALL OWNERSHIPS	3,524	13,800	1,145	14,945
	<u>BOARD FEET PER ACRE</u>	<u>MILLION BOARD FEET</u>		
SAWTIMBER (INTERNATIONAL 1/4-INCH RULE):				
NATIONAL FOREST	25,557	63,188	1,370	64,558
OTHER PUBLIC	16,271	1,009	130	1,139
FOREST INDUSTRY WITH MILL	16,690	11,337	396	11,733
FOREST INDUSTRY WITHOUT MILL	19,961	4,479	152	4,631
FARMER AND MISCELLANEOUS PRIVATE	12,302	7,972	738	8,710
ALL OWNERSHIPS	21,403	87,985	2,786	90,771
SAWTIMBER (SCRIBNER RULE) :				
NATIONAL FOREST	23,196	57,316	1,276	58,592
OTHER PUBLIC	14,300	892	109	1,001
FOREST INDUSTRY WITH MILL	14,596	9,936	325	10,261
FOREST INDUSTRY WITHOUT MILL	17,397	3,907	129	4,036
FARMER AND MISCELLANEOUS PRIVATE	10,568	6,874	608	7,482
ALL OWNERSHIPS	19,187	78,927	2,445	81,372

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

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

COUNTY	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
			WITH MILLS	WITHOUT MILLS		
<u>MILLION CUBIC FEET</u>						
GROWING STOCK:						
BUTTE	475	37	394	66	248	1,220
COLUSA	70	--	2	1	15	88
EL DORADO	1,090	29	406	5	332	1,862
GLENN	313	--	44	1	13	371
LAKE	353	29	23	11	128	544
NAPA	--	3	1	2	58	64
NEVADA	520	55	17	214	352	1,158
PLACER	956	33	201	128	217	1,535
PLUMAS	3,842	15	334	277	184	4,652
SIERRA	1,234	11	101	91	121	1,562
SUTTER	--	--	--	--	5	5
TEHAMA	744	10	675	12	85	1,526
YOLO	--	1	2	1	7	11
YUBA	188	8	15	76	52	339
ALL COUNTIES	9,715	230	2,224	885	1,820	14,945
<u>MILLION BOARD FEET</u>						
SAWTIMBER (INTERNATIONAL 1/4-INCH RULE):						
BUTTE	3,241	166	2,078	357	1,217	7,059
COLUSA	431	--	7	2	59	499
EL DORADO	6,914	154	2,160	19	1,647	10,894
GLENN	1,958	--	218	1	56	2,233
LAKE	2,138	133	121	54	617	3,063
NAPA	--	17	7	2	270	296
NEVADA	3,272	287	89	1,141	1,713	6,502
PLACER	6,036	163	1,066	674	1,069	9,008
PLUMAS	26,882	80	1,701	1,451	818	30,932
SIERRA	7,809	36	575	493	588	9,501
SUTTER	--	--	--	--	20	20
TEHAMA	4,588	58	3,607	41	372	8,666
YOLO	--	5	9	1	21	36
YUBA	1,289	38	81	396	240	2,044
ALL COUNTIES	64,558	1,139	11,719	4,631	8,707	90,753
SAWTIMBER (SCRIBNER RULE):						
BUTTE	2,938	146	1,820	313	1,048	6,265
COLUSA	398	--	6	1	50	455
EL DORADO	6,218	136	1,835	16	1,419	9,684
GLENN	1,813	--	190	1	48	2,052
LAKE	1,978	116	105	47	531	2,777
NAPA	--	15	6	2	232	255
NEVADA	2,976	253	78	996	1,473	5,776
PLACER	5,470	143	932	586	921	8,052
PLUMAS	24,342	71	1,472	1,260	694	27,839
SIERRA	7,086	32	507	430	505	8,560
SUTTER	--	--	--	--	18	18
TEHAMA	4,188	51	3,162	36	319	7,756
YOLO	--	5	8	1	17	31
YUBA	1,176	33	70	345	206	1,830
ALL COUNTIES	58,583	1,001	10,251	4,036	7,481	81,350

-- = none found.

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

^{2/}Less than 500,000.

Table 10—Volume of growing stock on timberland by species and ownership class, Sacramento resource area, California, January 1, 1985^{1/}

SPECIES	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
			WITH MILLS	WIMOUT MILLS		
MILLION CUBIC FEET						
SOFTWOODS :						
WHITE FIR	3,139	21	653	280	222	4,314
DOUGLAS-FIR	1,352	45	439	106	370	2,312
PONDEROSA PINE	1,303	78	338	29	358	2,106
SUGAR PINE	987	7	221	88	58	1,361
CALIFORNIA RED FIR	994	--	69	199	64	1,326
INCENSE-CEDAR	524	14	225	52	168	983
JEFFREY PINE	636	3	34	30	159	862
LODGEPOLE PINE	209	--	17	15	55	296
WESTERN WHITE PINE	103	--	2	17	2	124
MOUNTAIN HEMLOCK	54	--	--	--	--	54
DIGGER PINE	3	--	5	--	11	20
WESTERN JUNIPER	18	--	--	--	--	18
REDWOOD 2/	--	--	--	--	16	16
KUJOBCONE PINE	1	--	--	--	3	4
WHITEBARK PINE	--	--	2	--	--	2
PACIFIC YEW	--	--	--	--	1	1
TOTAL	9,324	169	2,004	817	1,486	13,800
HARDWOODS:						
CALIFORNIA BLACK OAK	293	37	143	50	175	702
CANYON LIVE OAK	123	22	47	--	64	255
PACIFIC MADRONE	7	--	1	3	38	56
TANOAK	6	--	16	4	14	40
BIGLEAF MAPLE	5	--	5	2	12	24
RED ALDER	--	--	3	1	6	11
WHITE ALDER	7	--	--	--	3	10
INTERIOR LIVE OAK	--	--	--	--	10	10
COTTONWOOD 3/	3	--	--	1	4	8
CALIFORNIA-LAUREL	--	--	2	--	5	6
OREGON WHITE OAK	5	--	--	--	--	5
QUAKING ASPEN	2	--	--	2	--	3
COAST LIVE OAK	--	2	--	--	--	2
BLUE OAK	--	--	--	--	1	1
GIANT CHINKAPIN	4/	--	--	--	--	4/
UNCLASSIFIED HARDWOODS	11	--	--	--	--	11
TOTAL	462	61	221	69	333	1,145
ALL SPECIES	9,785	230	2,225	885	1,819	14,945

-- = none found.

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

^{2/}Occurs in Napa County.

^{3/}Includes black cottonwood and Fremont cottonwood.

^{4/}Less than 500 acres.

Table 11—Volume of sawtimber, International ¼-inch rule, on timberland by species and ownership class, Sacramento resource area, California, January 1, 19853

SPECIES	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
			WITH MILLS	WITHOUT MILLS		
MILLION BOARD FEET						
SOFTWOODS :						
WHITE FIR	20,898	116	3,519	1,400	1,163	27,095
DOUGLAS-FIR	9,301	272	2,640	608	2,038	14,859
PONDEROSA PINE	9,108	501	2,010	177	2,100	13,896
SUGAR PINE	7,598	42	1,394	555	354	9,942
CALIFORNIA RED FIR	6,403	--	365	1,130	363	8,261
INCENSE-CEDAR	3,213	62	1,085	263	772	5,394
JEFFREY PINE	4,374	17	195	173	754	5,512
LODGEPOLE PINE	1,199	--	81	76	263	1,618
WESTERN WHITE PINE	715	--	9	98	7	829
MOUNTAIN HEMLOCK	365	--	--	--	--	365
DIGGER PINE	6	--	30	--	59	95
WESTERN JUNIPER	3	--	--	--	--	3
REDWOOD 2/	--	--	--	--	93	93
KNOBCONE PINE	--	--	--	--	4	4
WHITEBARK PINE	--	--	10	--	--	10
PACIFIC YEW	--	--	--	--	3	3
TOTAL	63,188	1,009	11,337	4,479	7,972	87,985
HARDWOODS:						
CALIFORNIA BLACK OAK	1,139	76	288	83	342	1,928
CANYON LIVE OAK	154	46	50	--	132	381
PACIFIC MADRONE	27	--	--	34	173	184
TANOAK	26	--	38	12	26	102
BIGLEAF MAPLE	5	--	7	--	35	47
RED ALDER	--	--	13	8	26	48
WHITE ALDER	--	--	--	--	17	17
INTERIOR LIVE OAK	--	--	--	--	12	12
COTTONWOOD 3/	--	--	--	4	21	25
QUAKING ASPEN	2	--	--	10	--	12
COAST LIVE OAK	--	9	--	--	--	9
BLUE OAK	--	--	--	--	3	3
UNCLASSIFIED HARDWOODS	21	--	--	--	--	21
TOTAL	1,370	130	396	152	738	2,786
ALL SPECIES	64,558	1,139	11,733	4,631	8,710	90,771

-- = none found.

1/Totals may be off because of rounding.

2/Occurs in Napa county.

3/Includes black cottonwood and Fremont cottonwood.

Table 12—Volume of sawtimber, Scribner rule, on timberland by species and ownership class, Sacramento resource area, California, 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	18,469	100	3,046	1,191	997	23,803
DOUGLAS-FIR	8,927	239	2,359	531	1,767	13,823
PONDEROSA PINE	8,183	451	1,767	161	1,838	12,400
SUGAR PINE	6,954	36	1,263	504	314	9,072
CALIFORNIA RED FIR	5,877	--	314	999	321	7,511
INCENSE-CEDAR	2,912	51	911	223	644	4,740
JEFFREY PINE	4,007	14	169	150	631	4,971
LODGEPOLE PINE	1,017	--	67	64	219	1,367
WESTERN WHITE PINE	636	--	8	86	6	735
MOUNTAIN HEMLOCK	327	--	--	--	--	327
DIGGER PINE	4	--	26	--	50	80
WESTERN JUNIPER	3	--	--	--	--	3
REDWOOD 2/	--	--	--	--	82	82
KNOBCONE-PINE	--	--	--	--	3	3
WHITEBARK PINE	--	--	8	--	--	8
PACIFIC YEW	--	--	--	--	2	2
TOTAL	57,316	892	9,936	3,907	6,874	78,927
HARDWOODS:						
CALIFORNIA BLACK OAK	1,057	64	238	69	281	1,710
CANYON LIVE OAK	148	38	39	--	109	334
PACIFIC MADRONE	21	--	--	30	101	152
TANOAK	26	--	31	10	21	88
BIGLEAF MAPLE	5	--	6	--	28	39
RED ALDER	--	--	11	7	23	41
WHITE ALDER	--	--	--	--	14	14
INTERIOR LIVE OAK	--	--	--	--	9	9
COTTONWOOD 3/	--	--	--	3	18	21
QUAKING ASPEN	2	--	--	9	--	11
COAST LIVE OAK	--	7	--	--	--	7
BLUE OAK	--	--	--	--	2	2
UNCLASSIFIED HARDWOODS	17	--	--	--	--	17
TOTAL	1,276	109	325	129	608	2,445
ALL SPECIES	58,592	1,001	10,261	4,036	7,482	81,372
-- = none found						

-- = none found.

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

^{2/}Occurs in Napa County.

^{3/}Includes black cottonwood and Fremont cottonwood.

Table 13—Volume of growing stock on timberland by species and diameter class, Sacramento resource area, California, January 1, 19853

	DIAMETER CLASS (INCHES AT BREAST HEIGHT)										
SPECIES	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	ALL CLASSES
MILLION CUBIC FEET											
SOFTWOODS:											
WHITE FIR	84	158	176	249	291	251	277	242	892	1,693	4,314
DOUGLAS-FIR	49	50	93	118	110	103	112	118	445	1,113	2,312
PONDEROSA PINE	28	50	56	69	86	108	126	128	573	884	2,106
SUGAR PINE	8	15	18	23	28	35	40	42	152	1,000	1,361
CALIFORNIA RED FIR	17	26	44	50	64	64	65	68	319	609	1,326
INCENSE-CEDAR	32	41	33	54	53	58	51	56	215	391	983
JEFFREY PINE	18	38	34	36	47	53	56	70	187	323	862
LODGEPOLE PINE	9	20	27	28	30	34	28	18	65	39	296
WESTERN WHITE PINE	1	2	2	2	4	4	3	7	33	65	124
MOUNTAIN HEMLOCK	2/	1	1	2	3	2	4	4	16	23	54
DIGGER PINE	2/	1	1	2	2/	4	2/	1	6	5	20
WESTERN JUNIPER	4	1	1	1	1	1	1	1	4	8	18
REDWOOD 3/	2/	--	1	--	2	--	--	1	4	C	16
KJOB CONE PINE	2/	2	21	--	1	--	--	--	--	--	4
WHITEBARK PINE	--	--	--	1	--	--	--	--	1	--	2
PACIFIC YEW	2/	--	--	1	--	--	--	--	--	--	1
TOTAL	247	408	486	635	719	715	764	754	2,912	6,159	13,800
HARDWOODS:											
CALIFORNIA BLACK OAK	52	65	56	65	63	61	57	53	156	73	702
CANYON LIVE OAK	23	37	43	26	19	22	13	9	43	21	255
PACIFIC MADRONE	4	5	4	7	9	3	4	5	14	--	56
TAWOAK	5	6	6	7	3	2	1	1	6	3	40
BIGLEAF MAPLE	3	5	3	2	6	2	2/	2	1	--	24
RED ALDER	2/	--	--	--	1	1	1	1	3	1	11
WHITE ALDER	--	2/	2/	2	1	2	1	1	2	2	10
INTERIOR LIVE OAK	2	2	3	1	2	--	--	--	--	--	10
COTTONWOOD 4/	2/	--	--	--	--	--	1	1	5	--	8
CALIFORNIA-LAUREL	2	2	3	--	--	--	--	--	--	--	6
OREGON WHITE OAK	3	1	1	--	--	--	--	--	--	--	5
QUAKING ASPEN	--	--	--	2/	2/	2/	2/	--	2	--	3
COAST LIVE OAK	--	--	--	--	--	--	1	--	1	--	2
BLUE OAK	--	--	--	1	--	--	--	--	--	--	1
GIANT CHINKAPIN	--	--	--	2/	2/	2/	--	--	--	--	2/
UNCLASSIFIED HARDWOODS	1	2	2	1	2	1	1	1	2	--	11
TOTAL	96	125	121	111	106	94	81	75	236	101	1,145
ALL SPECIES	343	533	607	746	826	809	845	829	3,148	6,260	14,945

-- = none found.

1/Totals may be off because of rounding.

2/Less than 500,000 cubic feet.

3/Occurs in Napa County.

4/Includes black cottonwood and Fremont cottonwood.

Table 14—Volume of sawtimber, International ¼-inch rule, on timberland by species and diameter class, Sacramento resource area, California, January 1, 1985^{1/}

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	21.0-28.9	29.0 AND LARGER	
	MILLION BOARD FEET								
SOFTWOODS:									
WHITE FIR	1,046	1,539	1,869	1,637	1,802	1,575	5,988	11,641	27,095
DOUGLAS-FIR	540	712	686	672	707	758	3,031	7,761	14,867
PONDEROSA PINE	323	419	529	670	782	830	3,913	6,437	13,903
SUGAR PINE	97	145	179	220	262	298	1,069	7,666	9,936
CALIFORNIA RED FIR	253	302	393	406	406	431	2,086	3,983	8,261
INCENSE-CEDAR	177	275	288	317	290	322	1,303	2,430	5,402
JEFFREY PINE	198	212	282	333	345	444	1,313	2,379	5,506
LOGSPOLE PINE	140	164	174	200	170	108	412	250	1,618
WESTERN WHITE PINE	13	14	25	23	21	43	239	449	829
MOUNTAIN HEHLOCK	5	10	19	12	25	27	109	158	365
DIGGER PINE	--	6	--	18	--	6	35	28	95
WESTERN JUNIPER	--	--	--	--	--	--	--	2	3
REDWOOD 2/	2	--	11	--	--	7	23	51	93
KNOB CONE PINE	--	--	4	--	--	--	--	--	4
WHITEBARK PINE	--	4	--	--	--	--	5	--	10
PACIFIC YEW	--	3	--	--	--	--	--	--	3
TOTAL	2,794	3,807	4,459	4,510	4,808	4,853	19,525	43,236	87,985
HARDWOODS:									
CALIFORNIA BLACK OAK	--	218	214	212	201	200	601	279	1,928
CANYON LIVE OAK	--	60	33	51	30	23	131	54	381
PACIFIC MADRONE	--	30	43	17	19	22	54	--	144
TANOAK	--	25	12	6	5	5	30	15	102
BIGLEAF MAPLE	--	6	25	8	1	4	2	--	47
RED ALDER	--	--	6	7	4	7	15	8	48
WHITE ALDER	--	5	--	5	--	--	--	7	17
INTERIOR LIVE OAK	--	4	8	--	--	--	--	--	12
COTTONWOOD 3/	--	--	--	--	4	--	21	--	25
QUAKING ASPEN	--	--	--	--	--	--	10	1	12
COAST LIVE OAK	--	--	--	--	4	--	4	--	9
BLUE OAK	--	3	--	--	--	--	--	--	3
UNCLASSIFIED HARDWOODS	--	3	9	3	1	--	3	1	21
TOTAL	--	355	347	311	271	263	873	368	2,786
ALL SPECIES	2,794	4,164	4,801	4,819	5,080	5,114	20,397	43,603	30,771

-- = none found.

1/Totals may be off because of rounding.

2/Occurs in Napa County.

3/Includes black cottonwood and Fremont cottonwood.

Table 15—Volume of sawtimber, Scribner rule, on timberland by species and diameter class, Sacramento resource area, California, 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
WILLION BOARD FEET									
SOFTWOODS:									
WHITE FIR	883	1,305	1,597	1,414	1,551	1,369	5,285	10,378	23,603
DOUGLAS-FIR	460	619	599	598	614	674	2,818	7,417	13,823
PONDEROSA PINE	269	349	442	569	656	720	3,511	5,866	12,400
SUGAR PINE	77	122	156	184	224	263	963	7,058	9,072
CALIFORNIA RED FIR	218	265	344	362	359	380	1,893	3,665	7,511
INCENSE-CEDAR	145	224	242	265	241	276	1,140	2,181	4,740
JEFFREY PINE	169	183	244	287	292	386	1,189	2,202	4,971
LOGSPOLE PINE	115	137	146	167	141	90	353	213	1,367
WESTERN WHITE PINE	11	12	20	19	18	36	208	403	735
MOUNTAIN HEMLOCK	4	9	16	11	22	26	98	141	327
DIGGER PINE	--	5	--	14	--	5	29	25	00
WESTERN JUNIPER	--	--	--	--	--	--	--	2	3
REDWOOD 2/	1	--	8	--	--	6	20	46	02
KNOBCONE-PINE	--	--	3	--	--	--	--	--	3
WHITEBARK PINE	--	3	--	--	--	--	4	--	0
PACIFIC YEW	--	2	--	--	--	--	--	--	2
TOTAL	2,372	3,249	3,828	3,908	4,141	4,252	17,527	39,621	70,927
HARDWOODS:									
CALIFORNIA BLACK OAK	--	173	177	182	173	176	550	278	1,710
CANYON LIVE OAK	--	48	27	42	24	21	110	52	334
PACIFIC MADRONE	--	26	35	15	16	19	46	--	152
TANOAK	--	19	9	6	4	4	27	15	88
BIGLEAF MAPLE	--	5	20	6	--	3	2	--	39
RED ALDER	--	--	4	6	4	6	14	7	41
WHITE ALDER	--	4	--	4	--	--	--	6	14
INTERIOR LIVE OAK	--	3	7	--	--	--	--	--	9
COTTONWOOD 3/	--	--	--	--	3	--	18	--	21
QUAKING ASPEN	--	--	--	--	--	--	10	--	11
COAST LIVE OAK	--	--	--	--	4	--	4	--	7
BLUE OAK	--	2	--	--	--	--	--	--	2
UNCLASSIFIED HARDWOODS	--	2	6	3	1	--	3	1	17
TOTAL	--	283	288	261	234	231	791	357	2,445
ALL SPECIES	2,372	3,534	4,110	4,170	4,373	4,481	18,318	39,978	81,372

-- = none found.

1/Totals may be off because of rounding.

2/Occurs in Napa County.

3/Includes black cottonwood and Fremont cottonwood.

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

OWNERSHIP CLASS	AVERAGE VOLUME	SOFTWOODS	HARDWOODS	ALL SPECIES
	<u>CUBIC FEET PER ACRE</u>	- - - - - THOUSAND CUBIC FEET	- - - - -	
GROWING STOCK:				
NATIONAL FOREST	63	148,600	11,800	160,400
OTHER PUBLIC	82	4,406	1,357	5,763
FOREST INDUSTRY WITH MILL	85	52,305	7,228	59,533
FOREST INDUSTRY WITHOUT MILL	101	21,015	2,471	23,486
FARMER AND MISCELLANEOUS PRIVATE	75	41,945	11,181	53,126
ALL OWNERSHIPS	71	268,271	34,036	302,307
	<u>BOARD FEET PER ACRE</u>	- - - - - THOUSAND BOARD FEET	- - - - -	
SAWTIMBER (INTERNATIONAL 1/4-INCH RULE):				
NATIONAL FOREST	413	1,012,000	30,000	1,042,000
OTHER PUBLIC	413	26,377	2,540	28,918
FOREST INDUSTRY WITH MILL	459	310,329	12,325	322,653
FOREST INDUSTRY WITHOUT MILL	547	123,080	3,819	126,900
FARMER AND MISCELLANEOUS PRIVATE	366	243,634	29,708	273,342
ALL OWNERSHIPS	423	1,715,421	84,392	1,793,813
SAWTIMBER (SCRIBNER RULE):				
NATIONAL FOREST	383	940,000	27,000	967,000
OTHER PUBLIC	373	23,940	2,187	26,127
FOREST INDUSTRY WITH MILL	405	274,634	10,186	284,820
FOREST INDUSTRY WITHOUT MILL	479	107,756	3,389	111,145
FARMER AND MISCELLANEOUS PRIVATE	337	214,120	24,235	238,356
ALL OWNERSHIPS	384	1,560,450	66,998	1,627,448

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

Table 17—Gross annual growth of growing stock on timberland by species and ownership class, Sacramento resource area, California, 1984^{1/}

SPECIES	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
			WITH MILLS	WITHOUT MILLS		
<u>THOUSAND CUBIC FEET</u>						
SOFTWOODS:						
WHITE FIR	57,100	853	20,903	9,847	5,925	94,628
DOUGLAS-FIR	18,500	1,189	9,910	2,988	12,820	45,408
PONDEROSA PINE	18,100	1,602	8,884	586	10,214	39,387
SUGAR PINE	17,600	245	5,057	1,857	1,959	26,718
CALIFORNIA RED FIR	17,900	--	1,662	3,909	1,396	24,867
INCENSE-CEDAR	6,900	418	4,401	a47	3,730	16,296
JEFFREY PINE	8,000	98	670	51.7	3,951	13,236
LODGEPOLE PINE	3,200	--	647	229	1,246	5,321
WESTERN WHITE PINE	700	--	11	235	51	997
MOUNTAIN HEMLOCK	500	--	--	--	--	500
DIGGER PINE	--	--	72	--	277	349
WESTERN JUNIPER	100	--	--	--	--	100
REDWOOD 2/	--	--	--	--	255	255
KNOBCONE-PINE	--	--	--	--	96	96
WHITEBARK PINE	--	--	87	--	--	87
PACIFIC YEW	--	--	--	--	26	26
TOTAL	148,600	4,406	52,305	21,015	41,945	268,271
HARDWOODS:						
CALIFORNIA BLACK OAK	7,600	898	4,021	1,783	5,593	19,896
CANYON LIVE OAK	3,400	413	1,392	--	1,362	6,566
PACIFIC MADRONE	--	--	104	239	1,551	1,895
TANOAK	100	--	993	188	925	2,206
BIGLEAF MAPLE	100	--	445	184	330	1,059
RED ALDER	--	--	196	25	126	347
WHITE ALDER	300	--	--	--	100	400
INTERIOR LIVE OAK	--	--	--	--	439	439
COTTONWOOD 3/	--	--	--	16	57	73
CALIFORNIA LAUREL	--	--	77	--	650	727
OREGON WHITE OAK	100	--	--	--	--	100
QUAKING ASPEN	--	--	--	37	--	37
COAST LIVE OAK	--	46	--	--	--	46
BLUE OAK	--	--	--	--	47	47
UNCLASSIFIED HARDWOODS	200	--	--	--	--	200
TOTAL	11,800	1,357	7,228	2,471	11,181	34,036
ALL SPECIES	160,400	5,763	59,533	23,486	53,126	302,307

-- = none found.

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

^{2/}Occurs in Napa County

^{3/}Includes black cottonwood and Fremont cottonwood.

Table 18—Gross annual growth of sawtimber, International ¼-inch rule, on timberland by species and ownership class, Sacramento resource area, California, 1984^{1/}

SPECIES	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
			WITH MILLS	WITHOUT MILLS		
1 BOARD FEET						
SOFTWOODS:						
WHITE FIR	380,000	4,899	119,903	57,998	33,731	596,532
DOUGLAS-FIR	133,000	6,690	59,493	17,405	76,556	293,144
PONDEROSA PINE	120,000	10,842	60,835	3,447	63,035	258,159
SUGAR PINE	133,000	1,539	30,044	11,362	10,986	186,930
CALIFORNIA RED FIR	126,000	--	9,314	23,053	8,292	166,659
INCENSE-CEDAR	38,000	1,818	20,317	4,474	18,684	83,294
JEFFREY PINE	54,000	590	3,765	2,993	22,634	83,982
LOGSPOLE PINE	19,000	--	5,667	1,076	6,123	31,870
WESTERN WHITE PINE	5,000	--	68	1,272	292	6,632
MOUNTAIN HEMLOCK	4,000	--	--	--	--	4,000
DIGGER PINE	--	--	446	--	1,548	1,995
REDWOOD 2/	--	--	--	--	1,437	1,437
KNOBCONE-PINE	--	--	--	--	237	237
WHITEBARK PINE	--	--	476	--	--	476
PACIFIC YEW	--	--	--	--	73	73
TOTAL	1,012,000	26,377	310,329	123,080	243,634	1,715,421
HARDWOODS:						
CALIFORNIA BLACK OAK	26,000	1,512	5,292	1,598	11,706	46,108
CANYON LIVE OAK	4,000	858	1,266	--	5,734	11,858
PACIFIC MADRONE	--	--	--	1,031	4,609	5,640
TANOAK	--	--	5,053	711	2,099	7,863
BIGLEAF MAPLE	--	--	255	--	760	1,015
RED ALDER	--	--	458	155	710	1,323
WHITE ALDER	--	--	--	--	633	633
INTERIOR LIVE OAK	--	--	--	--	445	445
COTTONWOOD 3/	--	--	--	89	341	430
QUAKING ASPEN	--	--	--	235	--	235
COAST LIVE OAK	--	171	--	--	--	171
BLUE OAK	--	--	--	--	2,672	2,672
TOTAL	30,000	2,540	12,325	3,819	29,708	78,392
ALL SPECIES	1,042,000	28,918	322,653	126,900	273,342	1,793,813

-- = none found.

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

^{2/}Occurs in Napa County.

^{3/}Includes black cottonwood and Fremont cottonwood.

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Table 19—Gross annual growth of sawtimber, Scribner rule, on timberland by species and ownership class, Sacramento resource area, California, 19843

SPECIES	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
			WITH MILLS	WITHOUT MILLS		
THOUSAND BOARD FEET						
SOFTWOODS:						
WHITE FIR	342,000	4,385	105,074	49,796	29,562	530,818
DOUGLAS-FIR	130,000	6,096	53,992	15,422	67,219	272,730
PONDEROSA PINE	114,000	10,035	54,198	3,169	56,770	238,171
SUGAR PINE	125,000	1,391	27,306	10,108	10,003	173,808
CALIFORNIA RED FIR	116,000	--	8,197	20,748	7,346	152,291
INCENSE-CEDAR	36,000	1,535	17,267	3,858	15,601	74,261
JEFFREY PINE	51,000	499	3,294	2,612	19,279	76,683
LODGEPOLE PINE	17,000	--	4,471	937	5,211	27,619
WESTERN WHITE PINE	5,000	--	60	1,105	239	6,405
MOUNTAIN HEMLOCK	4,000	--	--	--	--	4,000
DIGGER PINE	--	--	389	--	1,374	1,763
REDWOOD 2/	--	--	--	--	1,259	1,259
KNOBCONE PINE	--	--	--	--	197	197
WHITEBARK PINE	--	--	386	--	--	386
PACIFIC YEW	--	--	--	--	59	59
TOTAL	940,000	23,940	274,634	107,756	214,120	1,560,450
HARDWOODS:						
CALIFORNIA BLACK OAK	25,000	1,300	4,536	1,402	9,507	41,745
CANYON LIVE OAK	2,000	737	1,053	--	4,567	8,358
PACIFIC MADRONE	--	--	--	949	3,998	4,948
TANOAK	--	--	3,997	612	1,660	6,269
BIGLEAF MAPLE	--	--	211	--	660	871
RED ALDER	--	--	390	138	636	1,164
WHITE ALDER	--	--	--	--	538	538
INTERIOR LIVE OAK	--	--	--	--	369	369
COTTONWOOD 3/	--	--	--	74	294	368
QUAKING ASPEN	--	--	--	213	--	213
COAST LIVE OAK	--	150	--	--	--	150
BLUE OAK	--	--	--	--	2,006	2,006
TOTAL	27,000	2,187	10,186	3,389	24,235	66,998
ALL SPECIES	967,000	26,127	284,820	111,145	238,356	1,627,448

-- = none found.

1/Totals may be off because of rounding.

2/Occurs in Napa County.

3/Includes black cottonwood and Fremont cottonwood.

Table 20—Average annual mortality of growing stock on timberland by species and ownership class, Sacramento resource area, California, 1984^{1/}

SPECIES	NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY		FARMER AND MISCELLANEOUS PRIVATE	ALL OWNERSHIPS
			WITH MILLS	WITHOUT MILLS		
THOUSAND CUBIC FEET						
SOFTWOODS:						
WHITE FIR	25,100	125	3,740	1,541	1,232	31,738
DOUGLAS-FIR	6,800	197	1,408	356	1,797	10,557
PONDEROSA PINE	3,700	170	1,994	124	2,013	8,001
SUGAR PINE	8,200	39	1,214	477	317	10,248
CALIFORNIA RED FIR	1,500	--	374	1,121	352	3,347
INCENSE-CEDAR	1,200	57	935	233	914	3,340
JEFFREY PINE	3,300	14	63	60	334	3,771
LOGSPOLE PINE	2,600	--	97	84	299	3,080
WESTERN WHITE PINE	--	--	8	97	9	114
DIGGER PINE	--	--	26	--	146	172
REDWOOD 2/	--	--	--	--	3	3
KNOBCONE PINE	--	--	--	--	9	9
WHITEBARK PINE	--	--	2	--	--	2
PACIFIC YEW	--	--	--	--	6	6
TOTAL	52,400	603	9,861	4,093	7,432	74,388
HARDWOODS:						
CALIFORNIA BLACK OAK	700	32	394	127	488	1,802
CANYON LIVE OAK	200	44	147	--	161	552
PACIFIC MADRONE	--	--	2	23	99	123
TANOAK	--	--	25	9	31	65
BIGLEAF MAPLE	--	--	14	4	32	50
RED ALDER	--	--	5	5	15	25
WHITE ALDER	--	--	--	--	7	7
INTERIOR LIVE OAK	--	--	--	--	18	18
COTTONWOOD 3/	--	--	--	3	8	11
CALIFORNIA-LAUREL	--	--	4	--	11	15
QUAKING ASPEN	--	--	--	6	--	6
COAST LIVE OAK	--	4	--	--	--	4
BLUE OAK	--	--	--	--	2	2
UNCLASSIFIED HARDWOODS	400	--	--	--	--	400
TOTAL	1,300	140	591	176	872	3,080
ALL SPECIES	53,700	742	10,453	4,269	8,305	77,468

-- = none found.

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

^{2/}Occurs in Napa County.

^{3/}Includes black cottonwood and Fremont cottonwood.

Table 21—Average annual mortality of sawtimber, International Winch rule, on timberland by species and ownership class, Sacramento resource area, California, 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	182,000	653	19,703	7,639	6,419	216,413
DOUGLAS-FIR	52,000	1,195	8,128	1,988	9,519	72,831
PONDEROSA PINE	27,000	933	9,237	285	8,960	46,416
SUGAR PINE	60,000	229	7,609	3,018	1,923	72,773
CALIFORNIA RED FIR	8,000	--	1,983	6,360	1,995	18,338
INCENSE-CEDAR	6,000	219	4,104	1,138	3,843	15,303
JEFFREY PINE	22,000	73	357	346	1,321	24,097
LOGGPOLE PINE	12,000	--	441	411	1,429	14,280
WESTERN WHITE PINE	--	--	48	533	40	621
DIGGER PINE	--	--	145	--	803	948
REDWOOD 2/	--	--	--	--	14	14
KNOBCONE PINE	--	--	--	--	6	6
WHITEBARK PINE	--	--	8	--	--	8
PACIFIC YEW	--	--	--	--	4	4
TOTAL	369,000	3,302	51,763	21,717	36,276	482,058
HARDWOODS:						
CALIFORNIA BLACK OAK	3,000	182	832	213	1,080	5,307
CANYON LIVE OAK	--	84	185	--	291	560
PACIFIC MADRONE	--	--	--	81	320	401
TANOAK	--	--	59	26	49	135
BIGLEAF MAPLE	--	--	18	--	105	123
RED ALDER	--	--	20	29	69	113
WHITE ALDER	--	--	--	--	40	40
INTERIOR LIVE OAK	--	--	--	--	19	19
COTTONWOOD 3/	--	--	--	14	44	58
QUAKING ASPEN	--	--	--	35	--	35
COAST LIVE OAK	--	14	--	--	--	14
BLUE OAK	--	--	--	--	4	4
TOTAL	3,000	279	1,113	398	2,021	6,812
ALL SPECIES	372,000	3,582	52,876	22,116	38,296	488,370

-- = none found.

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

^{2/}Occurs in Napa County.

^{3/}Includes black cottonwood and Fremont cottonwood.

Table 22—Average annual mortality of sawtimber, Scribner rule, on timberland by species and ownership class, Sacramento resource area, California, 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	162,000	561	17,001	6,496	5,500	191,558
DOUGLAS-FIR	50,000	1,049	7,182	1,721	8,176	68,128
PONDEROSA PINE	24,000	790	7,731	248	7,523	40,291
SUGAR PINE	57,000	198	6,892	2,740	1,708	68,537
CALIFORNIA RED FIR	7,000	--	1,707	5,618	1,760	16,085
INCENSE-CEDAR	6,000	181	3,412	958	3,191	13,742
JEFFREY PINE	22,000	60	307	296	1,103	23,766
LODGEPOLE PINE	11,000	--	362	350	1,191	12,903
WESTERN WHITE PINE	--	--	41	465	31	537
DIGGER PINE	--	--	124	--	679	803
REDWOOD 2/	--	--	--	--	11	11
KNOBCONE PINE	--	--	--	--	5	5
WHITEBARK PINE	--	--	6	--	--	6
PACIFIC YEW	--	--	--	--	3	3
TOTAL	339,000	2,837	44,765	18,892	30,830	436,375
HARDWOODS:						
CALIFORNIA BLACK OAK	1,000	153	691	178	900	2,922
CANYON LIVE OAK	--	69	145	--	239	453
PACIFIC MADRONE	--	--	--	70	262	333
TANOAK	--	--	47	21	40	109
BIGLEAF MAPLE	--	--	14	--	36	100
RED ALDER	--	--	16	25	61	102
WHITE ALDER	--	--	--	--	33	33
INTERIOR LIVE OAK	--	--	--	--	15	15
COTTONWOOD 3/	--	--	--	11	37	48
QUAKING ASPEN	--	--	--	31	--	31
COAST LIVE OAK	--	11	--	--	--	11
BLUE OAK	--	--	--	--	3	3
TOTAL	1,000	233	914	336	1,676	4,159
ALL SPECIES	340,000	3,071	45,679	19,229	32,555	440,534

-- = none found.

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

^{2/}Occurs in Napa County

^{3/}Includes black cottonwood and Fremont cottonwood.

Table 23—Timber harvest by county, Sacramento resource area, California, 1948-843

YEAR	BUTTE	COLUSA AND LAKE 2/	EL DORADO	GLENN	NAPA 3/	NEVADA	PLACER	PLUMAS	SIERRA	TEHAMA	YUBA	TOTAL
THOUSAND BOARD FEET, LOCAL SCALE 4/												
1948	194,519	24,500	243,937	--	--	36,878	44,901	187,823	45,295	96,344	74,469	948,666
1949	137,612	32,491	155,503	--	--	71,729	53,025	344,095	42,184	91,794	52,549	980,982
1950	105,490	18,100	202,615	6,229	180	98,416	87,243	348,368	41,627	128,198	53,990	1,090,456
1951	126,607	21,351	240,251	31,750	--	97,024	137,199	318,862	60,128	74,472	31,090	1,138,734
1952	136,523	29,874	251,101	25,914	620	103,593	106,424	419,195	65,162	71,730	40,348	1,250,484
1953	172,600	19,732	213,380	56,849	--	151,017	110,750	401,504	99,583	82,868	33,129	1,341,412
1954	129,779	20,890	150,456	28,750	719	132,739	110,176	276,840	118,598	120,967	57,152	1,147,066
1955	124,134	34,448	228,621	34,682	10,010	126,285	98,526	289,093	113,456	81,540	44,119	1,184,914
1956	136,065	17,180	213,194	51,377	5,256	120,199	111,087	300,478	71,400	114,383	45,797	1,186,416
1957	115,381	39,472	154,576	43,872	2,595	94,480	57,732	268,461	70,195	103,611	42,399	992,774
1958	102,033	40,761	170,756	32,662	8,643	67,292	79,053	213,514	87,452	141,205	49,621	992,992
1959	104,890	30,483	218,442	40,944	25,906	70,246	117,039	211,610	83,905	102,104	67,342	1,072,911
1960	144,113	34,883	336,824	39,968	9,165	64,442	74,283	179,712	99,594	146,067	36,500	1,165,551
1961	53,319	45,876	197,450	52,681	3,890	71,692	182,333	185,881	130,170	155,255	60,695	1,139,242
1962	43,588	11,723	189,009	66,889	1,575	75,108	111,630	215,451	114,622	157,053	60,022	1,046,670
1963	50,329	19,209	160,758	45,270	9,076	70,120	139,298	250,195	116,168	135,291	26,555	1,022,269
1964	65,721	36,822	135,562	48,617	2,095	42,768	138,399	214,741	122,270	138,425	35,668	981,088
1965	55,796	55,597	199,995	56,305	4,021	54,986	95,977	173,383	117,886	140,914	50,128	1,004,988
1966	49,701	71,877	233,003	51,020	948	59,186	113,215	221,345	165,847	107,365	38,111	1,111,618
1967	69,121	69,753	197,264	31,027	2	61,420	84,723	250,016	121,843	127,880	66,616	1,079,665
1968	64,220	49,475	210,426	22,672	117	73,735	95,271	231,957	143,426	139,852	48,933	1,080,084
1969	28,267	3,676	253,622	58,494	8	54,799	103,607	217,743	84,534	158,906	43,835	1,007,491
1970	44,867	37,330	259,525	49,494	341	52,241	113,971	157,462	46,243	179,551	41,344	982,369
1971	61,000	41,562	206,324	42,481	690	75,782	118,170	238,915	61,602	181,240	30,095	1,057,861
1972	48,951	40,087	194,946	54,376	105	79,491	126,715	286,659	92,198	161,119	25,068	1,109,715
1973	48,868	43,271	197,163	60,975		62,624	120,056	305,437	73,748	235,035	39,829	1,187,006
1974	29,916	17,090	301,665	42,418	12	53,869	96,376	248,170	79,793	133,902	42,441	1,045,652
1975	43,156	18,180	261,952	29,872	--	37,713	131,569	214,535	63,744	184,248	29,845	1,014,814
1976	69,949	14,922	228,038	47,690	523	54,783	117,617	220,419	88,262	158,273	34,878	1,035,354
1977	60,975	32,775	211,353	56,209	534	79,297	128,153	155,729	56,959	115,140	34,280	931,404
1978:												
Private	33,481	16,497	100,552	10,569	1,817	43,954	92,926	91,905	67,891	100,080	13,791	573,463
Public	53,921	6,753	91,296	31,330	--	16,180	32,213	164,206	63,538	41,489	10,964	511,890
Total	87,402	23,250	191,848	41,899	1,817	60,134	125,139	256,111	131,429	141,569	24,755	1,085,353
1979:												
Private	49,416	3,080	81,308	7,684	572	32,786	96,451	61,166	50,947	67,278	8,676	404,314
Public	45,106	18,536	81,378	25,250	--	15,788	44,026	234,647	85,844	72,070	10,825	633,470
Total	94,522	21,616	162,686	32,934	572	48,574	140,477	295,813	136,791	139,348	19,501	1,037,784
1980:												
Private	23,032	1,857	85,646	3,410	--	20,115	46,302	49,418	33,861	16,805	17,493	397,939
Public	20,049	2,548	70,369	12,564	--	7,625	42,394	154,010	51,254	30,943	19,849	411,605
Total	43,081	4,405	156,015	15,974	--	27,740	88,696	203,428	85,115	47,748	37,342	809,544
1981:												
Private	28,597	3,163	72,297	5,180	248	23,004	47,550	25,926	34,091	96,373	11,818	351,241
Public	3,677	14,131	78,187	13,391	--	9,200	36,193	95,602	27,963	24,631	7,808	310,783
Total	32,274	17,294	150,484	18,571	248	32,204	83,743	121,528	62,054	121,004	19,626	662,030
1982:												
Private	46,142	8,975	32,307	6,492	--	7,695	19,908	29,687	10,305	114,900	3,681	280,092
Public	2,048	1,904	97,316	2,294	--	9,769	15,994	99,246	26,355	49,987	11,122	316,035
Total	48,190	10,879	129,623	8,786	--	17,464	35,902	128,933	36,660	164,887	14,803	596,127
1983:												
Private	71,471	8,232	52,014	7,612	238	21,402	30,044	60,422	28,137	70,812	16,164	365,548
Public	24,152	10,798	92,787	17,046	--	9,613	50,778	126,226	60,426	60,457	12,473	464,756
Total	95,623	19,030	144,001	24,658	238	31,015	80,822	186,648	88,563	131,269	28,637	830,304
1984:												
Private	67,919	1,007	70,154	4,794	223	21,377	28,243	57,375	42,646	99,100	8,393	401,231
Public	3,039	25,964	70,081	36,754	--	39,540	36,189	201,056	47,950	18,870	6,763	486,206
Total	70,958	26,971	140,235	41,548	223	60,917	64,432	258,431	90,596	117,970	15,156	887,437

-- = none found.

1/Sacramento and Yolo Counties had no timber harvest.

2/Includes Sutter County, 1976-84.

3/Includes Marin and Solano Counties in the central coast resource area for 1948-77.

4/Various log rules were used in California; no attempt was made to convert the data to a common base; however, the majority of timber industry companies in the Sacramento resource area use the short-log Scribner rule.

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.

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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.

Lloyd, J.D., Jr.; Moen, Joel; Bolsinger, Charles L. Timber resource statistics of the Sacramento resource area of California. Resour. Bull. PNW-134. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station; **1986**. 32 p.

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 1981-84 inventory of the timber resources of Butte, Colusa, El Dorado, Glenn, Lake, Napa, Nevada, Placer, Plumas, Sacramento, Sierra, Sutter, Tehama, Yolo, and Yuba Counties. Tables presented are of forest area and of timber volume, growth, and mortality.

Timberland area is an estimated 4 million acres, which is 33 percent of the Sacramento resource area. Growing stock volume is 15 billion cubic feet. The three most common species are white fir—29 percent of the volume; Douglas-fir—15 percent; and ponderosa pine—14 percent.

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

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