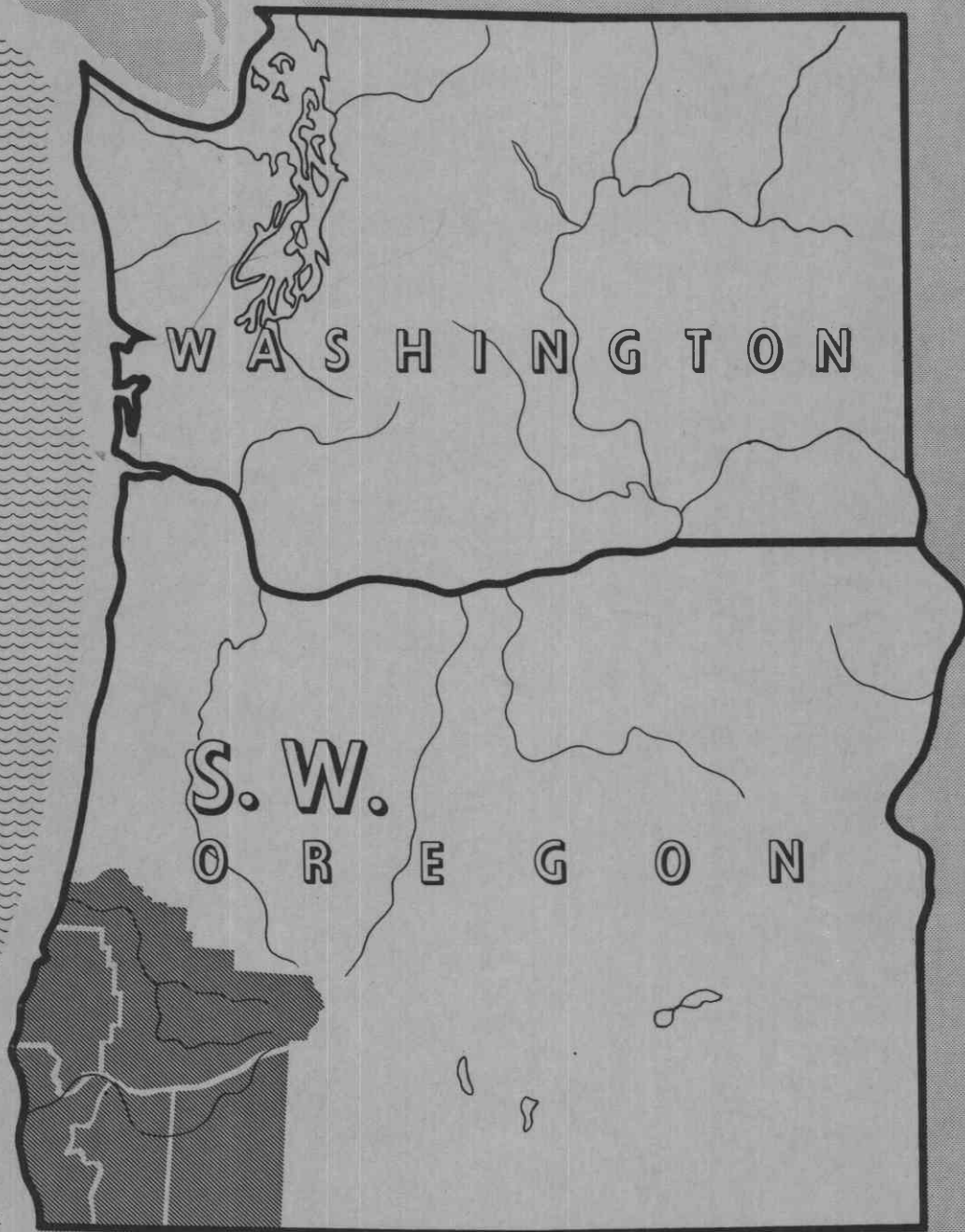


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Forest Statistics for



PACIFIC NORTHWEST
FOREST AND RANGE EXPERIMENT STATION
U. S. DEPT. OF AGRICULTURE • FOREST SERVICE



U. S. FOREST SERVICE
RESOURCE BULLETIN PNW-8

1964

PREPARED BY
THE DIVISION OF FOREST ECONOMICS RESEARCH

Carl A. Newport, Chief

FOREST SURVEY

Melvin E. Metcalf, In Charge

Field and Office Work in Southwest Oregon, by

John M. Berger and Richard L. Nielsen, Field Supervisors

Dennis D. Adams	Alan D. Lane	Dwight A. Smith
Lee A. Black	Don C. Lindsay	Noah Q. Speer
Don M. Bolinger	Hector Lisboa	William F. Spinner
Charles L. Bolsinger	Douglas W. MacCleery	Glenn P. Standley
Eric L. Burbano	Robert L. McCormack	Albert G. Stoll
Carl M. Burgeson	Donald L. Meyer	Albert H. Tsuda
John B. Casteel	Dennis D. Murphy	Ronald W. Van Domelen
David D. Chapman	Robert C. Musselman	David C. Walz
Donald H. Doyle	Richard J. Neilitz	Thomas E. Wooten
Joseph M. Dunford	David N. Odahl	Ronald Yasenchak
William L. Ericksen	Gary I. Payne	James A. Zumbo, Jr.
Barry K. Ford	Kai T. Petersen	John W. Hazard
Herbert D. Hahn	Ronald C. Prichard	Mable A. Northrup
Charles C. Hawks, Jr.	Kendall L. Rich	Margaret C. O'Mara
Raymond E. Jackman	Thomas J. Riding	Marian E. Simons
Donald W. Jarvis	Ralph G. Rosenberg	Carmen V. Wilson
Addison B. Johnson, Jr.	Wendell W. St. Pierre	
Robert J. Kerzel	Charles B. Schmokel	

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FOREST STATISTICS FOR SOUTHWEST OREGON

by

John W. Hazard

and

Melvin E. Metcalf

PACIFIC NORTHWEST
FOREST AND RANGE EXPERIMENT STATION
Philip A. Briegleb, Director Portland, Oregon

FOREST SERVICE

U.S. DEPARTMENT OF AGRICULTURE

PREFACE

This publication summarizes the results of the latest reinventory of five counties in southwest Oregon: Coos, Curry, Douglas, Jackson, and Josephine. This block of five counties is one of 10 such blocks set up in the States of Oregon and Washington by the Forest Survey to facilitate orderly reinventories of the timber resources. Each block will be reinventoried at 10-year intervals and the results published in a single report for the block. The five blocks in Oregon are northwest Oregon, west-central Oregon, southwest Oregon, central Oregon, and northeast Oregon.

Field data for southwest Oregon were collected during 1955-62 for the five National Forests involved and during 1962 for all lands outside the National Forests. Volume data have been adjusted for growth and cutting to January 1, 1963, but not for effects of the windstorm of October 12, 1962. The results of this latest reinventory are presented with a minimum of interpretation to permit more rapid publication of the timber resource statistics.

The five counties covered by this report were initially inventoried in 1932-33 and the results published in 1934 as a series of pamphlets containing forest statistics for each individual county. Coos County was reinventoried in 1938, and all five counties were reinventoried as a block in 1947-49 with the results appearing in two publications, "Forest Statistics for Coos County, Oregon, 1940" and "Forest Statistics for Southwest Oregon Unit, 1951."

These inventories are a part of the Forest Survey--a nationwide project of the Forest Service authorized by the McSweeney-McNary Forest Research Act of 1928, amended June 25, 1949. The purpose of the Forest Survey is to periodically inventory the extent and condition of forest lands and the timber and other forest products on them, to determine rates of forest growth and depletion, to estimate present consumption of timber products and probable future trends in timber requirements, to analyze and make available survey information needed in the formulation of forest policies and programs, and to make resurveys as necessary to keep the basic information up to date.

The Forest Survey is conducted in the various forest regions of the Nation by the regional Experiment Stations of the U.S. Forest Service. In the States of Oregon and Washington, it is the responsibility of the Pacific Northwest Forest and Range Experiment Station at Portland, Oreg.

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SOUTHWEST OREGON'S FOREST RESOURCE IN BRIEF

COMMERCIAL FOREST LAND--

Covers 6,899,000 acres or 85 percent of the land area;

Has sawtimber stands on 66 percent

ent other softwood

inch rule

ERRATA SHEET

Hazard, John W., and Metcalf, Melvin E. Forest statistics for
southwest Oregon. U.S. Forest Serv. Resource Bul. PNW-8.
1964.

Page 1, under "NET ANNUAL GROWTH," second statement should read:

Is 0.60 percent of growing-stock volume; and

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P. O. Box 3141
Portland, Oregon 97208

, International

ch 62 percent

Table 1.--Area by land classes, by county, southwest Oregon, 1963

(In acres)

Land class	Total	County			
		Coos	Curry	Douglas	Jackson
					Josephine
Commercial forest	6,899,000	900,000	855,000	2,864,000	1,365,000
Unproductive forest	348,000	2,000	76,000	55,000	170,000
Productive-reserved forest	56,000	3,000	47,000	2,000	3,000
Total	7,303,000	905,000	978,000	2,921,000	1,538,000
Nonforest	<u>1/</u> 847,000	126,000	60,000	318,000	264,000
All land	<u>2/</u> 8,150,000	1,031,000	1,038,000	3,239,000	1,802,000

1/

Includes 34,000 acres of water according to Forest Survey standards of area classification but defined as land by the Bureau of the Census.

2/

From U.S. Bureau of the Census, Land and Water Area of the United States, 1960.

Table 2.--Area of commercial forest land, by ownership
classes, southwest Oregon, 1963

(In acres)

Ownership class	Area
National Forest	2,267,000
Other Federal:	
Bureau of Land Management	1,544,000
Indian	--
Miscellaneous Federal	--
Total other Federal	1,544,000
State	115,000
County and municipal	52,000
Forest industry:	
Pulp and paper	174,000
Lumber	1,125,000
Other	215,000
Total forest industry	1,514,000
Farmer owned	567,000
Miscellaneous private	840,000
All ownerships	6,899,000

Table 3.--Area of commercial forest land, by county and ownership
classes, southwest Oregon, 1963

(In acres)

County	All ownerships	National Forest	Other public	Forest industry	Farmer and miscel- laneous private
Coos	900,000	66,000	237,000	288,000	309,000
Curry	855,000	483,000	62,000	161,000	149,000
Douglas	2,864,000	960,000	684,000	695,000	525,000
Jackson	1,365,000	399,000	400,000	309,000	257,000
Josephine	915,000	359,000	328,000	61,000	167,000
All counties	6,899,000	2,267,000	1,711,000	1,514,000	1,407,000

Table 4.--Area of commercial forest land, by stand-size and ownership
classes, southwest Oregon, 1963

(In acres)

Stand-size class	All owner- ships	National Forest	Other public	Forest industry	Farmer and miscel- laneous private
Sawtimber stands:					
Large	3,483,000	1,387,000	1,089,000	745,000	262,000
Small	1,100,000	414,000	246,000	102,000	338,000
Total	4,583,000	1,801,000	1,335,000	847,000	600,000
Poletimber stands	595,000	298,000	65,000	80,000	152,000
Sapling and seedling stands	1,298,000	64,000	252,000	490,000	492,000
Nonstocked areas	423,000	104,000	59,000	97,000	163,000
All classes	6,899,000	2,267,000	1,711,000	1,514,000	1,407,000

Table 5.--Area of commercial forest land, by stand-volume classes for sawtimber and other stand-size classes, southwest Oregon, 1963

(In acres)

Stand-volume class ^{1/}	Area by stand-size classes		
	All stands	Sawtimber stands	Other stands
Less than 1,500 board feet	1,488,000	58,000	1,430,000
1,500 to 5,000 board feet	956,000	287,000	669,000
More than 5,000 board feet	4,455,000	4,238,000	217,000
All classes	6,899,000	4,583,000	2,316,000

^{1/} Net volume per acre, International 1/4-inch rule.

Table 6.--Area of commercial forest land, by stocking classes of growing-stock trees and by stand-size classes, southwest Oregon, 1963

(In acres)

Stocking class	All stands	Sawtimber stands	Poletimber stands	Sapling and seedling stands	Non-stocked stands
70 percent or more	3,948,000	3,238,000	346,000	364,000	(^{1/})
40 to 70 percent	1,493,000	941,000	110,000	442,000	(^{1/})
10 to 40 percent	1,035,000	404,000	139,000	492,000	(^{1/})
Less than 10 percent	423,000	(^{1/})	(^{1/})	(^{1/})	423,000
All classes	6,899,000	4,583,000	595,000	1,298,000	423,000

^{1/} Not applicable.

Table 7.--Area of commercial forest land, by yield and ownership
classes, southwest Oregon, 1963

(In acres)

Yield class ^{1/}	All ownerships	National Forest	Other public	Forest industry	Farmer and miscel- laneous private
120 cubic feet or more	3,547,000	1,017,000	875,000	980,000	675,000
85 to 120 cubic feet	1,751,000	713,000	376,000	332,000	330,000
50 to 85 cubic feet	1,295,000	450,000	354,000	180,000	311,000
Less than 50 cubic feet	306,000	87,000	106,000	22,000	91,000
All classes	6,899,000	2,267,000	1,711,000	1,514,000	1,407,000

^{1/} A classification in terms of capacity for cubic-foot annual growth per acre.

Table 8.--Area of commercial forest land, by forest types
and ownership classes, southwest Oregon, 1963

(In acres)

Type	All ownerships	Public ownership	Private ownership
Douglas-fir	4,211,000	2,656,000	1,555,000
Redwood	10,000	3,000	7,000
Ponderosa pine	142,000	120,000	22,000
Hemlock-Sitka spruce	203,000	104,000	99,000
Spruce-fir	538,000	386,000	152,000
Lodgepole pine	96,000	76,000	20,000
White pine	181,000	173,000	8,000
Hardwoods	1,095,000	297,000	798,000
Nonstocked	423,000	163,000	260,000
All types	6,899,000	3,978,000	2,921,000

Table 9.--Area of noncommercial forest land, by forest types,southwest Oregon, 1963

(In acres)

Type	All areas	Productive- reserved areas	Unproductive areas
Douglas-fir	34,000	34,000	--
Ponderosa pine	1,000	1,000	--
Hemlock—Sitka spruce	4,000	4,000	--
Lodgepole pine	3,000	3,000	--
Spruce—fir	1,000	1,000	--
Other softwoods	1,000	1,000	--
Hardwoods	11,000	11,000	--
Nonstocked	1,000	1,000	--
Subalpine	2,000	--	2,000
Noncommercial rocky	126,000	(1/)	126,000
Noncommercial other	220,000	(1/)	220,000
All types	404,000	56,000	348,000

1/
Not applicable.

Table 10.--Volume of all growing stock and sawtimber on commercial forest land by counties, southwest Oregon, 1963^{1/}

County	All growing stock	Sawtimber (International 1/4-inch rule)	Sawtimber (Scribner rule)
	<u>Million cu. ft.</u>	<u>Million bd. ft.</u>	<u>Million bd. ft.</u>
Coos	4,406	28,049	23,562
Curry	3,687	20,956	17,549
Douglas	14,945	94,234	76,986
Jackson	4,986	27,114	21,383
Josephine	3,002	15,845	12,866
All counties	31,026	186,198	152,346

^{1/} In this and all subsequent tables, conifer volumes are in terms of 32-foot logs for Scribner rule and 16-foot logs for International 1/4-inch rule. All hardwood volumes are in terms of 8-foot logs.

Table 11.--Volume of all growing stock and sawtimber on
commercial forest land by county and owner-
ship class, southwest Oregon, 1963

County	Total	National Forest	Other public	Forest industry	Farmer and miscel- laneous private
----- <u>Million cubic feet</u> -----					
All growing stock:					
Coos	4,406	392	1,983	1,246	785
Curry	3,687	2,244	340	733	370
Douglas	14,945	6,237	4,281	3,626	801
Jackson	4,986	2,128	1,421	1,045	392
Josephine	3,002	1,234	1,398	77	293
Total	31,026	12,235	9,423	6,727	2,641
----- <u>Million board feet</u> ^{1/} -----					
Sawtimber:					
Coos	28,049	2,619	12,979	8,032	4,419
Curry	20,956	12,669	1,862	4,996	1,429
Douglas	94,234	40,191	26,596	23,575	3,872
Jackson	27,114	11,640	7,915	6,136	1,423
Josephine	15,845	7,198	7,485	397	765
Total	186,198	74,317	56,837	43,136	11,908

^{1/} International 1/4-inch rule.

Table 12.--Number of growing-stock trees on commercial forest land, by diameter classes and by softwoods and hardwoods, southwest Oregon, 1963

(Thousands of trees)

Diameter class (inches d.b.h.)	All species	Softwoods	Hardwoods
5.0 - 6.9	239,380	140,475	98,905
7.0 - 8.9	160,909	92,723	68,186
9.0 - 10.9	90,990	64,079	26,911
11.0 - 12.9	60,119	43,916	16,203
13.0 - 14.9	47,771	36,463	11,308
15.0 - 16.9	38,021	29,684	8,337
17.0 - 18.9	28,389	22,894	5,495
19.0 - 28.9	68,542	61,579	6,963
29.0 - 38.9	27,861	27,165	696
39.0 and larger	19,612	19,561	51
All classes	781,594	538,539	243,055

Table 13.--Number of cull and salvable dead trees on commercial forest land, by diameter groups and by softwoods and hardwoods, southwest Oregon, 1963

(Thousands of trees)

Diameter class (inches d.b.h.)	Cull trees	Salvable dead trees
Softwoods:		
5.0 - 10.9	17,018	--
11.0 - 18.9	2,563	4,436
19.0 and larger	4,195	3,988
Total	23,776	8,424
Hardwoods:		
5.0 - 10.9	42,143	--
11.0 - 18.9	6,364	1,296
19.0 and larger	1,254	292
Total	49,761	1,588
All species	73,537	10,012

Table 14.--Volume of timber on commercial forest land,
by class of timber and by softwoods and
hardwoods, southwest Oregon, 1963

(In million cubic feet)

Class of timber	All species	Softwoods	Hardwoods
Sawtimber trees:			
Saw-log portion	26,031	24,442	1,589
Upper-stem portion	1,960	1,840	120
Total	27,991	26,282	1,709
Poletimber trees	3,035	1,818	1,217
All growing-stock trees	31,026	28,100	2,926
Sound cull trees:			
Sawtimber-size	218	56	162
Poletimber-size	369	70	299
Total	587	126	461
Rotten cull trees:			
Sawtimber-size	98	88	10
Poletimber-size	10	1	9
Total	108	89	19
Salvable dead trees:			
Sawtimber-size	963	940	23
Total, all timber	32,684	29,255	3,429

Table 15.--Volume of all growing stock and sawtimber on commercial forest land, by ownership classes and by softwoods and hardwoods, southwest Oregon, 1963

Timber and ownership classes	All species	Softwoods	Hardwoods
----- <u>Million cubic feet</u> -----			
All growing stock:			
National Forest	12,235	11,751	484
Other public	9,423	8,565	858
Forest industry	6,727	6,042	685
Farmer and miscellaneous private	2,641	1,742	899
All ownerships	31,026	28,100	2,926
----- <u>Million board feet</u> -----			
Sawtimber (International 1/4-inch rule):			
National Forest	74,317	73,470	847
Other public	56,837	54,225	2,612
Forest industry	43,136	39,875	3,261
Farmer and miscellaneous private	11,908	9,111	2,797
All ownerships	186,198	176,681	9,517
Sawtimber (Scribner rule):			
National Forest	59,903	59,078	825
Other public	46,672	44,124	2,548
Forest industry	35,629	32,447	3,182
Farmer and miscellaneous private	10,142	7,413	2,729
All ownerships	152,346	143,062	9,284

Table 16.--Volume of all growing stock and sawtimber on commercial forest land, by stand-size classes and by softwoods and hardwoods, southwest Oregon, 1963

Stand-size class	All species	Softwoods	Hardwoods
----- <u>Million cubic feet</u> -----			
All growing stock:			
Sawtimber stands	29,010	27,075	1,935
Poletimber stands	721	430	291
Sapling and seedling stands	995	565	430
Nonstocked areas	300	30	270
Total	31,026	28,100	2,926
----- <u>Million board feet</u> -----			
Sawtimber (International 1/4-inch rule):			
Sawtimber stands	180,720	172,906	7,814
Poletimber stands	1,292	1,060	232
Sapling and seedling stands	3,723	2,540	1,183
Nonstocked areas	463	175	288
Total	186,198	176,681	9,517
Sawtimber (Scribner rule):			
Sawtimber stands	147,616	139,995	7,621
Poletimber stands	1,086	860	226
Sapling and seedling stands	3,221	2,066	1,155
Nonstocked areas	423	141	282
Total	152,346	143,062	9,284

Table 17.--Volume of all growing stock on commercial forest land, by species and diameter

classes, southwest Oregon, 1963

(In million cubic feet)

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	19.0-28.9	29.0-38.9	39.0 and larger
Softwoods:											
Douglas-fir	20,094	203	301	414	452	635	677	731	3,969	4,460	8,252
Redwood	41	--	(1/)	3	3	2	2	3	11	7	10
Ponderosa pine and Jeffrey pine	692	7	10	21	31	27	43	46	192	160	155
Sugar pine	776	3	5	12	7	16	17	18	172	204	322
Western white pine	287	5	7	10	13	22	14	27	99	61	29
Lodgepole pine	247	31	69	66	36	18	11	9	6	--	1
Knobcone pine	39	2	8	6	6	4	4	2	7	--	--
White fir	1,421	22	49	78	66	95	123	111	468	308	101
Grand fir	260	7	17	16	17	24	32	31	79	18	19
Shasta red fir	538	3	6	9	8	10	15	17	151	170	149
Pacific silver fir	159	8	11	15	14	14	15	12	51	12	7
Noble fir	240	3	5	8	6	8	8	10	63	83	46
Subalpine fir	49	1	1	3	3	3	3	3	11	7	14
Engelmann spruce	19	1	2	1	1	1	2	2	5	4	--
Sitka spruce	143	1	5	9	4	4	9	8	47	17	39
Mountain hemlock	519	18	31	41	40	40	47	47	190	53	12
Western hemlock	1,296	29	52	92	71	89	117	107	416	194	129
Incense-cedar	661	8	13	20	16	23	37	39	154	148	203
Port-Orford-cedar	212	7	8	5	9	7	13	8	62	35	58
Western redcedar	404	6	14	10	7	13	20	16	65	94	159
Other softwoods	3	(1/)	(1/)	(1/)	(1/)	1	(1/)	(1/)	2	--	--
Total	28,100	365	614	839	810	1,056	1,209	1,247	6,220	6,035	9,705
Hardwoods:											
Red alder	751	80	85	81	73	99	124	114	83	12	--
Black cottonwood	17	--	--	--	1	--	4	3	9	--	--
Bigleaf maple	297	25	25	27	35	39	22	26	77	18	3
Oaks ^{2/}	438	72	54	50	24	26	47	41	108	16	--
Tanoak	477	67	65	46	57	44	28	29	107	32	2
Pacific madrone	677	150	150	97	69	56	39	25	70	14	7
Other hardwoods	269	77	36	30	30	14	15	13	41	13	--
Total	2,926	471	415	331	289	278	279	251	495	105	12
All species	31,026	836	1,029	1,170	1,099	1,334	1,488	1,498	6,715	6,140	9,717

^{1/} Less than 500,000 cubic feet.^{2/} Oaks consist of California black and Oregon white oak.

Table 18.--Volume of sawtimber on commercial forest land, by species and diameter classes,
southwest Oregon, 1963 (International 1/4-inch rule)

(In million board feet)

Species	Diameter class (inches at breast height)							
	All classes	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 28.9	29.0- 38.9	39.0 and larger
Softwoods:								
Douglas-fir	132,385	2,053	3,176	3,734	4,261	25,651	31,405	62,105
Redwood	280	11	9	10	15	78	53	104
Ponderosa and Jeffrey pine	3,702	147	130	206	231	1,041	963	984
Sugar pine	4,622	41	82	94	97	995	1,220	2,093
Western white pine	1,670	72	126	90	161	656	406	159
Lodgepole pine	436	163	104	71	56	36	--	6
Knobcone pine	126	28	22	21	9	46	--	--
White fir	7,444	353	568	748	672	2,770	1,748	585
Grand fir	1,391	108	148	201	193	503	118	120
Shasta red fir	2,802	49	66	91	97	838	894	767
Pacific silver fir	818	76	85	100	82	344	86	45
Noble fir	1,343	38	49	46	59	358	500	293
Subalpine fir	302	15	24	21	17	80	54	91
Engelmann spruce	91	5	6	13	15	33	19	--
Sitka spruce	923	20	22	53	58	333	123	314
Mountain hemlock	2,908	211	265	334	335	1,313	364	86
Western hemlock	7,671	398	547	760	713	2,888	1,406	959
Incense-cedar	4,007	67	100	185	205	924	1,008	1,518
Port-Orford-cedar	1,177	36	30	67	40	368	227	409
Western redcedar	2,574	30	68	117	101	422	663	1,173
Other softwoods	9	(1/)	1	1	2	5	--	--
Total	176,681	3,921	5,628	6,963	7,419	39,682	41,257	71,811
Hardwoods:								
Red alder	2,662	308	450	637	634	550	83	--
Black cottonwood	117	5	--	23	20	69	--	--
Bigleaf maple	1,378	152	187	114	151	581	162	31
Oaks ^{2/}	1,652	106	145	253	243	760	145	--
Tanoak	1,550	192	161	108	142	673	257	17
Pacific madrone	1,490	283	251	187	131	458	119	61
Other hardwoods	668	128	60	72	71	226	111	--
Total	9,517	1,174	1,254	1,394	1,392	3,317	877	109
All species	186,198	5,095	6,882	8,357	8,811	42,999	42,134	71,920

^{1/} Less than 500,000 board feet.

^{2/} Oaks consist of California black and Oregon white oak.

Table 19.--Volume of sawtimber on commercial forest land, by species and diameter classes,

southwest Oregon, 1963 (Scribner rule)

(In million board feet)

Species	Diameter class (inches at breast height)							
	All classes	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 28.9	29.0- 38.9	39.0 and larger
Softwoods:								
Douglas-fir	109,119	1,275	2,048	2,528	3,018	19,863	26,095	54,292
Redwood	224	7	6	7	10	60	44	90
Ponderosa and Jeffrey pine	2,868	89	79	130	157	777	790	846
Sugar pine	3,777	24	52	63	68	759	1,000	1,811
Western white pine	1,274	43	80	60	112	504	337	138
Lodgepole pine	283	100	66	46	39	27	--	5
Knobcone pine	86	17	14	14	6	35	--	--
White fir	5,461	199	330	461	450	2,085	1,433	503
Grand fir	907	46	76	115	120	358	92	100
Shasta red fir	2,255	30	42	61	67	645	741	669
Pacific silver fir	599	46	54	66	57	265	72	39
Noble fir	1,071	23	31	31	41	275	414	256
Subalpine fir	236	10	15	15	12	61	44	79
Engelmann spruce	67	3	4	9	10	26	15	--
Sitka spruce	741	13	14	37	41	256	102	278
Mountain hemlock	2,141	129	168	222	235	1,010	302	75
Western hemlock	5,850	245	355	518	508	2,231	1,165	828
Incense-cedar	3,122	41	60	113	132	677	812	1,287
Port-Orford-cedar	925	20	19	43	28	275	187	353
Western redcedar	2,050	18	41	75	69	315	533	999
Other softwoods	6	(1/)	1	(1/)	1	4	--	--
Total	143,062	2,378	3,555	4,614	5,181	30,508	34,178	62,648
Hardwoods:								
Red alder	2,586	293	433	617	619	542	82	--
Black cottonwood	115	4	--	23	20	68	--	--
Bigleaf maple	1,348	145	180	111	147	573	161	31
Oaks ^{2/}	1,615	100	140	245	237	749	144	--
Tanoak	1,517	183	155	105	139	663	255	17
Pacific madrone	1,451	270	241	182	127	452	118	61
Other hardwoods	652	121	57	70	70	223	111	--
Total	9,284	1,116	1,206	1,353	1,359	3,270	871	109
All species	152,346	3,494	4,761	5,967	6,540	33,778	35,049	62,757

^{1/} Less than 500,000 board feet.^{2/} Oaks consist of California black and Oregon white oak.

Table 20.--Volume of all growing stock on commercial forest land by species
and county, southwest Oregon, 1963

(In million cubic feet)

Species	Total	County				
		Coos	Curry	Douglas	Jackson	Josephine
Softwoods:						
Douglas-fir	20,094	3,215	2,462	10,256	2,482	1,679
Ponderosa pine						
and Jeffrey pine	692	--	18	199	328	147
Sugar pine	776	8	78	296	149	245
Western white pine	287	2	28	187	52	18
Lodgepole and						
other pines	287	6	39	190	37	15
White and grand fir	1,681	55	45	484	897	200
California and						
Shasta red fir	538	--	9	88	355	86
Other true firs	448	(1/)	--	445	3	--
Spruces	163	52	4	94	13	(1/)
Western hemlock	1,296	320	52	878	41	5
Incense-cedar	661	3	34	393	170	61
Port-Orford-cedar	212	120	64	2	1	25
Western redcedar	404	149	5	246	(1/)	4
Other softwoods	561	(1/)	41	386	118	16
Total	28,100	3,930	2,879	14,144	4,646	2,501
Hardwoods:						
Red alder	751	342	149	225	6	29
Black cottonwood	17	--	--	17	--	--
Bigleaf maple	297	68	30	171	22	6
Oaks ^{2/}	438	5	28	132	138	134
Tanoak	477	25	429	--	--	23
Pacific madrone	677	2	105	193	163	215
Other hardwoods	269	34	67	63	11	94
Total	2,926	476	808	801	340	501
All species	31,026	4,406	3,687	14,945	4,986	3,002

^{1/} Less than 500,000 cubic feet.

^{2/} Oaks consist of California black and Oregon white oak.

Table 21.--Volume of sawtimber on commercial forest land by species and county, southwest Oregon, 1963 (International 1/4-inch rule)

(In million board feet)

Species	Total	County				
		Coos	Curry	Douglas	Jackson	Josephine
Softwoods:						
Douglas-fir	132,385	21,859	16,290	69,248	14,662	10,326
Ponderosa and Jeffrey pine	3,702	--	107	1,058	1,747	790
Sugar pine	4,622	52	440	1,777	849	1,504
Western white pine	1,670	9	119	1,177	288	77
Lodgepole and other pines	566	36	81	334	57	58
White and grand fir	8,835	314	243	2,590	4,711	977
California and Shasta red fir	2,802	--	107	481	1,751	463
Other true firs	2,463	1	--	2,452	10	--
Spruces	1,017	272	23	656	64	2
Western hemlock	7,671	1,817	232	5,382	219	21
Incense-cedar	4,007	19	162	2,433	1,076	317
Port-Orford-cedar	1,177	707	311	16	3	140
Western redcedar	2,574	990	12	1,552	2	18
Other softwoods	3,190	--	314	2,232	577	67
Total	176,681	26,076	18,441	91,388	26,016	14,760
Hardwoods:						
Red alder	2,662	1,266	418	884	30	64
Black cottonwood	117	--	--	117	--	--
Bigleaf maple	1,378	456	106	734	66	16
Oaks ^{1/}	1,652	13	35	468	595	541
Tanoak	1,550	75	1,445	--	1	29
Pacific madrone	1,490	2	288	501	386	313
Other hardwoods	668	161	223	142	20	122
Total	9,517	1,973	2,515	2,846	1,098	1,085
All species	186,198	28,049	20,956	94,234	27,114	15,845

^{1/} Oaks consist of California black and Oregon white oak.

Table 22.--Volume of sawtimber on commercial forest land by species and county, southwest Oregon, 1963 (Scribner rule)

(In million board feet)

Species	Total	County				
		Coos	Curry	Douglas	Jackson	Josephine
Softwoods:						
Douglas-fir	109,119	18,362	13,450	57,204	11,757	8,346
Ponderosa and Jeffrey pine	2,868	--	80	826	1,359	603
Sugar pine	3,777	42	361	1,467	681	1,226
Western white pine	1,274	7	88	894	225	60
Lodgepole and other pines	372	25	53	217	36	41
White and grand fir	6,368	220	165	1,914	3,338	731
California and Shasta red fir	2,255	--	78	389	1,420	368
Other true firs	1,906	1	--	1,897	8	--
Spruces	810	213	19	530	47	1
Western hemlock	5,850	1,401	167	4,103	164	15
Incense-cedar	3,122	15	127	1,891	844	245
Port-Orford-cedar	925	545	252	11	3	114
Western redcedar	2,050	806	9	1,219	2	14
Other softwoods	2,366	--	242	1,648	428	48
Total	143,062	21,637	15,091	74,210	20,312	11,812
Hardwoods:						
Red alder	2,586	1,231	405	860	28	62
Black cottonwood	115	--	--	115	--	--
Bigleaf maple	1,348	448	103	717	65	15
Oaks ^{1/}	1,615	13	33	457	583	529
Tanoak	1,517	72	1,416	--	1	28
Pacific madrone	1,451	2	283	489	375	302
Other hardwoods	652	159	218	138	19	118
Total	9,284	1,925	2,458	2,776	1,071	1,054
All species	152,346	23,562	17,549	76,986	21,383	12,866

^{1/} Oaks consist of California black and Oregon white oak.

Table 23.--Net annual growth of all growing stock and sawtimber on commercial forest land by species, southwest Oregon, 1962

Species	All growing stock	Sawtimber (International 1/4-inch rule)	Sawtimber (Scribner rule)
	<u>Thousand cu. ft.</u>	<u>Thousand bd. ft.</u>	<u>Thousand bd. ft.</u>
Softwoods:			
Douglas-fir	99,337	476,907	387,049
Ponderosa and Jeffrey pine	5,614	22,030	17,934
Sugar pine	4,382	17,810	14,459
Western hemlock	14,582	69,131	56,099
White and grand fir	16,088	63,546	51,632
Other true firs	3,765	20,293	16,445
Spruce	5,203	19,796	16,073
Western redcedar	3,012	17,252	14,025
Other softwoods	10,613	46,419	37,793
Total	162,596	753,184	611,509
Hardwoods	22,729	92,403	89,982
All species	185,325	845,587	701,491

Table 24.--Annual mortality of all growing stock and sawtimber on commercial forest land by species, southwest Oregon, 1962^{1/}

Species	All growing stock	Sawtimber (International 1/4-inch rule)	Sawtimber (Scribner rule)
	<u>Million cu. ft.</u>	<u>Million bd. ft.</u>	<u>Million bd. ft.</u>
Softwoods:			
Douglas-fir	133	870	706
Pines	17	82	66
True firs	21	106	73
Western hemlock	8	49	36
Other softwoods	9	41	32
Total	188	1,148	913
Hardwoods	11	39	39
All species	199	1,187	952

^{1/} Estimate of long-term average annual mortality including both enphytotic and catastrophic losses.

Table 25.--Volume of salvable dead sawtimber-size trees on commercial forest land, by softwoods and hardwoods, southwest Oregon, 1963

(In million board feet)

Species group	Volume	
	International 1/4-inch rule	Scribner rule
Softwoods	6,813	5,571
Hardwoods	131	127
All species	6,944	5,698

Table 26.--Timber harvest by ownership class, southwestOregon, 1950-62 (Scribner rule)

(In thousand board feet)

Year ^{1/}	Total	Private	State	National Forest	Other public
1950	2,653,927	2,392,627		252,300	9,000
1951	3,181,033	2,903,833		277,200	--
1952	3,887,385	3,616,585		270,800	--
1953	3,222,276	2,928,776		293,500	--
1954	3,550,143	3,151,343		398,800	--
1955	4,087,349	3,702,323		385,026	--
1956	3,533,168	2,821,526		398,000	313,642
1957	2,861,379	2,200,086		326,200	335,093
1958	2,921,450	1,990,426	11,549	480,037	439,438
1959	3,562,357	2,272,729	20,541	688,335	580,752
1960	3,299,203	2,256,604	29,061	511,721	501,817
1961	2,496,454	1,378,802	54,381	550,522	512,749
1962	2,995,482	1,570,415	52,796	705,300	666,971

Source: Reports of the State Forester, U.S. Bureau of Land Management, U.S. Bureau of Indian Affairs, and Division of Timber Management, Region 6, U.S. Forest Service.

^{1/} For the years 1950-57, data for private and State ownerships were not separated, and for the years 1950-55 data for Bureau of Land Management lands were included with private and State ownerships.

ACCURACY OF THE CURRENT INVENTORY DATA

Forest Area and Timber Volume

Estimates of forest land area for the Siuslaw National Forest and the Cottage Grove unit of the Umpqua National Forest were based on complete enumeration by means of a forest type map and thus have no sampling errors. Area estimates for all the remaining area, both National Forest and other lands, were derived by sampling. Sampling errors were computed separately for each of these subunits, then combined into a single estimate for the entire inventory unit. Thus, the sampling errors for total commercial and noncommercial forest land express the combined errors from the sampled units as a percent of the total estimate from all units.

Total volume estimates for southwest Oregon were derived by sampling and thus have sampling errors associated with them. Sampling errors were calculated for total board-foot and cubic-foot volume only.

In all cases, an effort was made to hold errors due to techniques or judgment to a minimum by close supervision and frequent checks of all phases of the work.

Table 27 presents the estimated sampling errors as a percent of the total estimates at the 68-percent and 95-percent probability levels.

The sampling error of any breakdown of these totals will be substantially greater than for the total, and the smaller the breakdown the larger the sampling error.

Table 27.--Sampling errors of estimates of forest area
and timber volume

Item	Estimated total	Sampling error in percent	
		68-percent probability	95-percent probability
Commercial forest land	6,899,000 acres	± 0.6	± 1.2
Noncommercial forest land	404,000 acres	± 8.3	± 16.3
Volume:			
Growing stock	31,026 million cubic feet	± 2.0	± 3.9
Sawtimber	152,346 million board feet (Scribner rule)	± 2.4	± 4.7

DIFFERENCES IN RESULTS OF INVENTORIES

Tables 28 and 29 show area and volume statistics for three successive inventories of southwest Oregon. Sawtimber volumes for the two earlier inventories have been adjusted for changes due to lowering the diameter limit of sawtimber trees and changes in merchantable top diameter limits. Some of the differences between inventories are due to physical changes, such as cutting and growth of stands, restocking of deforested lands, and the shift of forest land to other uses such as urban development. Some differences are due to changes in the standards of utilization recognized, some to changes in procedures, and some to changes in standards and definitions. These variations make direct comparison of some statistics meaningless, and comparison of other statistics is meaningful only after they have been adjusted to a common base.

Nevertheless, certain general conclusions can be drawn concerning the trend of southwest Oregon's forest resource. Total forest land area has remained relatively stable. Commercial forest area has increased about 5 percent while noncommercial forest land has decreased about 38 percent since the previous inventory. A large part of the shift of noncommercial forest to commercial forest status is due to the reclassification as commercial forest of some productive forest areas formerly in a reserved status as potential wild or wilderness areas. Some of the shift is also due to the reclassification as commercial because of improvements in logging methods and accessibility of some areas formerly considered noncommercial.

Softwood sawtimber volume appears to have decreased slightly while the volume of hardwoods has risen. The principal decrease in softwood volume appears to have taken place in ponderosa pine, sugar pine, true firs, and Port-Orford-cedar.

FOREST SURVEY PROCEDURES

This southwest Oregon report combines data from five National Forest inventory projects and one Forest Survey project. These are: Siuslaw National Forest, 1956; Umpqua National Forest, 1956-58;^{1/} Rogue River and Siskiyou National Forests, 1960; Willamette National Forest, 1962; and the remaining area outside National Forest ownership, 1962.

Siuslaw National Forest and Cottage Grove Unit of the Umpqua National Forest

The area data from the 1956 inventory were the latest available for inclusion in this report; the volume data were updated to January 1, 1963, by adding estimated growth and subtracting cut. The inventory of the Siuslaw

^{1/} Each unit of the Umpqua National Forest was inventoried in successive years: Cottage Grove, 1956; North Umpqua, 1957; and South Umpqua, 1958.

Table 28.--Comparison of forest area statistics for southwest Oregon

(In acres)

Land class	Initial inventory 1932-33	First reinventory 1948	Current inventory 1963
Commercial forest	6,586,000	6,581,000	6,899,000
Noncommercial forest:			
Productive-reserved	1,000	221,000	56,000
Unproductive	591,000	432,000	348,000
Total noncommercial forest	592,000	653,000	404,000
Total forest	7,178,000	7,234,000	7,303,000
Nonforest	954,000	911,000	847,000
All land	8,132,000	8,145,000	8,150,000

Source: Government Land Office, U.S. Department of Interior figures and U.S. Bureau of the Census, 1960.

National Forest was a cooperative effort of Forest Survey and the Siuslaw National Forest. A complete type map was made using aerial photos, and area data were taken from this map. Field plots were located by random selection on aerial photos. Field plots consisted of three 1/5-acre circular subplots spaced at 6-chain intervals. Permanent plots were located and established in the field; supplemental plots were measured but not marked. The field plots provided data only for volume estimates. Area estimates were made from the type map summary and updated for exchanges in area since the date of inventory.

The inventory of the Cottage Grove unit of the Umpqua National Forest was similar to the Siuslaw inventory.

All Other National Forest Units

These units were inventoried by National Forest inventory crews during the period 1957-62. The basic data were adjusted to Forest Survey standards, then updated to January 1, 1963, by the addition of growth and the subtraction of cut. The statistics on forest land area, timber volume, and growth were obtained from permanent sample plot data. These plots consisted of clusters of three 1/5-acre plots located on a systematic grid with intervals of 1.7 miles.

Table 29.--Comparison of timber-volume statistics for southwest Oregon

(In million board feet, Scribner rule)

Species	Initial inventory 1932-33	First reinventory 1948	Current inventory 1963
Softwoods:			
Douglas-fir	122,420	109,560	109,119
Redwood	68	84	224
Ponderosa and Jeffrey pine	5,611	5,446	2,868
Sugar pine	4,028	6,968	3,777
Western white pine	727	457	1,274
Lodgepole and other pines	7	155	372
True firs	8,299	14,060	10,529
Engelmann and other spruces	17	15	69
Sitka spruce	1,591	274	741
Mountain hemlock	977	1,052	2,141
Western hemlock	2,339	4,119	5,850
Incense-cedar	1,880	2,802	3,122
Port-Orford-cedar	1,397	1,688	925
Western redcedar	1,064	2,754	<u>1/2</u> ,051
Total	150,425	149,434	143,062
Hardwoods:			
Red alder	433	997	2,586
Black cottonwood	6	--	115
Bigleaf maple	237	379	1,348
Other hardwoods	1,126	1,752	5,235
Total	1,802	3,128	9,284
All species	152,227	152,562	152,346

1/ Includes Alaska-cedar.Outside National Forest

The area outside the National Forests was inventoried by Forest Survey during the summer of 1962.

A systematic sample of field plots was distributed across all owners other than National Forest. The field plots, spaced 3.4 miles apart, were supplemented by a more intensive sample of photo plots. The ratio of photo to field plots was

approximately 16 to 1. A field plot consisted of 10 sample points distributed systematically over an acre. The variable-radius-plot principle was used at each sample point to select the trees to be tallied. The summation of the 10-point tally expressed the resources and conditions for that acre and provided area, volume, growth, and mortality statistics.

DEFINITION OF TERMS

Land Area

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 one-eighth mile wide; and lakes, reservoirs, and ponds less than 40 acres in area.

Forest Land Area

Land at least 10 percent stocked by trees of any size, or formerly having such tree cover, and not currently developed for nonforest use. Minimum area of forest land recognized is 1 acre.

Nonforest Land Area

Land that does not qualify as forest land. Minimum area of forest land recognized is 1 acre.

Forest Land Classes

Commercial Forest Land Area

Forest land which is producing or capable of producing industrial wood and not withdrawn from timber utilization.

Noncommercial Forest Land Area

Unproductive forest land incapable of yielding crops of industrial wood because of adverse site conditions, and productive public forest land withdrawn from commercial timber use through statute or administrative regulation.

Productive-reserved. Public forest land withdrawn from timber utilization through statute, ordinance, or administrative order but which otherwise qualifies as commercial forest land.

Unproductive. Forest land incapable of yielding crops of industrial wood products (usually sawtimber) because of adverse site conditions.

Subalpine. Forest stands at the upper elevational limits of tree growth.

Noncommercial rocky. Areas within the commercial forest zone but so steep and rocky that they are incapable of producing usable wood products.

Types

Forest land types are based upon the predominant species in the present tree cover. Types are determined on the basis of majority of stocking by all live trees of various species, considering both size and spacing.

Tree Classes

Growing Stock

Live trees of commercial species that are now or may be expected to become suitable for use as industrial wood. They must meet the following specifications:

Sawtimber trees (11.0 inches d.b.h. and larger). Contain at least one 16-foot coniferous saw log or one 12-foot hardwood saw log to a variable top diameter of not less than 8.0 inches inside bark and with not less than 25 percent of the board-foot volume of the tree free of defect.

Poletimber trees (5.0-10.9 inches d.b.h.). Not less than 50 percent sound on a cubic-foot basis and with no defects or deformities which are likely to prevent them from becoming growing-stock sawtimber trees.

Sapling and seedling trees (less than 5.0 inches d.b.h.). No defects or deformities which are likely to prevent them from becoming growing-stock poletimber trees.

Nongrowing Stock

Trees which do not meet the requirements for growing stock.

Cull trees. Trees of noncommercial species and trees of commercial species which are too defective or which are unlikely to become growing-stock trees due to deformity, disease, low vigor, etc.

Sound cull trees. Trees of noncommercial species, or with excessive defect due to form, roughness, etc.

Rotten cull trees. Trees with excessive defect due primarily to rot.

Mortality trees. Trees which died from natural causes during a specified period and which were not cull trees at the time of death.

Salvable dead trees. Standing or down dead trees 11.0 inches or more in diameter that contain 25 percent or more of sound volume and at least one merchantable 16-foot coniferous or 12-foot hardwood saw log.

Stand-Size Classes

Sawtimber Stand

Stand at least 10 percent stocked with growing-stock trees, with half or more of this stocking in sawtimber and poletimber trees and with sawtimber stocking at least equal to poletimber stocking.

Large sawtimber stand. Stand in which the majority of the sawtimber stocking is in trees 21.0 inches d.b.h. and larger.

Small sawtimber stand. Stand in which the majority of the sawtimber stocking is in trees from 11.0 to 20.9 inches d.b.h.

Poletimber Stand

Stand at least 10 percent stocked with growing-stock trees, with half or more of this stocking in sawtimber and poletimber trees and with poletimber stocking exceeding sawtimber stocking.

Sapling and Seedling Stand

Stand at least 10 percent stocked with growing-stock trees and with more than half of this stocking in saplings and/or seedlings.

Nonstocked Area

An area of commercial forest land less than 10 percent stocked with growing-stock trees.

Stocking

Stocking is the extent to which growing space is effectively utilized by present or potential growing-stock trees of commercial species. "Degree of stocking" is synonymous with "percentage of growing space occupied" and means the ratio of actual stocking to full stocking for comparable sites and stands.

"Stocking percentages" express current area occupancy or stocking in relation to specified standards for full stocking based on number, size, and spacing of trees considered necessary to make effective use of forest land. Stocking by all live trees is used in classifying forest land and forest cover type. Stocking by growing-stock trees is used in classifying stand size.

Standards used for full stocking are:

trees 2 years old to 4.9 inches d.b.h.	750 trees per acre
trees 5.0 to 6.9 inches d.b.h.	670 trees per acre
trees 7.0 inches d.b.h. and larger:	
conifer sites	160 square feet basal area per acre
hardwood sites	100 square feet basal area per acre

Well-Stocked Stand

A stand that is 70 percent or more stocked with present or potential growing-stock trees.

Medium-Stocked Stand

A stand that is 40 to 69 percent stocked with present or potential growing-stock trees.

Poorly Stocked Stand

A stand that is 10 to 39 percent stocked with present or potential growing-stock trees.

Nonstocked Area

An area less than 10 percent stocked with present or potential growing-stock trees.

Timber Volume

Live Sawtimber Volume

Net volume in board feet of live sawtimber trees of commercial species:

Scribner rule. The common board-foot log rule used in determining volume of sawtimber in the Pacific Northwest.

International 1/4-inch rule. The standard board-foot log rule adopted nationally by the Forest Service for the presentation of Forest Survey volume statistics.

Growing Stock

Net volume in cubic feet of live sawtimber trees and live poletimber trees from stump to a minimum 4.0-inch top (of central stem) outside bark.

All-Timber Volume

Net volume in cubic feet of live and salvable dead sawtimber trees and poletimber trees of commercial species, and cull trees of all species from stump to a minimum 4.0-inch top outside bark.

Ownership Classes

National Forest Lands

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

Other Public Lands

Federal lands other than National Forests, including lands administered by the U.S. Bureau of Land Management, U.S. Bureau of Indian Affairs, and miscellaneous Federal agencies, and lands owned by States, counties, and local public agencies, or lands leased by these governmental units for more than 50 years.

Forest Industry Lands

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

Farmer-Owned Lands

Lands owned by operators of farms.

Miscellaneous Private Lands

Privately owned lands other than forest industry or farmer-owned lands.

TREE SPECIES

Tree species found in southwest Oregon include:

Softwoods:

Alaska-cedar (*Chamaecyparis nootkatensis*)
Brewer spruce (*Picea breweriana*)
Douglas-fir (*Pseudotsuga menziesii*)
Engelmann spruce (*Picea engelmannii*)
Grand fir (*Abies grandis*)
Incense-cedar (*Libocedrus decurrens*)
Jeffrey pine (*Pinus jeffreyi*)
Knobcone pine (*Pinus attenuata*)
Lodgepole pine (*Pinus contorta*)
Mountain hemlock (*Tsuga mertensiana*)
Noble fir (*Abies procera*)
Pacific silver fir (*Abies amabilis*)
Ponderosa pine (*Pinus ponderosa*)
Port-Orford-cedar (*Chamaecyparis lawsoniana*)
Redwood (*Sequoia sempervirens*)
Shasta red fir (*Abies magnifica* var. *shastensis*)
Sitka spruce (*Picea sitchensis*)
Subalpine fir (*Abies lasiocarpa*)
Sugar pine (*Pinus lambertiana*)
Western hemlock (*Tsuga heterophylla*)
Western redcedar (*Thuja plicata*)
Western white pine (*Pinus monticola*)
White fir (*Abies concolor*)
Whitebark pine (*Pinus albicaulis*)

Hardwoods:

Bigleaf maple (*Acer macrophyllum*)
Black cottonwood (*Populus trichocarpa*)
California black oak (*Quercus kelloggii*)
California-laurel (*Umbellularia californica*)
Canyon live oak (*Quercus chrysolepis*)
Golden chinkapin (*Castanopsis chrysophylla*)
Oregon ash (*Fraxinus latifolia*)
Oregon white oak (*Quercus garryana*)
Pacific madrone (*Arbutus menziesii*)
Red alder (*Alnus rubra*)
Tanoak (*Lithocarpus densiflorus*)

RECENT FOREST SURVEY PUBLICATIONS

<u>Number</u>	<u>Title</u>	<u>Date</u>
Miscellaneous:		
	1963 Oregon Log Production	June 1964
Research Paper:		
PNW-5	Timber Trends in Western Oregon and Western Washington	October 1963
Resource Bulletins:		
PNW-7	Forest Statistics for Northwest Oregon	July 1964
PNW-6	1962 Washington Log Production	December 1963
PNW-5	Forest Statistics for Chelan and Douglas Counties, Washington	May 1963
PNW-4	Forest Statistics for Northeast Washington	May 1963
PNW-3	Toward Complete Use of Eastern Oregon's Forest Resources	May 1963
PNW-2	1962 Oregon Log Production	April 1963
PNW-1	1961 Washington Log Production	January 1963
Reports:		
146	1961 Oregon Log Production	December 1962
145	Forest Statistics for Clallam County, Washington	July 1962
144	Forest Statistics for Jefferson County, Washington	June 1962
143	Forest Statistics for King County, Washington	June 1962
142	Forest Statistics for Island and Kitsap Counties, Washington, 1959; San Juan County, Washington, 1960	May 1962

Available from:

Pacific Northwest Forest & Range Experiment Station
P. O. Box 3141
Portland, Oregon 97208