

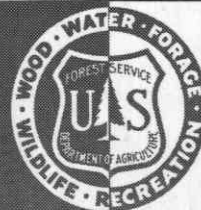
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Forest Statistics for



John W. Hazard and Melvin E. Metcalf

PACIFIC NORTHWEST
FOREST AND RANGE EXPERIMENT STATION
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PREFACE

This publication summarizes the results of the latest reinventory of four counties centrally located in western Oregon: Benton, Lane, Lincoln, and Linn. This block of four 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 eastern Oregon.

Field data for west-central Oregon were collected in 1961 and 1962 for all areas except the Siuslaw National Forest and the Cottage Grove unit of the Umpqua National Forest, for which the most recent data available were collected in 1956. Volume data have been adjusted for growth and cutting to January 1, 1963. The results of this latest reinventory are presented with a minimum of interpretation to permit more rapid publication of the timber resource statistics.

The initial inventory of these counties was made during the period 1930-32. The results of this inventory were published in 1934 as a series of pamphlets containing the forest statistics for each individual county. During the period 1940-43, a reinventory of each county was conducted. Summaries of the data were published as Forest Survey county reports. Lane and Lincoln Counties were reinventoried separately in 1955-56. The results of this inventory appear in two 1957 publications: "Forest Statistics for Lincoln County, Oregon," and "Forest Resources and Forest Industries of Lane County, Oregon."

Such 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 amount and kind of timber volume on them, to determine rates of forest growth and depletion, to estimate timber cut and 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 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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WEST-CENTRAL OREGON'S FOREST RESOURCE IN BRIEF

COMMERCIAL FOREST LAND--

Totals 4,229,000 acres or 78 percent of the land area; has sawtimber stands on 67 percent of its area; and is 72 percent Douglas-fir type, 17 percent other softwood types, and 11 percent hardwood types.

GROWING-STOCK VOLUME--

Totals 23,622 million cubic feet; is 67 percent Douglas-fir; and is 92 percent in trees of sawtimber size.

SAWTIMBER VOLUME--

Totals 146,585 million board feet, International 1/4-inch rule (119,018 million board feet, Scribner); is 72 percent publicly owned; and is 57 percent in trees over 29 inches in diameter.

NATIONAL FOREST OWNERSHIP--

Has 41 percent of the commercial forest area; controls 53 percent of the sawtimber area; and holds 60 percent of the sawtimber volume.

OTHER PUBLIC OWNERSHIP--

Has 12 percent of the commercial forest area; controls 12 percent of the sawtimber area; and holds 12 percent of the sawtimber volume.

FOREST INDUSTRY OWNERSHIP--

Has 26 percent of the commercial forest area; controls 19 percent of the sawtimber area; and holds 20 percent of the sawtimber volume.

FARMER AND MISCELLANEOUS PRIVATE OWNERSHIP--

Has 21 percent of the commercial forest area; controls 16 percent of the sawtimber area; and holds 8 percent of the sawtimber volume.

NET ANNUAL GROWTH--

Totals 186 million cubic feet (994 million board feet, International 1/4-inch rule, 819 million board feet, Scribner); is 0.79 percent of growing-stock volume; and is 86 percent softwoods.

AVERAGE ANNUAL CUT OVER THE PAST 5 YEARS--

Has been 2,321 million board feet, Scribner rule; has been 53 percent from private timber; and has been 183 percent greater than net annual growth.

CHANGE IN LANE COUNTY SAWTIMBER VOLUME--

The 1956 inventory of the sawtimber volume in Lane County gave an estimate of 97.0 billion board feet, Scribner rule. Thorough reexamination of that estimate indicates that it should have been about 72.8 billion board feet in terms of current measurement standards (see page 26). The 1963 inventory of Lane County reported here gave an estimate of 67.1 billion board feet. During the period 1956-62 the actual net decrease in sawtimber volume due to cutting amounted to 5.7 billion board feet. Almost half of this cut came from the public lands under the allowable cut levels and management policies in effect during this period with the proportion of total cut supplied from these lands slowly increasing.

Currently 80 percent of the sawtimber volume is on public lands. The apparent decrease in total sawtimber is not expected to cause a reduction in cut from these public lands. Present levels of allowable cut are actually somewhat higher than existed during the period 1956-62 and are expected to continue at these present levels. The level of cut from private lands is determined by the individual landowner's objectives, his own estimate of his timber holdings, and the demand for timber in his local area. Therefore, this new estimate of total volume will not affect the amount of cut expected from private or public lands.

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

(In acres)

Land class	Total	Benton	Lane	Lincoln	Linn
Commercial forest	4,229,000	280,000	2,363,000	583,000	1,003,000
Unproductive forest	95,000	--	64,000	1,000	30,000
Productive-reserved forest	178,000	--	120,000	1,000	57,000
Total forest	4,502,000	280,000	2,547,000	585,000	1,090,000
Nonforest	1/943,000	148,000	371,000	45,000	379,000
All land	2/5,445,000	428,000	2,918,000	630,000	1,469,000

1/ Includes 20,700 acres of water according to Forest Survey standards of area classification but defined by the Bureau of the Census as land.

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 ownershipclasses, west-central Oregon, 1963

(In acres)

Ownership class	Area
National Forest	1,744,000
Other Federal:	
Bureau of Land Management	431,000
Indian	--
Miscellaneous Federal	(1/)
Total other Federal	431,000
State	71,000
County and municipal	7,000
Forest industry:	
Pulp and paper	153,000
Lumber	844,000
Other	76,000
Total forest industry	1,073,000
Farmer owned	454,000
Miscellaneous private	449,000
All ownerships	4,229,000

1/ Less than 500 acres.

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

(In acres)

County	All ownerships	National Forest	Other public	Forest industry	Farmer and miscel- laneous private
Benton	280,000	17,000	72,000	15,000	176,000
Lane	2,363,000	1,179,000	281,000	567,000	336,000
Lincoln	583,000	169,000	47,000	256,000	111,000
Linn	1,003,000	379,000	109,000	235,000	280,000
All counties	4,229,000	1,744,000	509,000	1,073,000	903,000

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

(In acres)

Stand-size class	All ownerships	National Forest	Other public	Forest industry	Farmer and miscel- laneous private
Sawtimber stands:					
Large	2,089,000	1,179,000	256,000	432,000	222,000
Small	730,000	326,000	80,000	87,000	237,000
Total	2,819,000	1,505,000	336,000	519,000	459,000
Poletimber stands	334,000	115,000	60,000	109,000	50,000
Sapling and seedling stands	975,000	97,000	113,000	414,000	351,000
Nonstocked areas	101,000	27,000	--	31,000	43,000
All classes	4,229,000	1,744,000	509,000	1,073,000	903,000

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

(In acres)

Stand volumes per acre ^{1/}	Area by stand-size classes		
	All stands	Sawtimber stands	Other stands
Less than 1,500 board feet	845,000	30,000	815,000
1,500 to 5,000 board feet	492,000	155,000	337,000
More than 5,000 board feet	2,892,000	2,634,000	258,000
All classes	4,229,000	2,819,000	1,410,000

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

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

(In acres)

Stocking class	All stands	Sawtimber stands	Poletimber stands	Sapling and seedling stands	Nonstocked stands
70 percent or more	2,481,000	2,088,000	178,000	215,000	(^{1/})
40 to 70 percent	975,000	467,000	90,000	418,000	(^{1/})
10 to 40 percent	672,000	264,000	66,000	342,000	(^{1/})
Less than 10 percent	101,000	(^{1/})	(^{1/})	(^{1/})	101,000
All classes	4,229,000	2,819,000	334,000	975,000	101,000

^{1/} Not applicable.

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

(In acres)

Yield class ^{1/} (cubic feet)	All ownerships	National Forest	Other public	Forest industry	Farmer and miscel- laneous private
120 or more	2,975,000	1,271,000	453,000	743,000	508,000
85 to 120	546,000	182,000	40,000	166,000	158,000
50 to 85	488,000	182,000	7,000	107,000	192,000
Less than 50	220,000	109,000	9,000	57,000	45,000
All classes	4,229,000	1,744,000	509,000	1,073,000	903,000

^{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, west-central Oregon, 1963

(In acres)

Type	All ownerships	Public ownership	Private ownership
Douglas-fir	2,977,000	1,767,000	1,210,000
Ponderosa pine	5,000	5,000	--
Hemlock—Sitka spruce	420,000	158,000	262,000
Spruce—fir	250,000	211,000	39,000
Lodgepole pine	20,000	11,000	9,000
Western white pine	12,000	12,000	--
Hardwoods	444,000	62,000	382,000
Nonstocked	101,000	27,000	74,000
All types	4,229,000	2,253,000	1,976,000

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

(In acres)

Type	All areas	Productive- reserved areas	Unproductive areas
Douglas-fir	44,000	44,000	--
Engelmann spruce--fir	9,000	9,000	--
Western hemlock--Sitka spruce	6,000	6,000	--
Western white pine	6,000	6,000	--
Other softwoods	113,000	113,000	--
Hardwoods	(1/)	(1/)	--
Subalpine	5,000	--	5,000
Noncommercial rocky	90,000	--	90,000
All types	273,000	178,000	95,000

1/ Less than 500 acres.Table 10.--Volume of all growing stock and sawtimber on commercialforest land, by counties, west-central Oregon, 1963^{1/}

County	All growing stock	Sawtimber	
		International 1/4-inch rule	Scribner rule
	<u>Million cu. ft.</u>	<u>Million bd. ft.</u>	<u>Million bd. ft.</u>
Benton	1,272	7,690	6,356
Lane	13,327	32,919	67,086
Lincoln	3,095	21,013	17,289
Linn	5,928	34,963	28,287
All counties	23,622	146,585	119,018

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 ownership class, west-central Oregon, 1963

County	Total	National Forest	Other public	Forest industry	Farmer and miscel- laneous private
----- <u>Million cubic feet</u> -----					
All growing stock:					
Benton	1,272	108	592	61	511
Lane	13,327	9,165	1,393	2,097	672
Lincoln	3,095	1,491	328	1,086	190
Linn	5,928	3,061	718	1,269	880
Total	23,622	13,825	3,031	4,513	2,253
----- <u>Million board feet</u> ^{1/} -----					
Sawtimber:					
Benton	7,690	885	3,597	386	2,822
Lane	82,919	58,301	8,417	12,896	3,305
Lincoln	21,013	11,788	1,924	6,490	811
Linn	34,963	16,978	4,141	8,663	5,181
Total	146,585	87,952	18,079	28,435	12,119

^{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, west-central Oregon, 1963

(Thousands of trees)

Diameter class (inches d.b.h.)	All species	Softwoods	Hardwoods
5.0 - 6.9	120,957	98,702	22,255
7.0 - 8.9	78,631	64,616	14,015
9.0 - 10.9	56,939	45,101	11,838
11.0 - 12.9	44,964	34,578	10,386
13.0 - 14.9	34,475	29,487	4,988
15.0 - 16.9	25,859	21,673	4,186
17.0 - 18.9	18,990	16,331	2,659
19.0 - 28.9	54,055	50,869	3,186
29.0 - 38.9	20,279	19,965	314
39.0 and larger	14,195	14,181	14
All classes	469,344	395,503	73,841

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

(Thousands of trees)

Diameter class (inches d.b.h.)	Cull trees	Salvable dead trees
Softwoods:		
5.0 - 10.9	9,598	--
11.0 - 18.9	2,155	2,857
19.0 and larger	2,931	3,457
Total	14,684	6,314
Hardwoods:		
5.0 - 10.9	17,522	--
11.0 - 18.9	3,094	468
19.0 and larger	368	40
Total	20,984	508
All species	35,668	6,822

Table 14.--All-timber volume on commercial forest land, by class of timber and by softwoods and hardwoods, west-central Oregon, 1963

(In million cubic feet)

Class of timber	All species	Softwoods	Hardwoods
Sawtimber trees:			
Saw-log portion	20,249	19,351	898
Upper-stem portion	1,525	1,457	68
Total	21,774	20,808	966
Poletimber trees	1,848	1,396	452
All growing-stock trees	23,622	22,204	1,418
Sound cull trees:			
Sawtimber-size	105	34	71
Poletimber-size	129	53	76
Total	234	87	147
Rotten cull trees:			
Sawtimber-size	64	62	2
Poletimber-size	2	1	1
Total	66	63	3
Salvable dead trees:			
Sawtimber-size	671	658	13
Total, all timber	24,593	23,012	1,581

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

Ownership classes	All species	Softwoods	Hardwoods
----- <u>Million cubic feet</u> -----			
All growing stock:			
National Forest	13,825	13,398	427
Other public	3,031	2,826	205
Forest industry	4,513	4,249	264
Farmer and miscellaneous private	2,253	1,731	522
All ownerships	23,622	22,204	1,418
----- <u>Million board feet</u> -----			
Sawtimber (International 1/4-inch rule):			
National Forest	87,952	86,256	1,696
Other public	18,079	17,456	623
Forest industry	28,435	27,414	1,021
Farmer and miscellaneous private	12,119	9,990	2,129
All ownerships	146,585	141,116	5,469
Sawtimber (Scribner rule):			
National Forest	70,905	69,256	1,649
Other public	14,731	14,123	608
Forest industry	23,191	22,198	993
Farmer and miscellaneous private	10,191	8,116	2,075
All ownerships	119,018	113,693	5,325

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

Stand-size classes	All species	Softwoods	Hardwoods
----- <u>Million cubic feet</u> -----			
All growing stock:			
Sawtimber stands	22,418	21,198	1,220
Poletimber stands	726	625	101
Sapling and seedling stands	474	377	97
Nonstocked areas	4	4	--
Total	23,622	22,204	1,418
----- <u>Million board feet</u> -----			
Sawtimber (International 1/4-inch rule):			
Sawtimber stands	142,882	137,910	4,972
Poletimber stands	1,540	1,393	147
Sapling and seedling stands	2,162	1,812	350
Nonstocked areas	1	1	--
Total	146,585	141,116	5,469
Sawtimber (Scribner rule):			
Sawtimber stands	115,950	111,110	4,840
Poletimber stands	1,265	1,122	143
Sapling and seedling stands	1,802	1,460	342
Nonstocked areas	1	1	--
Total	119,018	113,693	5,325

Table 17.--Volume of all growing stock on commercial forest land, by species
and diameter classes, west-central 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	15,748	130	205	296	406	566	584	592	3,921	3,592	5,456
Ponderosa pine	59	--	--	1	--	--	(1/)	(1/)	9	26	23
Western white pine	238	3	5	11	13	18	21	21	88	46	12
Sugar pine	53	(1/)	1	1	(1/)	1	2	2	19	11	16
Lodgepole pine	86	5	14	19	13	14	13	6	2	--	--
Whitebark pine	1	(1/)	(1/)	1	--	(1/)	(1/)	--	--	--	--
White and grand fir	225	13	13	17	15	18	15	23	63	36	12
Pacific silver fir	599	33	34	45	44	48	47	54	188	65	41
Noble fir	522	10	12	16	19	22	26	23	156	169	69
Subalpine fir	119	25	30	32	7	7	6	4	8	--	(1/)
Engelmann spruce	39	1	1	1	2	2	5	5	19	3	--
Sitka spruce	263	4	5	3	16	17	12	8	62	--	136
Mountain hemlock	503	11	23	37	30	45	49	47	185	67	9
Western hemlock	2,957	52	100	113	127	202	207	186	950	642	378
Alaska-cedar	3	(1/)	(1/)	1	(1/)	1	(1/)	(1/)	1	--	--
Western redcedar	680	11	18	33	37	37	33	41	170	182	118
Port-Orford-cedar	3	1	--	--	--	--	--	2	--	--	--
Incense-cedar	106	1	3	5	3	3	6	4	29	16	36
Total softwoods	22,204	300	464	632	732	1,001	1,026	1,018	5,870	4,855	6,306
Hardwoods:											
Red alder	884	70	60	84	159	113	119	99	158	22	(1/)
Oregon ash	25	6	--	7	3	3	2	3	1	--	--
Black cottonwood	26	--	2	--	(1/)	(1/)	4	(1/)	9	9	2
Bigleaf maple	281	33	33	45	27	26	24	20	51	19	3
Oregon white oak	119	18	20	18	18	4	11	13	17	--	--
California black oak	22	2	2	6	7	4	1	--	--	--	--
Golden chinkapin	34	9	13	5	2	(1/)	--	--	5	--	--
Pacific madrone	16	4	5	1	6	--	--	--	--	--	--
Other hardwoods	11	2	1	6	(1/)	(1/)	(1/)	(1/)	2	(1/)	(1/)
Total hardwoods	1,418	144	136	172	222	150	161	135	243	50	5
All species	23,622	444	600	804	954	1,151	1,187	1,153	6,113	4,905	6,311

1/ Less than 500,000 cubic feet.

Table 18.--Volume of sawtimber on commercial forest land, by species and diameter classes.

west-central 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	105,424	1,789	2,753	3,154	3,425	25,992	26,437	41,874
Ponderosa pine	342	(1/)	--	1	1	51	152	137
Western white pine	1,423	54	94	122	130	594	337	92
Sugar pine	297	2	6	9	8	102	67	103
Lodgepole pine	252	63	71	69	37	12	--	--
Whitebark pine	1	--	1	(1/)	--	--	--	--
White and grand fir	1,100	76	101	86	135	413	212	77
Pacific silver fir	2,865	199	249	259	308	1,170	420	260
Noble fir	2,564	64	87	115	111	916	763	508
Subalpine fir	126	23	26	27	16	33	--	1
Engelmann spruce	229	5	11	26	33	133	21	--
Sitka spruce	1,802	90	108	83	55	436	--	1,030
Mountain hemlock	2,239	120	199	238	241	1,000	390	51
Western hemlock	18,153	632	1,129	1,258	1,187	6,506	4,660	2,781
Alaska-cedar	10	(1/)	1	(1/)	2	7	--	--
Western redcedar	3,742	142	165	167	224	1,029	1,230	785
Port-Orford-cedar	12	--	--	--	12	--	--	--
Incense-cedar	535	8	10	24	13	148	76	256
Total	141,116	3,267	5,011	5,638	5,938	38,542	34,765	47,955
Hardwoods:								
Red alder	3,694	683	523	628	581	1,087	192	(1/)
Oregon ash	72	15	14	10	20	13	--	--
Black cottonwood	196	(1/)	(1/)	20	1	80	77	18
Bigleaf maple	991	109	122	124	116	343	154	23
Oregon white oak	366	80	23	66	76	121	--	--
California black oak	55	29	19	7	--	--	--	--
Golden chinkapin	38	8	1	--	--	29	--	--
Pacific madrone	46	1	1	--	10	9	25	--
Other hardwoods	11	(1/)	(1/)	(1/)	(1/)	11	(1/)	(1/)
Total	5,469	925	703	855	804	1,693	448	41
All species	146,585	4,192	5,714	6,493	6,742	40,235	35,213	47,996

1/ Less than 500,000 board feet.

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

west-central 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	86,054	1,112	1,781	2,143	2,432	20,095	21,939	36,552
Ponderosa pine	280	(1/)	--	(1/)	1	38	124	117
Western white pine	1,086	33	60	82	92	459	280	80
Sugar pine	241	1	4	6	6	78	56	90
Lodgepole pine	162	39	44	45	26	8	--	--
Whitebark pine	1	--	1	(1/)	--	--	--	--
White and grand fir	814	43	61	55	93	319	175	68
Pacific silver fir	2,150	122	160	174	218	901	348	227
Noble fir	2,039	39	56	78	78	710	634	444
Subalpine fir	87	14	17	19	11	25	--	1
Engelmann spruce	171	3	8	18	23	102	17	--
Sitka spruce	1,475	56	70	56	40	339	--	914
Mountain hemlock	1,671	74	127	161	171	771	323	44
Western hemlock	14,131	389	735	860	848	5,031	3,857	2,411
Alaska-cedar	7	(1/)	1	(1/)	1	5	--	--
Western redcedar	2,891	85	103	109	153	771	997	673
Port-Orford-cedar	8	--	--	--	8	--	--	--
Incense-cedar	425	5	6	16	9	110	62	217
Total	113,693	2,015	3,234	3,822	4,210	29,762	28,812	41,838
Hardwoods:								
Red alder	3,590	651	503	609	568	1,069	190	(1/)
Oregon ash	69	14	13	10	19	13	--	--
Black cottonwood	195	(1/)	(1/)	20	1	79	77	18
Bigleaf maple	969	104	117	121	113	338	153	23
Oregon white oak	356	76	23	64	74	119	--	--
California black oak	52	28	18	6	--	--	--	--
Golden chinkapin	38	8	1	--	--	29	--	--
Pacific madrone	45	1	1	--	9	9	25	--
Other hardwoods	11	(1/)	(1/)	(1/)	(1/)	11	(1/)	(1/)
Total	5,325	882	676	830	784	1,667	445	41
All species	119,018	2,897	3,910	4,652	4,994	31,429	29,257	41,879

1/ Less than 500,000 board feet.

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

(In million cubic feet)

Species	Total	Benton	Lane	Lincoln	Linn
Softwoods:					
Douglas-fir	15,748	1,023	9,285	1,833	3,607
Ponderosa pine	59	--	59	--	--
Western white pine	238	--	146	--	92
Sugar pine	53	--	50	--	3
Lodgepole pine	86	--	59	(1/)	27
Whitebark pine	1	--	1	--	(1/)
White and grand fir	225	10	159	--	56
Pacific silver fir	599	--	317	28	254
Noble fir	522	2	280	--	240
Subalpine fir	119	--	56	--	63
Engelmann spruce	39	--	18	--	21
Sitka spruce	263	---	55	208	--
Mountain hemlock	503	--	436	--	67
Western hemlock	2,957	22	1,186	533	1,216
Alaska-cedar	3	(1/)	(1/)	--	3
Western redcedar	680	34	460	30	156
Port-Orford-cedar	3	--	3	--	--
Incense-cedar	106	--	104	--	2
Total	22,204	1,091	12,674	2,632	5,807
Hardwoods:					
Red alder	884	29	358	458	39
Oregon ash	25	13	6	--	6
Black cottonwood	26	(1/)	20	--	6
Bigleaf maple	281	59	157	5	60
Oregon white oak	119	79	35	--	5
California black oak	22	--	22	--	--
Golden chinkapin	34	1	30	--	3
Pacific madrone	16	--	16	--	--
Other hardwoods	11	(1/)	9	--	2
Total	1,418	181	653	463	121
All species	23,622	1,272	13,327	3,095	5,928

1/ Less than 500,000 cubic feet.

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

(In million board feet)

Species	Total	Benton	Lane	Lincoln	Linn
Softwoods:					
Douglas-fir	105,424	6,626	62,315	13,834	22,649
Ponderosa pine	342	--	342	--	--
Western white pine	1,423	--	879	--	544
Sugar pine	297	--	288	--	9
Lodgepole pine	252	--	217	1	34
Whitebark pine	1	--	1	--	--
White and grand fir	1,100	52	850	--	198
Pacific silver fir	2,865	--	1,544	169	1,152
Noble fir	2,564	8	1,160	--	1,396
Subalpine fir	126	--	71	--	55
Engelmann spruce	229	--	104	--	125
Sitka spruce	1,802	--	318	1,484	--
Mountain hemlock	2,239	--	2,020	--	219
Western hemlock	18,153	111	7,309	3,319	7,414
Alaska-cedar	10	--	1	--	9
Western redcedar	3,742	237	2,615	184	706
Port-Orford-cedar	12	--	12	--	--
Incense-cedar	535	--	527	--	8
Total	141,116	7,034	80,573	18,991	34,518
Hardwoods:					
Red alder	3,694	151	1,445	1,997	101
Oregon ash	72	31	23	--	18
Black cottonwood	196	(1/)	156	--	40
Bigleaf maple	991	199	511	25	256
Oregon white oak	366	265	101	--	--
California black oak	55	--	55	--	--
Golden chinkapin	38	9	9	--	20
Pacific madrone	46	--	46	--	--
Other hardwoods	11	1	--	--	10
Total	5,469	656	2,346	2,022	445
All species	146,585	7,690	82,919	21,013	34,963

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

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

(In million board feet)

Species	Total	Benton	Lane	Lincoln	Linn
Softwoods:					
Douglas-fir	86,054	5,383	50,902	11,152	18,617
Ponderosa pine	280	--	280	--	--
Western white pine	1,086	--	666	--	420
Sugar pine	241	--	234	--	7
Lodgepole pine	162	--	139	1	22
Whitebark pine	1	--	1	--	--
White and grand fir	814	40	628	--	146
Pacific silver fir	2,150	--	1,145	131	874
Noble fir	2,039	7	912	--	1,120
Subalpine fir	87	--	49	--	38
Engelmann spruce	171	--	77	--	94
Sitka spruce	1,475	--	218	1,257	--
Mountain hemlock	1,671	--	1,511	--	160
Western hemlock	14,131	90	5,588	2,634	5,819
Alaska-cedar	7	--	1	--	6
Western redcedar	2,891	196	2,026	148	521
Port-Orford-cedar	8	--	8	--	--
Incense-cedar	425	--	419	--	6
Total	113,693	5,716	64,804	15,323	27,850
Hardwoods:					
Red alder	3,590	148	1,402	1,942	98
Oregon ash	69	30	22	--	17
Black cottonwood	195	(1/)	155	--	40
Bigleaf maple	969	194	499	24	252
Oregon white oak	356	258	98	--	--
California black oak	52	--	52	--	--
Golden chinkapin	38	9	9	--	20
Pacific madrone	45	--	45	--	--
Other hardwoods	11	1	--	--	10
Total	5,325	640	2,282	1,966	437
All species	119,018	6,356	67,086	17,289	28,287

1/ Less than 500,000 board feet.

Table 23.--Net annual growth of all growing stock and sawtimber on commercial forest land, by species, west-central Oregon, 1963

Species	All growing stock	Sawtimber	
		International 1/4-inch rule	Scribner rule
	<u>M cu. ft.</u>	<u>M bd. ft.</u>	<u>M bd. ft.</u>
Softwoods:			
Douglas-fir	108,404	623,355	501,525
Ponderosa pine	-116	-862	-694
Sugar pine	468	2,860	2,300
Western hemlock	26,870	125,779	101,197
White and grand fir	3,317	14,115	11,356
Other true firs	6,303	30,964	24,912
Spruce	5,043	29,046	23,369
Western redcedar	7,066	37,899	30,492
Other softwoods	2,161	18,285	14,712
Total	159,516	881,441	709,169
Hardwoods	26,479	112,501	109,531
All species	185,995	993,942	818,700

Table 24.--Annual mortality of all growing stock and sawtimber on commercial forest land, by species, west-central Oregon, 1963^{1/}

Species	All growing stock	Sawtimber	
		International 1/4-inch rule	Scribner rule
	<u>Million cu. ft.</u>	<u>Million bd. ft.</u>	<u>Million bd. ft.</u>
Softwoods:			
Douglas-fir	110	725	588
True firs	44	128	104
Western hemlock	28	174	140
Other softwoods	29	137	111
Total	211	1,164	943
Hardwoods	9	35	32
All species	220	1,199	975

^{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, west-central Oregon, 1963

(In million board feet)

Species group	Volume	
	International 1/4-inch rule	Scribner rule
Softwoods	4,620	3,739
Hardwoods	69	67
All species	4,689	3,806

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

(In thousand board feet)

Year ^{1/}	Total	Private	State	National Forest	Other ^{2/} public
1950	2,331,357	1,954,955		348,400	28,002
1951	2,371,536	2,000,236		352,300	19,000
1952	2,869,267	2,415,179		439,600	14,488
1953	2,468,737	2,002,460		465,600	677
1954	2,383,393	1,833,821		549,000	572
1955	2,487,500	1,916,696		570,804	--
1956	2,432,187	1,726,225		554,100	151,862
1957	2,056,359	1,366,861		538,900	150,598
1958	1,940,467	1,044,480	15,390	683,837	196,760
1959	2,126,380	945,419	15,505	932,568	232,888
1960	2,288,987	1,296,745	20,355	763,302	208,585
1961	2,448,498	1,428,615	16,100	762,089	241,694
1962	2,802,982	1,393,768	16,631	1,126,000	266,583

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.

^{2/} Prior to 1956 timber harvest data for the Bureau of Land Management were included with State and Private.

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. Area estimates for all the remaining areas, both National Forests and other lands, were derived by sampling. Sampling errors were computed separately for each subunit, 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 subunits as a percent of the total area estimate for each class.

Total volume estimates for west-central 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 totals	Sampling error in percent	
		68-percent probability	95-percent probability
Commercial forest land.....acres..	4,229,000	±0.8	±1.6
Noncommercial forest land....acres..	273,000	±6.2	±12.2
Volume:			
Growing stock.....MM cu. ft..	23,569	±2.8	±5.5
Sawtimber			
(Scribner rule).....MM bd. ft..	119,018	±3.2	±6.3

DIFFERENCES IN RESULTS OF INVENTORIES

Tables 28 and 29 show area and volume statistics for three successive inventories of west-central 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 complicate direct comparison of the statistics, and interpretation of the figures in these two tables as real changes in the forest resource must be made with caution.

Nevertheless, certain general conclusions can be drawn concerning the trend of the forest resources of west-central Oregon since the initial inventories of the 1930's. The area of commercial forest land has remained about the same. The 1963 estimate is about 2 percent higher than the initial estimate of the 1930's, about 1 percent lower than the estimate of the 1940's. Over the same period,

Table 28.--Comparison of area statistics for west-central Oregon

(In acres)

Land class	Initial inventory 1931-32	First reinventory 1940-43	Current inventory 1963
Commercial forest	4,144,000	4,278,000	4,229,000
Noncommercial forest:			
Productive-reserved	22,000	150,000	178,000
Unproductive	188,000	16,000	95,000
Total noncommercial forest	210,000	166,000	273,000
Total forest	4,354,000	4,444,000	4,502,000
Nonforest	1,135,000	1,048,000	943,000
All land	<u>1/</u> 5,489,000	<u>1/</u> 5,492,000	<u>2/</u> 5,445,000

1/ From Government Land Office, U.S. Department of the Interior.

2/ From U.S. Bureau of the Census, 1960.

Table 29.--Comparison of timber-volume statistics for west-central Oregon

(In million board feet, Scribner rule)

Species	Initial inventory 1931-32	First reinventory 1940-43	Current inventory 1963
Softwoods:			
Douglas-fir	103,136	95,434	86,054
Ponderosa pine	82	101	280
Western white pine	492	379	1,086
Sugar pine	195	153	241
Lodgepole pine	76	20	162
Whitebark pine	--	--	1
True firs	3,380	2,781	5,090
Engelmann spruce	42	24	171
Sitka spruce	1,375	671	1,475
Mountain hemlock	2,616	1,870	1,671
Western hemlock	10,819	8,743	14,131
Alaska-cedar	(1/)	1	7
Western redcedar	2,543	1,955	2,891
Port-Orford-cedar	--	--	8
Incense-cedar	247	303	425
Total	125,003	112,435	113,693
Hardwoods:			
Red alder	1,061	292	3,590
Oregon ash	--	--	69
Black cottonwood	37	50	195
Bigleaf maple	251	267	969
Oregon white oak	--	--	356
California black oak	--	--	52
Golden chinkapin	--	--	38
Other hardwoods	11	9	56
Total	1,360	618	5,325
All species	126,363	113,053	119,018

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

the estimate of total forest land area has increased about 3 percent. The estimated area of productive-reserved land has increased about eightfold, due primarily to the creation of such reserved areas as the Mount Jefferson Primitive Area, the Mount Washington Wild Area, and the Three Sisters Wilderness Area. However, the shift of commercial forest land into productive-reserved

status has apparently been largely offset by areas shifted from unproductive commercial forest to commercial forest area due to changed logging methods and improved accessibility.

The estimated volume of Douglas-fir is about 17 percent less than 30 years ago, but the estimated volume of all other softwoods is higher so that the total volume of all softwoods is only 10 percent less. The volume of hardwoods, on the other hand, is estimated to be nearly four times that of the 1930's. A large share of this apparent increase is due to greater recognition of hardwoods in the last inventory, but it is also due, to a considerable degree, to the rapid establishment of hardwood stands, particularly red alder, on cutover conifer sites.

Two counties in west-central Oregon were inventoried between 1940-43 and 1963. They were Lincoln in 1955 and Lane in 1956. Comparisons of the results of these inventories and the 1963 inventory are shown in tables 30 and 31. The differences in the estimates of forestland area, both commercial and non-commercial, are insignificant. The difference in volume estimates for Lincoln County, after adjustment for estimated growth and cut during the intervening period, is well within the range of the sampling errors for the two inventories.

A direct comparison of the 1956 and 1962 estimates of Scribner sawtimber volume in Lane County suggests that the volume has dropped by 29.9 billion board feet in the intervening period. However, reported cut and estimated growth for this period indicate that the actual physical change in live sawtimber volume was only 5.7 billion board feet. Since the two estimates are the results of two independent inventories, sampling variation can be expected to prevent exact agreement of the estimates. However, the remaining difference of 24.2 billion is too large to be attributed to sampling variation alone.

Table 30.--Comparison of land area statistics for Lane and Lincoln Counties

(In acres)

Land class	Lane County		Lincoln County	
	1956	1963	1956	1963
Commercial forest	2,420,480	2,363,000	577,670	583,000
Noncommercial forest:				
Productive-reserved	125,370	120,000	470	1,000
Unproductive	29,850	64,000	--	1,000
Total noncommercial	155,220	184,000	470	2,000
Total forest	2,575,700	2,547,000	578,140	585,000
Nonforest	382,570	371,000	48,750	45,000
All lands	2,958,270	2,918,000	626,890	630,000

Table 31.--Comparison of timber-volume statistics for Lane and Lincoln Counties
(In million board feet, Scribner rule)

Stand-size classes	Lane		Lincoln	
	1956	1963	1956	1963
Sawtimber stands	96,731	65,557	20,355	16,887
Poletimber stands	247	765	160	207
Sapling and seedling stands	30	763	6	195
Nonstocked areas	2	1	1	--
Total	97,010	67,086	20,522	17,289

The 1956 inventory of Lane County was unique in several ways. It was the first county inventory to use average Girard form classes by species and diameter group in the computation of tree volume. It was the last such inventory in which log heights were estimated. Individual tree volume computations and all subsequent compilations were made by hand. In addition, the procedures used in the 1956 inventory for selecting field sample plots were subject to a risk of bias which could lead to an overestimate of volume.

Inventories made since 1956, including the 1962 inventory, have used a systematic sample of trees carefully measured for total height, average Girard form classes based on measurements taken from trees in the inventory unit, and the data applied in tree volume equations based on total tree height, diameter, and Girard form class to compute tree volumes. Automatic data processing has been used to obtain greater accuracy and more systematic checking of the results than is possible by hand methods. The procedures used in the 1962 inventory also eliminated the possibility of bias in the selection of field sample plots.

Therefore, much greater reliance is placed on the 1963 estimate of 67.1 billion and on the net inventory reduction of 5.7 billion due to cut and growth since 1956. Thus the best current estimate of the volume in 1956 is 72.8 billion board feet.

The difference of 24.2 billion between the two estimates of 1956 volume (97.0 and 72.8) is explained as follows:

A downward adjustment of 2.1 billion board feet is necessary due to the fact that in 1962 the sawtimber volume of all softwood trees over 11 inches in diameter was stated in terms of 32-foot logs whereas in the 1956 estimate the volume in these trees was stated in terms of 16-foot logs. Of the remaining difference of 22.1 billion board feet, approximately 13.4 billion is due to corrections found necessary in the Girard form classes used for the 1956 estimate. An examination of the form class estimates used at that time indicates that they average approximately four points too high compared with the measured data available in 1962.

The remaining difference of 8.7 billion board feet, 9 percent of the original 1956 estimate, is due to a combination of sampling and technique errors.

FOREST SURVEY PROCEDURES

This west-central Oregon report combines data from three National Forest inventory projects and two Forest Survey projects. These are: Siuslaw National Forest, 1956; Cottage Grove unit of the Umpqua National Forest, 1956; Willamette National Forest, 1961-62; Forest Survey projects in Linn and Benton Counties, 1961; and Lane and Lincoln Counties, 1962.

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

The data from the 1956 inventory were the latest available for inclusion in this report; therefore, these data were used after updating them to January 1, 1963, by adding estimated growth and subtracting cut. The inventory of the Siuslaw 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, Umpqua National Forest, was similar to the Siuslaw inventory. Both were type map inventories with random location of plot clusters. The Umpqua sample, however, was in sawtimber stands only.

Willamette National Forest

This forest was inventoried in 1961 and 1962 by National Forest inventory crews. The data were adjusted to Forest Survey standards and updated to January 1, 1963, by the addition of growth and subtraction of cut.

The statistics on 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.

Outside National Forests

The area outside National Forests was inventoried by Forest Survey during the summers of 1961 and 1962. The volume data were updated to January 1, 1963, in a manner similar to that for the National Forests.

A systematic sample of field plots was distributed across all ownerships 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.

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.

Class of Timber

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 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. Three categories of stocking are provided: (1) all live trees, (2) growing-stock trees (sawtimber and poletimber trees, saplings and established seedlings of commercial species), and (3) desirable trees (superior growing-stock trees). Stocking in terms of item 1 is used in classifying forest land and forest cover type. Stocking in terms of item 2 is used in classifying stand size and age. Stocking in terms of item 3 is used in classification of area condition.

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. 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 in determining volume of sawtimber in the Pacific Northwest.

International 1/4-inc'. 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. Net volume equals gross volume less deduction for rot and missing bole sections.

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 west-central Oregon include:

Softwoods:

Alaska-cedar (*Chamaecyparis nootkatensis*)
Douglas-fir (*Pseudotsuga menziesii*)
Engelmann spruce (*Picea engelmannii*)
Grand fir (*Abies grandis*)
Incense-cedar (*Libocedrus decurrens*)
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*)
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*)
Whitebark pine (*Pinus albicaulis*)
White fir (*Abies concolor*)

Hardwoods:

Bigleaf maple (*Acer macrophyllum*)
Black cottonwood (*Populus trichocarpa*)
California black oak (*Quercus kelloggii*)
Golden chinkapin (*Castanopsis chrysophylla*)
Oregon ash (*Fraxinus latifolia*)
Oregon white oak (*Quercus garryana*)
Pacific madrone (*Arbutus menziesii*)
Red alder (*Alnus rubra*)

RECENT FOREST SURVEY PUBLICATIONS

<u>Number</u>	<u>Title</u>	<u>Date</u>
Miscellaneous:		
	1963 Washington Log Production	October 1964
	1963 Oregon Log Production	June 1964
Research Paper:		
PNW-5	Timber Trends in Western Oregon and Western Washington	October 1963
Resource Bulletins:		
PNW-9	Timber Resource Statistics for the Pacific Northwest	1965
PNW-8	Forest Statistics for Southwest Oregon	August 1964
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
Resource Reports:		
146	1961 Oregon Log Production	December 1962 (rev.)
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

Available from:

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

The FOREST SERVICE of the U.S. Department of Agriculture is dedicated to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forests and National Grasslands, it strives—as directed by Congress—to provide increasingly greater service to a growing Nation.