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Volume Tables for *Pacific Northwest Trees*

(A Compilation)

Agriculture Handbook No. 92

U. S. Department of Agriculture

Forest Service

September 1955

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Volume Tables For Pacific Northwest Trees

Compiled by F. A. Johnson

Pacific Northwest Forest and Range Experiment Station

This collection of volume tables has three purposes. One is to facilitate comparisons among tables, another is to release some unpublished tables for general use, and the third is to preserve certain tables for their reference value.

Many of the tables are relatively unknown, while others have been widely distributed and are familiar forestry tools. Not all tables given here are necessarily recommended; a few would have been excluded if past use had not made them indispensable for re-examinations of old studies and surveys. Specifications for each table are presented as uniformly and as completely as possible in the table headings. These specifications should prove helpful in judging the adequacy of the tables for a particular use.

Although an attempt was made to include only tables which are regional in scope,[1] some tables for restricted areas were used when regional tables were not available. A few tables developed outside the region were also included to fill conspicuous gaps.

The abbreviation d.i.b. refers to diameter inside bark, and d.b.h. refers to diameter outside bark at breast height unless otherwise specified. Bark is excluded from the listed volumes in all tables except table 1.

[1] Attention is directed to two notable omissions: (1) the form class volume tables prepared by the firm of Mason, Bruce & Girard, and (2) the site quality tables developed by D. G. McKeever of the Weyerhaeuser Timber Company. These two sets of tables, available elsewhere, are important contributions to forest mensuration in the Pacific Northwest.

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TABLE 1

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), young-growth
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Included
Top d.i.b..... Included
Method..... Ratios from sample trees applied to table 12 of U. S. Dept. Agr. Tech. Bul. 201
Number of trees..... 165 for ratios--1,956 for base table
Location of trees..... Western Oregon and western Washington
Accuracy..... Aggregate deviation 0.16 percent low
Author..... P. A. Briegleb, Pacific Northwest Forest and Range Experiment Station
Source..... File report
Year..... 1940
Note..... Bark included

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--											
	20	40	60	80	100	120	140	160	180	200	220	240
2	0.26	0.53	0.81	--------	--------	--------	--------	--------	--------	--------	--------	--------
4	1.02	1.99	2.94	3.68	--------	--------	--------	--------	--------	--------	--------	--------
6	2.28	4.31	6.29	8.24	--------	--------	--------	--------	--------	--------	--------	--------
8	3.90	7.38	10.7	14.5	17.2	20.7	--------	--------	--------	--------	--------	--------
10	5.98	11.3	16.6	21.8	26.1	31.5	37.6	--------	--------	--------	--------	--------
12	--------	16.0	23.3	30.5	36.9	44.7	53.0	62.3	--------	--------	--------	--------
14	--------	21.2	30.9	40.7	50.0	59.6	70.7	82.7	95.2	--------	--------	--------
16	--------	27.3	39.3	51.8	63.6	75.0	89.2	104.0	120.3	139	--------	--------
18	--------	33.6	48.8	63.6	78.9	91.6	109.3	127.8	148.2	170	198	--------
20	--------	--------	59.0	76.2	92.7	109.0	130.0	152.8	178.2	205	236	266
22	--------	--------	69.3	89.4	108.3	127.4	151.1	178.8	207.9	241	277	313
24	--------	--------	80.1	103.1	122.6	144.8	170.9	203.5	238.8	278	321	363
26	--------	--------	--------	116.7	139.8	163.2	191.8	230.4	271.9	317	367	416
28	--------	--------	--------	--------	156.0	181.5	213.8	257.3	303.9	357	416	472
30	--------	--------	--------	--------	172.7	199.7	235.6	283.9	337.8	395	464	533
32	--------	--------	--------	--------	188.0	219.0	258.0	312.0	373.0	436	511	590
34	--------	--------	--------	--------	--------	237.0	281.0	342.0	403.0	474	559	650
36	--------	--------	--------	--------	--------	255.0	303.0	365.0	435.0	515	609	709
38	--------	--------	--------	--------	--------	274.0	325.0	390.0	466.0	556	659	768
40	--------	--------	--------	--------	--------	292.0	347.0	414.0	498.0	596	709	828
42	--------	--------	--------	--------	--------	--------	--------	440.0	529.0	636	758	887
44	--------	--------	--------	--------	--------	--------	--------	464.0	560.0	678	807	948
46	--------	--------	--------	--------	--------	--------	--------	489.0	592.0	718	857	1,013
48	--------	--------	--------	--------	--------	--------	--------	513.0	623.0	759	907	1,067
50	--------	--------	--------	--------	--------	--------	--------	537.0	653.0	800	956	1,126
52	--------	--------	--------	--------	--------	--------	--------	562.0	683.0	841	1,004	1,186
54	--------	--------	--------	--------	--------	--------	--------	588.0	715.0	883	1,051	1,245

TABLE 2

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), young-growth
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Included
Top d.i.b..... Included
Method..... Curved form factors
Number of trees..... 1,956
Location of trees..... Western Oregon and western Washington
Accuracy..... Aggregate deviation 0.2 percent low
Author..... R. E. McArdle, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 12 in U. S. Dept. Agr. Tech. Bul. 201
Year..... 1930

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--																						
	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240
2	0.22	0.35	0.45	0.56	0.69	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3	.51	.75	.98	1.21	1.45	1.70	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4	.88	1.30	1.70	2.06	2.55	2.88	3.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5	1.39	1.99	2.61	3.18	3.80	4.30	4.89	5.50	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
6	1.97	2.85	3.70	4.50	5.35	6.14	6.95	7.76	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
7	2.61	3.86	4.96	6.02	7.15	8.22	9.30	10.40	11.2	12.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
8	3.38	4.97	6.35	7.84	9.12	10.7	12.3	13.3	14.4	15.8	17.2	19.0	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
9	4.24	6.19	7.95	9.98	11.6	13.5	15.2	16.6	18.1	20.0	21.7	23.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
10	5.20	7.55	9.82	11.8	14.2	16.4	18.5	20.1	22.0	24.4	26.3	28.7	31.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
11	6.26	9.10	11.7	14.3	17.0	19.5	22.0	24.0	26.3	29.1	31.7	34.2	37.3	40.4	43.1	-----	-----	-----	-----	-----	-----	-----	-----
12	-----	10.8	13.8	16.8	20.0	22.8	25.9	28.3	31.1	34.6	37.4	40.5	44.0	47.9	51.3	54.2	-----	-----	-----	-----	-----	-----	-----
13	-----	12.4	16.0	19.5	23.2	26.5	30.2	33.3	36.7	40.3	43.7	47.3	51.4	55.8	59.6	63.0	-----	-----	-----	-----	-----	-----	-----
14	-----	14.2	18.4	22.4	26.6	30.4	34.7	38.5	42.3	46.1	50.0	54.2	58.8	63.8	68.2	72.5	78.0	82.9	-----	-----	-----	-----	-----
15	-----	-----	21.0	25.6	30.2	34.8	39.5	43.7	48.0	52.2	56.5	61.2	66.5	71.9	76.9	82.0	88.0	93.6	99.9	-----	-----	-----	-----
16	-----	-----	23.7	28.8	33.9	39.2	44.3	49.2	53.9	58.4	63.1	68.2	74.4	80.5	86.0	92.6	98.8	105.0	113.0	-----	-----	-----	-----
17	-----	-----	26.4	32.2	38.0	43.8	49.2	54.8	60.0	64.8	70.0	75.8	82.8	89.5	95.5	103.0	110.0	117.0	125.0	134	145	-----	-----
18	-----	-----	29.3	35.7	42.2	48.4	54.5	60.4	67.0	71.3	77.2	83.7	91.4	99.0	106.0	114.0	122.0	130.0	139.0	157	160	-----	-----
19	-----	-----	-----	39.5	46.5	53.3	59.8	66.1	72.4	77.8	84.7	91.6	100.0	108.0	116.0	125.0	134.0	143.0	153.0	162	176	186	195
20	-----	-----	-----	43.4	51.1	58.3	65.5	72.2	79.0	84.8	92.1	99.8	109.0	118.0	127.0	137.0	147.0	157.0	168.0	178	192	204	214
21	-----	-----	-----	47.5	55.6	63.5	71.2	78.3	85.7	92.0	100.0	108.0	118.0	128.0	138.0	148.0	159.0	170.0	183.0	194	208	222	234
22	-----	-----	-----	51.7	60.2	69.0	77.0	84.8	92.5	99.2	108.0	117.0	127.0	138.0	149.0	160.0	172.0	185.0	198.0	210	225	240	253
23	-----	-----	-----	-----	65.0	74.3	83.0	91.0	99.4	107.0	115.0	125.0	136.0	148.0	160.0	172.0	185.0	199.0	213.0	227	243	258	273
24	-----	-----	-----	-----	69.8	80.0	89.0	97.8	105.0	114.0	123.0	133.0	144.0	157.0	170.0	184.0	198.0	213.0	229.0	245	262	277	294
25	-----	-----	-----	-----	-----	85.7	95.0	104.0	113.0	122.0	131.0	142.0	154.0	168.0	182.0	196.0	212.0	228.0	245.0	262	282	297	315
26	-----	-----	-----	-----	-----	91.5	101.0	111.0	120.0	129.0	139.0	150.0	162.0	178.0	193.0	208.0	226.0	243.0	261.0	281	300	317	337
27	-----	-----	-----	-----	-----	-----	107.0	117.0	128.0	137.0	147.0	159.0	172.0	188.0	204.0	220.0	239.0	258.0	278.0	298	320	337	360
28	-----	-----	-----	-----	-----	-----	-----	122.0	135.0	145.0	155.0	168.0	181.0	198.0	216.0	233.0	253.0	274.0	295.0	317	341	359	384
29	-----	-----	-----	-----	-----	-----	-----	131.0	142.0	152.0	163.0	177.0	191.0	209.0	227.0	246.0	268.0	290.0	310.0	335	360	382	408
30	-----	-----	-----	-----	-----	-----	-----	138.0	149.0	160.0	171.0	185.0	200.0	220.0	239.0	259.0	282.0	307.0	327.0	354	381	403	434
31	-----	-----	-----	-----	-----	-----	-----	144.0	156.0	167.0	179.0	194.0	210.0	230.0	251.0	272.0	299.0	321.0	344.0	372	400	426	457
32	-----	-----	-----	-----	-----	-----	-----	151.0	163.0	175.0	188.0	203.0	220.0	241.0	263.0	285.0	312.0	336.0	362.0	391	421	449	482
33	-----	-----	-----	-----	-----	-----	-----	158.0	171.0	183.0	196.0	212.0	230.0	252.0	276.0	299.0	325.0	350.0	378.0	409	442	472	506
34	-----	-----	-----	-----	-----	-----	-----	-----	-----	191.0	204.0	221.0	240.0	263.0	289.0	310.0	338.0	365.0	395.0	428	462	496	532
35	-----	-----	-----	-----	-----	-----	-----	-----	-----	199.0	212.0	231.0	250.0	275.0	300.0	322.0	352.0	381.0	412.0	447	483	519	560
36	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	220.0	239.0	259.0	286.0	310.0	335.0	366.0	396.0	430.0	465	504	543	582
37	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	228.0	248.0	269.0	298.0	321.0	348.0	379.0	412.0	447.0	485	525	565	605
38	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	237.0	257.0	279.0	307.0	332.0	360.0	393.0	427.0	465.0	503	547	588	632
39	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	244.0	266.0	289.0	316.0	343.0	372.0	407.0	443.0	482.0	523	567	612	657
40	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	253.0	275.0	298.0	325.0	353.0	384.0	421.0	458.0	500.0	542	590	636	683
41	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	334.0	365.0	398.0	435.0	475.0	518.0	562	610	660	708
42	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	343.0	376.0	410.0	448.0	490.0	535.0	581	632	683	734
43	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	353.0	387.0	422.0	462.0	506.0	553.0	601	653	707	760
44	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	362.0	398.0	435.0	476.0	522.0	572.0	622	675	732	786
45	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	372.0	409.0	448.0	489.0	537.0	589.0	642	696	754	812
46	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	382.0	420.0	460.0	504.0	553.0	607.0	662	718	778	842
47	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	391.0	432.0	473.0	517.0	569.0	625.0	682	739	802	863
48	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	401.0	442.0	486.0	532.0	585.0	643.0	701	762	826	889
49	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	410.0	453.0	498.0	545.0	600.0	662.0	721	782	850	914
50	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	419.0	464.0	511.0	559.0	615.0	680.0	742	805	874	941
51	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	428.0	475.0	523.0	572.0	631.0	698.0	767	826	898	966
52	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	438.0	487.0	536.0	586.0	647.0	716.0	782	848	922	993
53	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	448.0	498.0	548.0	600.0	663.0	735.0	803	868	945	1,018
54	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	457.0	510.0	562.0	615.0	679.0	754.0	825	890	970	1,045

TABLE 3

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), old-growth
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Included
Top d.i.b..... Included
Method..... Alinement chart
Number of trees..... 2,601
Location of trees..... Sites, I, II, and III in western Oregon and western Washington
Accuracy..... Aggregate deviation 0.89 percent high
Author..... W.H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 6 in "Interregional Volume Tables for Old-Growth Douglas-fir"
Year..... 1932

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--													
	60	80	100	120	140	160	180	200	220	240	260	280	300	320
16	27	38	49	60	71	80	90	99	-------	-------	-------	-------	-------	-------
18	33	47	61	75	86	98	110	121	-------	-------	-------	-------	-------	-------
20	40	57	74	90	104	118	132	146	160	172	186	196	-------	-------
22	48	68	87	105	123	140	157	173	188	203	216	234	-------	-------
24	56	79	101	122	143	163	182	200	216	237	255	276	292	310
26	64	91	116	140	165	188	208	230	255	277	295	320	338	360
28	73	103	132	160	187	213	240	265	290	317	340	365	385	410
30	83	116	150	180	212	242	275	300	330	358	385	415	435	465
32	93	130	168	200	238	275	310	340	370	400	430	465	490	525
34	103	145	186	225	268	310	345	380	415	450	480	520	550	585
36	-------	162	204	250	298	340	380	420	460	500	530	575	610	645
38	-------	-------	225	275	328	370	420	460	505	550	585	630	670	710
40	-------	-------	248	300	358	405	460	500	555	600	640	685	740	780
42	-------	-------	272	330	390	445	500	550	605	655	700	750	810	850
44	-------	-------	296	360	425	485	545	600	660	710	765	825	880	930
46	-------	-------	320	390	460	525	590	650	715	775	835	890	950	1,010
48	-------	-------	344	420	495	565	635	700	770	840	905	965	1,030	1,100
50	-------	-------	370	450	530	605	680	755	830	905	970	1,045	1,120	1,200
52	-------	-------	-------	480	570	650	730	810	890	965	1,040	1,130	1,220	1,300
54	-------	-------	-------	515	610	700	780	870	950	1,035	1,130	1,220	1,320	1,400
56	-------	-------	-------	550	650	750	835	930	1,010	1,110	1,220	1,315	1,420	1,500
58	-------	-------	-------	585	690	800	890	990	1,085	1,200	1,310	1,410	1,520	1,610
60	-------	-------	-------	625	730	850	945	1,060	1,170	1,300	1,400	1,510	1,620	1,720
62	-------	-------	-------	665	780	900	1,005	1,130	1,260	1,390	1,500	1,610	1,720	1,830
64	-------	-------	-------	705	830	950	1,075	1,200	1,350	1,480	1,600	1,705	1,820	1,940
66	-------	-------	-------	745	880	1,010	1,150	1,280	1,440	1,570	1,700	1,805	1,920	2,050
68	-------	-------	-------	790	925	1,070	1,225	1,360	1,530	1,660	1,800	1,905	2,020	2,160
70	-------	-------	-------	840	975	1,140	1,300	1,450	1,615	1,750	1,890	2,005	2,130	2,270
72	-------	-------	-------	-------	1,030	1,210	1,380	1,530	1,700	1,840	1,980	2,105	2,240	2,380
74	-------	-------	-------	-------	1,090	1,280	1,460	1,620	1,790	1,930	2,070	2,210	2,350	2,500
76	-------	-------	-------	-------	1,150	1,350	1,540	1,710	1,875	2,020	2,170	2,320	2,460	2,620
78	-------	-------	-------	-------	1,210	1,425	1,620	1,800	1,960	2,110	2,270	2,430	2,580	2,740
80	-------	-------	-------	-------	1,280	1,500	1,700	1,880	2,045	2,210	2,380	2,550	2,700	2,860
82	-------	-------	-------	-------	-------	1,575	1,780	1,960	2,130	2,320	2,490	2,660	2,810	2,980
84	-------	-------	-------	-------	-------	1,650	1,860	2,040	2,220	2,430	2,600	2,770	2,930	3,100
86	-------	-------	-------	-------	-------	1,725	1,940	2,120	2,320	2,540	2,710	2,880	3,050	3,220
88	-------	-------	-------	-------	-------	1,800	2,020	2,210	2,430	2,650	2,820	2,990	3,170	3,340
90	-------	-------	-------	-------	-------	1,875	2,100	2,300	2,540	2,750	2,930	3,100	3,290	3,460
92	-------	-------	-------	-------	-------	-------	2,190	2,400	2,650	2,850	3,040	3,210	3,410	3,590
94	-------	-------	-------	-------	-------	-------	2,280	2,500	2,750	2,950	3,150	3,320	3,530	3,720
96	-------	-------	-------	-------	-------	-------	2,370	2,600	2,850	3,050	3,260	3,440	3,650	3,840
98	-------	-------	-------	-------	-------	-------	2,460	2,700	2,950	3,150	3,370	3,560	3,770	3,960
100	-------	-------	-------	-------	-------	-------	2,550	2,800	3,050	3,250	3,480	3,680	3,890	4,080
102	-------	-------	-------	-------	-------	-------	2,640	2,900	3,150	3,360	3,590	3,800	4,010	4,200
104	-------	-------	-------	-------	-------	-------	2,730	3,000	3,250	3,470	3,700	3,920	4,130	4,320
106	-------	-------	-------	-------	-------	-------	2,820	3,100	3,350	3,580	3,810	4,040	4,250	4,440
108	-------	-------	-------	-------	-------	-------	2,900	3,190	3,450	3,690	3,920	4,160	4,370	4,560
110	-------	-------	-------	-------	-------	-------	2,980	3,280	3,550	3,800	4,030	4,280	4,490	4,680
112	-------	-------	-------	-------	-------	-------	3,060	3,270	3,650	3,900	4,140	4,400	4,610	4,800
114	-------	-------	-------	-------	-------	-------	3,140	3,460	3,750	4,000	4,250	4,520	4,730	4,920
116	-------	-------	-------	-------	-------	-------	3,220	3,560	3,850	4,100	4,360	4,640	4,850	5,030
118	-------	-------	-------	-------	-------	-------	3,310	3,660	3,950	4,200	4,470	4,750	4,970	5,140
120	-------	-------	-------	-------	-------	-------	3,400	3,760	4,050	4,300	4,580	4,860	5,090	5,250

TABLE 4

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), old-growth
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Included
Top d.i.b..... Included
Method..... Alinement chart
Number of trees..... 4,478
Location of trees..... Sites IV, V, and VI in Oregon, Washington, Montana, Idaho, California, Wyoming, Nevada, and New Mexico
Accuracy..... Aggregate deviation 0.61 percent high
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 11 in "Interregional Volume Tables for Old-Growth Douglas-fir"
Year..... 1932

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--																
	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220
10	12	15	17	19	22	------	------	------	------	------	------	------	------	------	------	------	------
12	19	23	26	28	32	35	38	41	44	------	------	------	------	------	------	------	------
14	26	31	35	38	43	46	49	53	57	60	------	------	------	------	------	------	------
16	34	39	44	48	54	57	62	67	71	76	80	85	90	94	------	------	------
18	42	47	53	58	65	70	76	82	87	92	98	105	110	116	123	128	135
20	50	57	63	70	77	84	90	97	104	112	118	127	134	141	148	154	160
22	58	67	74	82	90	98	106	115	123	134	140	149	158	167	175	182	190
24	67	78	86	95	105	115	125	134	144	156	164	174	184	193	204	213	225
26	77	89	98	110	122	133	144	155	167	178	188	200	215	226	240	248	265
28	87	100	113	125	140	152	164	177	190	202	215	232	248	262	280	287	305
30	98	114	128	142	158	172	185	200	215	232	248	265	283	298	320	330	345
32	110	128	143	160	176	193	208	225	244	264	281	290	320	338	360	375	395
34	122	143	159	178	196	215	235	255	275	297	314	330	360	380	400	420	445
36	136	158	176	196	218	241	262	285	305	330	350	380	400	422	450	470	495
38	150	174	193	216	242	268	289	315	338	365	390	420	445	470	500	520	545
40	164	190	211	238	266	295	318	350	374	405	430	460	490	520	550	570	605
42	178	208	230	260	292	325	350	385	412	450	475	510	545	570	600	630	670
44	193	228	250	285	320	355	382	420	450	490	520	560	590	620	650	690	730
46	------	------	272	310	350	385	414	460	490	530	570	610	640	680	710	740	790
48	------	------	296	336	380	415	448	500	530	580	610	650	690	730	770	800	860
50	------	------	322	365	410	450	485	540	575	625	660	700	740	790	830	880	930
52	------	------	350	495	440	490	525	580	620	675	710	760	800	860	900	950	1,000
54	------	------	------	------	------	------	570	620	660	720	760	820	860	930	980	1,020	1,080
56	------	------	------	------	------	------	610	660	710	770	810	880	930	1,000	1,050	1,100	1,160
58	------	------	------	------	------	------	650	710	760	820	870	950	1,000	1,070	1,120	1,180	1,240
60	------	------	------	------	------	------	690	760	810	880	940	1,010	1,070	1,140	1,200	1,250	1,320
62	------	------	------	------	------	------	740	800	870	940	1,000	1,080	1,140	1,210	1,270	1,320	1,400
64	------	------	------	------	------	------	780	850	930	1,000	1,060	1,140	1,210	1,280	1,340	1,400	1,490
66	------	------	------	------	------	------	830	900	990	1,060	1,130	1,210	1,280	1,350	1,420	1,490	1,580
68	------	------	------	------	------	------	880	960	1,050	1,130	1,200	1,280	1,340	1,420	1,500	1,580	1,670
70	------	------	------	------	------	------	940	1,020	1,120	1,200	1,270	1,350	1,420	1,500	1,590	1,680	1,770

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), young-growth
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Equivalent to d.b.h. with a 24-inch maximum
Top d.i.b..... 4 inches
Method..... Adjustment of volumes in table 12 U. S. Dept. Agr. Tech. Bul. 201
Number of trees..... 1,956 for base table
Location of trees..... Western Oregon and western Washington
Accuracy..... Aggregate deviation for base table 0.2 percent low
Author..... P. A. Briegleb, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 5 in "Volume Tables for Permanent Sample Plots"
Year..... 1953

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--																						
	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240
6	1.2	1.9	2.7	3.4	4.1	4.8	5.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
7	2.0	3.0	4.0	5.1	6.0	7.1	8.3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
8	2.7	4.1	5.4	6.8	8.0	9.5	11.1	12.1	13.2	14.6	16.0	----	----	----	----	----	----	----	----	----	----	----	----
9	3.6	5.3	7.1	8.7	10.4	12.3	14.1	15.4	16.9	18.7	20.4	----	----	----	----	----	----	----	----	----	----	----	----
10	4.5	6.6	8.7	10.6	12.9	15.1	17.2	18.8	20.7	22.9	24.8	27.3	----	----	----	----	----	----	----	----	----	----	----
11	----	8.1	10.7	13.0	15.7	18.2	21.2	22.8	25.0	27.9	30.2	33.0	----	----	----	----	----	----	----	----	----	----	----
12	----	9.7	12.6	15.5	18.6	21.3	24.3	26.6	29.4	32.9	35.7	38.7	42.2	46.0	----	----	----	----	----	----	----	----	----
13	----	11.2	14.7	18.0	21.7	24.9	28.5	31.4	34.7	38.3	41.8	45.2	49.3	53.6	----	----	----	----	----	----	----	----	----
14	----	12.8	16.8	20.6	24.8	28.6	32.8	36.3	40.0	43.6	48.0	51.8	56.4	61.2	65.8	70.0	----	----	----	----	----	----	----
15	----	----	19.2	23.5	28.1	32.7	37.8	41.5	45.6	49.4	54.5	58.6	64.1	69.4	74.4	79.7	----	----	----	----	----	----	----
16	----	----	21.6	26.5	31.5	36.8	41.9	46.7	51.2	55.2	61.0	65.5	71.8	77.7	83.0	89.4	96	102	----	----	----	----	----
17	----	----	----	29.6	35.3	41.0	46.5	51.9	57.2	61.4	67.5	72.7	79.9	86.8	92.5	99.7	107	114	----	----	----	----	----
18	----	----	----	32.8	39.2	45.2	51.2	57.1	63.3	67.7	74	80	88	96	102	110	118	126	136	----	----	----	----
19	----	----	----	36.1	43.1	49.7	56.2	62.5	69.2	74.1	81	88	96	105	112	121	130	139	150	----	----	----	----
20	----	----	----	39.5	47.0	54.2	61.2	67.9	75.1	80.6	88	96	105	114	123	133	143	153	164	174	187	----	----
21	----	----	----	43.2	50.9	58.8	66.4	73.6	81.0	87.3	96	104	113	123	133	143	155	166	178	189	203	----	----
22	----	----	----	47.0	54.8	63.5	71.6	79.3	86.9	94	103	112	121	133	144	154	167	179	192	205	219	234	----
23	----	----	----	----	59.1	68.3	76.7	85.1	92.5	100	110	119	129	141	153	165	179	192	207	221	236	251	----
24	----	----	----	----	63.5	73.2	81.9	91.0	98.2	107	117	126	137	150	163	177	191	206	222	238	254	269	287
25	----	----	----	----	----	----	87.3	97	105	114	124	134	145	160	174	188	204	220	238	255	272	288	308
26	----	----	----	----	----	----	92.8	103	112	121	131	142	154	170	185	200	218	235	253	273	291	308	329
27	----	----	----	----	----	----	----	108	119	128	139	150	163	179	195	212	231	250	269	290	311	328	351
28	----	----	----	----	----	----	----	113	126	136	147	159	172	189	206	224	244	265	286	307	331	349	374
29	----	----	----	----	----	----	----	120	132	143	154	167	181	199	217	236	258	280	301	325	350	370	398
30	----	----	----	----	----	----	----	128	139	150	161	175	190	209	228	248	272	296	317	343	370	392	423
31	----	----	----	----	----	----	----	----	145	156	169	183	199	219	239	260	286	310	333	360	389	414	446
32	----	----	----	----	----	----	----	----	152	163	177	191	208	229	251	273	300	324	350	378	408	436	469
33	----	----	----	----	----	----	----	----	----	170	184	199	217	239	263	285	312	338	366	396	427	458	492
34	----	----	----	----	----	----	----	----	----	178	191	208	227	250	276	297	325	352	382	414	447	481	516
35	----	----	----	----	----	----	----	----	----	----	198	216	236	260	286	309	338	366	398	432	467	503	540
36	----	----	----	----	----	----	----	----	----	----	206	224	245	271	296	321	351	381	415	450	488	526	565
37	----	----	----	----	----	----	----	----	----	----	213	232	254	281	306	332	364	396	432	468	508	548	589
38	----	----	----	----	----	----	----	----	----	----	221	241	263	291	316	344	377	411	449	486	529	570	613
39	----	----	----	----	----	----	----	----	----	----	----	----	271	299	325	355	390	425	465	505	550	593	638
40	----	----	----	----	----	----	----	----	----	----	----	----	280	307	335	366	403	440	482	524	571	616	663
41	----	----	----	----	----	----	----	----	----	----	----	----	----	----	345	378	415	455	498	542	591	638	687
42	----	----	----	----	----	----	----	----	----	----	----	----	----	----	356	390	428	470	515	561	611	661	712
43	----	----	----	----	----	----	----	----	----	----	----	----	----	----	366	401	441	485	532	580	632	685	739
44	----	----	----	----	----	----	----	----	----	----	----	----	----	----	377	413	455	501	550	600	653	709	762
45	----	----	----	----	----	----	----	----	----	----	----	----	----	----	387	425	468	515	566	619	673	731	789
46	----	----	----	----	----	----	----	----	----	----	----	----	----	----	397	437	481	529	583	638	694	753	816
47	----	----	----	----	----	----	----	----	----	----	----	----	----	----	407	448	493	544	600	656	714	775	838
48	----	----	----	----	----	----	----	----	----	----	----	----	----	----	417	460	506	559	617	674	735	798	861
49	----	----	----	----	----	----	----	----	----	----	----	----	----	----	427	471	519	573	634	694	755	820	885
50	----	----	----	----	----	----	----	----	----	----	----	----	----	----	437	483	532	587	652	714	776	843	910
51	----	----	----	----	----	----	----	----	----	----	----	----	----	----	447	495	544	602	668	732	796	866	934
52	----	----	----	----	----	----	----	----	----	----	----	----	----	----	458	507	557	617	685	751	817	889	959
53	----	----	----	----	----	----	----	----	----	----	----	----	----	----	468	518	570	631	703	770	836	911	983
54	----	----	----	----	----	----	----	----	----	----	----	----	----	----	478	530	583	646	721	790	855	934	1,008

TABLE 6

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), young-growth
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Equivalent to d.b.h. with a 24-inch maximum
Top d.i.b..... 8 inches
Method..... Deductions for stump and tip computed from taper tables and applied to table 12 in U. S. Dept. Agr. Tech. Bul. 201
Number of trees..... 1,956 for base table
Location of trees..... Western Oregon and western Washington
Accuracy..... Not given
Author..... J. R. Dilworth, Pacific Northwest Forest and Range Expt. Sta.
Source..... File report
Year..... 1947

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--																				
	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240
10	6.7	7.7	8.7	9.7	10.8	11.8	12.8	13.9	15.0	16.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
12	8.4	10.9	13.4	16.0	18.6	21.2	23.8	26.4	29.0	31.6	34.2	36.8	-----	-----	-----	-----	-----	-----	-----	-----	-----
14	10.9	14.8	18.8	22.8	26.8	30.8	34.8	38.8	42.8	46.8	50.8	54.8	58.8	62.8	-----	-----	-----	-----	-----	-----	-----
16	16.3	21.1	26.0	30.9	35.8	40.7	45.6	50.5	55.4	60.4	65.5	70.6	75.7	81.9	88.1	94.3	-----	-----	-----	-----	-----
18	-----	28.0	34.0	40.0	46.0	52.0	58.0	64.0	70.0	76.0	82.2	89.0	97.0	105	113	122	132	-----	-----	-----	-----
20	-----	35.9	42.7	49.7	56.7	63.7	70.7	77.9	85.3	93.0	101	109	118	128	138	148	158	170	183	-----	-----
22	-----	43.9	50.7	58.0	66.0	74.0	82.0	90.4	99.1	108	117	127	139	151	163	175	188	201	215	230	-----
24	-----	-----	59.3	67.9	76.6	85.4	94.2	103	112	122	133	145	158	172	187	202	218	234	250	266	283
26	-----	-----	-----	-----	89.1	98.0	107	117	127	138	150	165	180	196	213	230	249	268	287	306	325
28	-----	-----	-----	-----	-----	109	122	132	143	155	168	185	202	220	240	261	282	303	325	347	369
30	-----	-----	-----	-----	-----	125	136	147	158	172	187	206	225	245	268	292	314	340	365	389	417
32	-----	-----	-----	-----	-----	-----	149	160	174	188	205	226	248	270	294	320	347	375	404	433	465
34	-----	-----	-----	-----	-----	-----	-----	175	188	205	224	245	268	294	320	349	379	411	443	477	513
36	-----	-----	-----	-----	-----	-----	-----	-----	203	221	242	265	291	318	348	378	412	447	485	523	561
38	-----	-----	-----	-----	-----	-----	-----	-----	218	238	260	284	312	341	374	408	446	484	524	567	610
40	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	278	303	333	364	401	438	480	522	566	613	660
42	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	354	388	426	468	513	559	609	659	710
44	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	375	411	453	499	548	598	651	705	760
46	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	395	435	479	527	581	636	692	751	811
48	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	415	458	504	557	613	672	733	796	859
50	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	435	481	530	587	648	710	774	841	908
52	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	456	505	555	617	683	749	817	887	957
54	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	476	528	581	646	715	784	856	931	1,006

TABLE 7

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), young-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... International 1/8-inch kerf
Scaling length for logs. 16 feet
Stump height..... 1.5 feet
Top d.i.b..... 5 inches
Trim allowance per log.. 0.3 feet
Method..... Board-feet per cubic foot ratios applied to table 12 in U. S. Dept. Agr. Tech. Bul. 201
Number of trees..... 1,741
Location of trees..... Western Oregon and western Washington
Accuracy..... Aggregate deviation 0.45 percent low
Author..... R. E. McArdle, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 16 in U. S. Dept. Agr. Tech. Bul. 201
Year..... 1930

D.b.h. (inches)	Board-foot volume when total height of tree in feet is--																					
	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240
7	12	18	24	32	40	48	56	66	78	----	----	----	----	----	----	----	----	----	----	----	----	----
8	16	22	32	42	52	64	76	88	102	----	----	----	----	----	----	----	----	----	----	----	----	----
9	20	30	42	54	66	82	96	112	128	144	----	----	----	----	----	----	----	----	----	----	----	----
10	---	36	52	66	84	102	120	138	158	180	200	----	----	----	----	----	----	----	----	----	----	----
11	---	46	62	80	102	124	146	168	194	218	242	----	----	----	----	----	----	----	----	----	----	----
12	---	54	76	98	122	148	174	200	230	260	288	320	----	----	----	----	----	----	----	----	----	----
13	---	64	90	114	144	176	206	238	270	302	336	374	416	----	----	----	----	----	----	----	----	----
14	---	---	104	134	166	202	240	274	310	346	388	430	480	524	----	----	----	----	----	----	----	----
15	---	---	---	154	190	232	270	312	352	392	440	486	544	592	----	----	----	----	----	----	----	----
16	---	---	---	176	214	260	304	350	394	440	494	546	612	662	----	----	----	----	----	----	----	----
17	---	---	---	198	238	290	338	388	438	490	548	608	678	734	814	----	----	----	----	----	----	----
18	---	---	---	---	264	322	372	426	484	540	606	672	747	812	894	974	----	----	----	----	----	----
19	---	---	---	---	288	349	405	466	528	588	659	734	813	886	974	1,061	1,143	----	----	----	----	----
20	---	---	---	---	----	378	442	507	576	642	718	799	883	969	1,063	1,156	1,250	1,341	----	----	----	----
21	---	---	---	---	----	----	479	550	623	693	775	864	955	1,053	1,152	1,254	1,358	1,454	----	----	----	----
22	---	---	---	---	----	----	519	594	672	747	834	930	1,028	1,139	1,244	1,354	1,468	1,575	----	----	----	----
23	---	---	---	---	----	----	559	637	720	798	893	997	1,102	1,221	1,336	1,456	1,578	1,696	1,829	----	----	----
24	---	---	---	---	----	----	599	682	768	852	953	1,065	1,177	1,308	1,429	1,559	1,690	1,821	1,969	2,099	----	----
25	---	---	---	---	----	----	640	727	817	907	1,013	1,134	1,256	1,392	1,524	1,664	1,803	1,951	2,104	2,251	----	----
26	---	---	---	---	----	----	683	774	868	964	1,075	1,206	1,336	1,481	1,620	1,770	1,921	2,078	2,245	2,405	----	----
27	---	---	---	---	----	----	728	824	922	1,023	1,141	1,280	1,420	1,571	1,719	1,879	2,043	2,211	2,389	2,564	----	----
28	---	---	---	---	----	----	----	874	978	1,086	1,210	1,354	1,506	1,663	1,824	1,991	2,170	2,351	2,537	2,726	----	----
29	---	---	---	---	----	----	----	----	1,038	1,150	1,281	1,432	1,597	1,759	1,930	2,104	2,300	2,494	2,692	2,894	----	----
30	---	---	---	---	----	----	----	----	1,096	1,215	1,351	1,509	1,688	1,851	2,034	2,223	2,428	2,636	2,849	3,066	----	----
31	---	---	---	---	----	----	----	----	1,154	1,282	1,423	1,582	1,775	1,942	2,139	2,343	2,560	2,776	3,006	3,238	----	----
32	---	---	---	---	----	----	----	----	----	1,347	1,495	1,660	1,863	2,036	2,248	2,461	2,688	2,921	3,164	3,416	3,678	3,930
33	---	---	---	---	----	----	----	----	----	1,411	1,563	1,737	1,952	2,128	2,348	2,583	2,820	3,063	3,321	3,593	3,865	4,132
34	---	---	---	---	----	----	----	----	----	1,477	1,635	1,818	2,043	2,223	2,454	2,701	2,951	3,206	3,484	3,771	4,060	4,350
35	---	---	---	---	----	----	----	----	----	1,540	1,705	1,897	2,120	2,316	2,556	2,813	3,080	3,347	3,646	3,948	4,250	4,562
36	---	---	---	---	----	----	----	----	----	1,605	1,779	1,974	2,199	2,408	2,658	2,930	3,212	3,493	3,803	4,125	4,452	4,769
37	---	---	---	---	----	----	----	----	----	1,667	1,851	2,052	2,278	2,499	2,759	3,041	3,338	3,636	3,964	4,301	4,646	4,985
38	---	---	---	---	----	----	----	----	----	1,733	1,926	2,133	2,359	2,592	2,865	3,169	3,469	3,784	4,127	4,479	4,846	5,233
39	---	---	---	---	----	----	----	----	----	----	----	2,210	2,438	2,685	2,968	3,288	3,598	3,931	4,284	4,651	5,043	5,435
40	---	---	---	---	----	----	----	----	----	----	----	2,290	2,517	2,778	3,071	3,408	3,730	4,078	4,444	4,828	5,240	5,642
41	---	---	---	---	----	----	----	----	----	----	----	----	2,597	2,870	3,178	3,525	3,860	4,225	4,603	5,003	5,432	5,847
42	---	---	---	---	----	----	----	----	----	----	----	----	2,675	2,962	3,285	3,645	3,989	4,367	4,765	5,177	5,629	6,054
43	---	---	---	---	----	----	----	----	----	----	----	----	2,756	3,052	3,387	3,764	4,116	4,514	4,922	5,352	5,816	6,263
44	---	---	---	---	----	----	----	----	----	----	----	----	2,835	3,157	3,492	3,882	4,247	4,657	5,080	5,527	6,014	6,471
45	---	---	---	---	----	----	----	----	----	----	----	----	2,915	3,247	3,597	4,001	4,376	4,804	5,237	5,702	6,208	6,678
46	---	---	---	---	----	----	----	----	----	----	----	----	2,995	3,341	3,701	4,121	4,515	4,949	5,394	5,881	6,403	6,890
47	---	---	---	---	----	----	----	----	----	----	----	----	3,075	3,433	3,806	4,239	4,635	5,098	5,554	6,058	6,597	7,097
48	---	---	---	---	----	----	----	----	----	----	----	----	3,153	3,526	3,911	4,359	4,763	5,251	5,704	6,236	6,793	7,303
49	---	---	---	---	----	----	----	----	----	----	----	----	3,234	3,618	4,012	4,475	4,885	5,403	5,856	6,413	6,985	7,510
50	---	---	---	---	----	----	----	----	----	----	----	----	3,315	3,710	4,118	4,592	5,017	5,555	6,013	6,595	7,180	7,722
51	---	---	---	---	----	----	----	----	----	----	----	----	3,394	3,802	4,220	4,709	5,148	5,705	6,168	6,772	7,374	7,916
52	---	---	---	---	----	----	----	----	----	----	----	----	3,472	3,894	4,327	4,829	5,281	5,859	6,329	6,949	7,569	8,113
53	---	---	---	---	----	----	----	----	----	----	----	----	3,551	3,986	4,434	4,946	5,411	6,011	6,484	7,126	7,761	8,310
54	---	---	---	---	----	----	----	----	----	----	----	----	3,634	4,079	4,540	5,066	5,546	6,164	6,645	7,304	7,946	8,503

TABLE 8

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), young-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... International 1/8-inch kerf
Scaling length for logs. 16 feet
Stump height..... 1.5 feet
Top d.i.b..... 5 inches
Trim allowance per log.. 0.3 feet
Method..... Frustum form factor
Number of trees..... 1,741
Location of trees..... Western Oregon and western Washington
Accuracy..... Aggregate deviation 1.01 percent low
Author..... R. E. McArdle, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 15 in U. S. Dept. Agr. Tech. Bul. 201
Year..... 1930

D.b.h. (inches)	Board-foot volume when number of 16-foot logs is--												
	1-1/4	2	3	4	5	6	7	8	9	10	11	12	13
7	19	30	44	58	71	87	--------	--------	--------	--------	--------	--------	--------
8	23	38	61	82	108	131	155	--------	--------	--------	--------	--------	--------
9	25	47	77	105	137	170	201	--------	--------	--------	--------	--------	--------
10	27	55	91	129	168	208	250	--------	--------	--------	--------	--------	--------
11	29	62	106	151	198	245	297	--------	--------	--------	--------	--------	--------
12	31	66	118	171	225	282	340	--------	--------	--------	--------	--------	--------
13	32	74	132	192	254	318	382	--------	--------	--------	--------	--------	--------
14	33	79	145	213	283	355	429	--------	--------	--------	--------	--------	--------
15	34	86	160	237	313	392	473	553	636	--------	--------	--------	--------
16	35	94	176	261	346	433	523	614	706	--------	--------	--------	--------
17	36	100	191	290	385	480	578	671	769	866	--------	--------	--------
18	37	105	207	314	417	524	630	735	840	947	--------	--------	--------
19	38	113	223	340	452	568	682	795	911	1,027	--------	--------	--------
20	39	120	240	365	487	611	737	858	985	1,108	1,230	--------	--------
21	40	128	257	393	523	656	792	925	1,058	1,191	1,323	--------	--------
22	41	136	273	417	557	700	846	990	1,135	1,282	1,430	--------	--------
23	43	145	293	447	598	750	907	1,060	1,217	1,372	1,528	--------	--------
24	45	155	312	478	640	807	975	1,138	1,306	1,472	1,638	1,805	--------
25	47	165	335	510	684	861	1,043	1,220	1,400	1,579	1,755	1,936	--------
26	--------	174	357	545	732	923	1,117	1,309	1,500	1,693	1,884	2,075	--------
27	--------	--------	377	580	780	985	1,192	1,398	1,601	1,810	2,017	2,220	--------
28	--------	--------	--------	--------	--------	--------	1,278	1,494	1,712	1,930	2,149	2,366	--------
29	--------	--------	--------	--------	--------	--------	1,363	1,592	1,822	2,050	2,281	2,515	--------
30	--------	--------	--------	--------	--------	--------	1,443	1,688	1,937	2,184	2,430	2,677	--------
31	--------	--------	--------	--------	--------	--------	1,534	1,792	2,055	2,318	2,580	2,842	--------
32	--------	--------	--------	--------	--------	--------	1,619	1,898	2,175	2,451	2,730	3,015	3,300
33	--------	--------	--------	--------	--------	--------	1,700	2,002	2,305	2,602	2,905	3,155	3,450
34	--------	--------	--------	--------	--------	--------	1,810	2,105	2,415	2,715	3,015	3,320	3,625
35	--------	--------	--------	--------	--------	--------	1,890	2,215	2,535	2,860	3,190	3,500	3,820
36	--------	--------	--------	--------	--------	--------	1,998	2,335	2,675	3,010	3,350	3,690	4,020
37	--------	--------	--------	--------	--------	--------	2,090	2,440	2,805	3,165	3,510	3,870	4,220
38	--------	--------	--------	--------	--------	--------	2,195	2,570	2,950	3,320	3,690	4,070	4,440
39	--------	--------	--------	--------	--------	--------	2,298	2,680	3,075	3,465	3,855	4,255	4,640
40	--------	--------	--------	--------	--------	--------	2,415	2,818	3,230	3,632	4,040	4,450	4,845
41	--------	--------	--------	--------	--------	--------	--------	2,935	3,360	3,795	4,215	4,650	5,060
42	--------	--------	--------	--------	--------	--------	--------	3,070	3,515	3,955	4,395	4,835	5,270
43	--------	--------	--------	--------	--------	--------	--------	3,190	3,655	4,115	4,580	5,045	5,500
44	--------	--------	--------	--------	--------	--------	--------	3,315	3,805	4,280	4,760	5,235	5,710
45	--------	--------	--------	--------	--------	--------	--------	--------	3,955	4,440	4,940	5,430	5,910
46	--------	--------	--------	--------	--------	--------	--------	--------	4,095	4,605	5,118	5,630	6,120
47	--------	--------	--------	--------	--------	--------	--------	--------	4,240	4,770	5,305	5,840	6,355
48	--------	--------	--------	--------	--------	--------	--------	--------	4,370	4,930	5,495	6,060	6,600
49	--------	--------	--------	--------	--------	--------	--------	--------	4,535	5,110	5,680	6,250	6,805
50	--------	--------	--------	--------	--------	--------	--------	--------	4,675	5,265	5,860	6,455	7,040
51	--------	--------	--------	--------	--------	--------	--------	--------	--------	5,428	6,050	6,690	7,310
52	--------	--------	--------	--------	--------	--------	--------	--------	--------	5,598	6,235	6,890	7,538
53	--------	--------	--------	--------	--------	--------	--------	--------	--------	5,750	6,430	7,100	7,750
54	--------	--------	--------	--------	--------	--------	--------	--------	--------	5,930	6,610	7,310	8,010

TABLE 9

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), young-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... International 1/4-inch kerf
Scaling length for logs. 16 feet
Stump height..... 1.5 feet
Top d.i.b..... 8 inches
Trim allowance per log.. 0.3 feet
Method..... Adjustment of volumes in table 16 U. S. Dept. Agr. Tech. Bul. 201
Number of trees..... 1,741 for base table
Location of trees..... Western Oregon and western Washington
Accuracy..... Not given
Author..... G. H. Barnes, American Forestry Association
Source..... Table 8A in "Management of Second-Growth Forests in the Douglas-fir Region"
Year..... 1945

D.b.h. (inches)	Board-foot volume when total height of tree in feet is--																			
	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240
12	58	78	96	110	128	146	154	182	200	220	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
14	92	114	139	167	197	224	257	289	327	366	400	440	-----	-----	-----	-----	-----	-----	-----	-----
16	-----	145	183	223	260	301	341	380	430	477	530	580	-----	-----	-----	-----	-----	-----	-----	-----
18	-----	-----	230	277	325	374	425	476	536	595	663	722	785	850	-----	-----	-----	-----	-----	-----
20	-----	-----	-----	330	389	448	510	569	638	711	787	864	940	1,020	1,090	-----	-----	-----	-----	-----
22	-----	-----	-----	-----	459	527	598	665	744	830	920	1,020	1,120	1,220	1,330	1,430	-----	-----	-----	-----
24	-----	-----	-----	-----	533	608	686	760	853	955	1,053	1,170	1,280	1,400	1,520	1,660	1,810	1,980	-----	-----
26	-----	-----	-----	-----	600	693	778	864	964	1,080	1,200	1,330	1,455	1,590	1,740	1,900	2,080	2,270	-----	-----
28	-----	-----	-----	-----	-----	778	878	975	1,090	1,220	1,355	1,500	1,640	1,790	1,950	2,130	2,320	2,530	-----	-----
30	-----	-----	-----	-----	-----	-----	990	1,090	1,220	1,360	1,520	1,670	1,830	2,000	2,170	2,360	2,570	2,790	-----	-----
32	-----	-----	-----	-----	-----	-----	-----	1,210	1,340	1,495	1,680	1,830	2,030	2,220	2,420	2,630	2,850	3,080	3,330	3,580
34	-----	-----	-----	-----	-----	-----	-----	1,330	1,470	1,640	1,840	2,000	2,220	2,430	2,660	2,900	3,140	3,390	3,670	3,950
36	-----	-----	-----	-----	-----	-----	-----	1,450	1,600	1,780	1,980	2,170	2,400	2,640	2,890	3,160	3,440	3,730	4,020	4,380
38	-----	-----	-----	-----	-----	-----	-----	1,560	1,740	1,930	2,130	2,340	2,590	2,860	3,130	3,420	3,730	4,050	4,380	4,760
40	-----	-----	-----	-----	-----	-----	-----	-----	-----	2,070	2,270	2,500	2,770	3,080	3,360	3,680	4,020	4,370	4,730	5,130
42	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2,420	2,670	2,960	3,270	3,600	3,950	4,310	4,680	5,090	5,500
44	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2,560	2,850	3,160	3,500	3,850	4,210	4,590	5,000	5,440	5,900
46	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2,710	3,020	3,350	3,710	4,080	4,470	4,880	5,320	5,790	6,270
48	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2,850	3,180	3,540	3,930	4,320	4,720	5,150	5,630	6,140	6,650
50	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2,990	3,350	3,730	4,140	4,550	4,990	5,450	5,960	6,500	7,050
52	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	3,140	3,520	3,920	4,340	4,770	5,220	5,720	6,270	6,840	7,420
54	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	3,280	3,680	4,110	4,570	5,050	5,560	6,080	6,620	7,180	7,800

TABLE 10

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), young-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... International 1/4-inch kerf
Scaling length for logs. 16 feet
Stump height..... 1.5 feet
Top d.i.b..... 6 inches
Trim allowance per log.. 0.3 feet
Method..... Adjustment of volumes in table 16 U. S. Dept. Agr. Tech. Bul. 201
Number of trees..... 1,741 for base table
Location of trees..... Western Oregon and western Washington
Accuracy..... Not given
Author..... E. C. Skinner, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 10 in "Volume Tables for Permanent Sample Plots"
Year..... 1953

D.b.h. (inches)	Board-foot volume when total height of tree in feet is--																					
	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240
8	13	17	25	33	40	50	57	67	75	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
9	16	24	35	44	54	69	80	93	104	115	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
10	----	31	44	57	72	88	103	119	134	151	167	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
11	----	40	53	70	90	109	128	147	169	189	209	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
12	----	48	67	87	108	131	153	176	203	230	255	284	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
13	----	57	80	101	128	157	183	212	240	269	300	334	372	-----	-----	-----	-----	-----	-----	-----	-----	-----
14	----	---	92	119	148	180	214	245	277	310	348	386	432	472	-----	-----	-----	-----	-----	-----	-----	-----
15	----	---	---	138	169	207	242	280	316	352	395	437	490	533	-----	-----	-----	-----	-----	-----	-----	-----
16	----	---	---	157	191	233	272	314	354	395	444	491	551	596	-----	-----	-----	-----	-----	-----	-----	-----
17	----	---	---	177	213	260	303	348	394	441	493	548	611	662	734	-----	-----	-----	-----	-----	-----	-----
18	----	---	---	----	237	289	334	383	435	486	546	605	673	732	806	879	-----	-----	-----	-----	-----	-----
19	----	---	---	----	259	314	365	419	475	529	594	662	733	799	879	957	1,032	-----	-----	-----	-----	-----
20	----	---	---	----	-----	340	398	456	519	578	647	720	796	874	959	1,043	1,129	1,210	-----	-----	-----	-----
21	----	---	---	----	-----	-----	432	495	561	625	699	779	862	950	1,040	1,132	1,226	1,312	-----	-----	-----	-----
22	----	---	---	----	-----	-----	468	535	605	674	752	839	928	1,028	1,123	1,223	1,326	1,422	-----	-----	-----	-----
23	----	---	---	----	-----	-----	504	574	649	720	805	900	995	1,102	1,206	1,315	1,425	1,532	1,652	-----	-----	-----
24	----	---	---	----	-----	-----	540	614	693	769	861	961	1,063	1,181	1,291	1,408	1,527	1,645	1,778	1,896	-----	-----
25	----	---	---	----	-----	-----	577	656	738	819	915	1,024	1,135	1,257	1,377	1,503	1,629	1,763	1,900	2,034	-----	-----
26	----	---	---	----	-----	-----	616	699	784	871	971	1,090	1,207	1,338	1,463	1,599	1,736	1,878	2,028	2,173	-----	-----
27	----	---	---	----	-----	-----	657	744	833	924	1,031	1,157	1,283	1,420	1,553	1,698	1,846	1,998	2,158	2,317	-----	-----
28	----	---	---	----	-----	-----	----	789	883	981	1,093	1,224	1,361	1,503	1,648	1,799	1,961	2,125	2,293	2,463	-----	-----
29	----	---	---	----	-----	-----	----	-----	938	1,040	1,157	1,294	1,443	1,590	1,744	1,901	2,079	2,254	2,434	2,616	-----	-----
30	----	---	---	----	-----	-----	----	-----	991	1,098	1,221	1,364	1,526	1,673	1,839	2,009	2,195	2,383	2,576	2,772	-----	-----
31	----	---	---	----	-----	-----	----	-----	1,043	1,150	1,286	1,430	1,605	1,756	1,934	2,119	2,315	2,510	2,718	2,928	-----	-----
32	----	---	---	----	-----	-----	----	-----	-----	1,217	1,351	1,500	1,684	1,841	2,033	2,225	2,431	2,641	2,862	3,089	3,327	3,555
33	----	---	---	----	-----	-----	----	-----	-----	1,275	1,413	1,570	1,766	1,925	2,123	2,336	2,550	2,769	3,004	3,249	3,496	3,738
34	----	---	---	----	-----	-----	----	-----	-----	1,335	1,478	1,643	1,848	2,011	2,219	2,443	2,669	2,900	3,151	3,410	3,672	3,935
35	----	---	---	----	-----	-----	----	-----	-----	1,392	1,541	1,715	1,918	2,095	2,312	2,545	2,786	3,027	3,298	3,570	3,844	4,127
36	----	---	---	----	-----	-----	----	-----	-----	1,451	1,608	1,785	1,989	2,178	2,405	2,651	2,905	3,159	3,440	3,730	4,027	4,314
37	----	---	---	----	-----	-----	----	-----	-----	1,508	1,674	1,856	2,061	2,261	2,496	2,751	3,019	3,289	3,586	3,891	4,203	4,510
38	----	---	---	----	-----	-----	----	-----	-----	1,567	1,742	1,929	2,134	2,345	2,592	2,867	3,138	3,423	3,733	4,052	4,384	4,734
39	----	---	---	----	-----	-----	----	-----	-----	-----	-----	1,999	2,205	2,429	2,685	2,975	3,254	3,556	3,875	4,207	4,562	4,917
40	----	---	---	----	-----	-----	----	-----	-----	-----	-----	2,072	2,277	2,513	2,778	3,083	3,374	3,689	4,020	4,368	4,740	5,105
41	----	---	---	----	-----	-----	----	-----	-----	-----	-----	-----	2,349	2,596	2,875	3,189	3,492	3,823	4,164	4,527	4,915	5,291
42	----	---	---	----	-----	-----	----	-----	-----	-----	-----	-----	2,420	2,680	2,972	3,298	3,609	3,951	4,311	4,684	5,093	5,478
43	----	---	---	----	-----	-----	----	-----	-----	-----	-----	-----	2,493	2,761	3,064	3,406	3,724	4,084	4,453	4,843	5,263	5,667
44	----	---	---	----	-----	-----	----	-----	-----	-----	-----	-----	2,565	2,856	3,159	3,512	3,843	4,214	4,596	5,001	5,442	5,855
45	----	---	---	----	-----	-----	----	-----	-----	-----	-----	-----	2,637	2,938	3,254	3,620	3,959	4,347	4,738	5,159	5,617	6,043
46	----	---	---	----	-----	-----	----	-----	-----	-----	-----	-----	2,710	3,023	3,348	3,729	4,085	4,478	4,881	5,321	5,794	6,235
47	----	---	---	----	-----	-----	----	-----	-----	-----	-----	-----	2,782	3,106	3,444	3,835	4,194	4,613	5,025	5,482	5,969	6,422
48	----	---	---	----	-----	-----	----	-----	-----	-----	-----	-----	2,853	3,190	3,539	3,944	4,310	4,751	5,161	5,643	6,147	6,608
49	----	---	---	----	-----	-----	----	-----	-----	-----	-----	-----	2,926	3,273	3,630	4,049	4,420	4,889	5,299	5,803	6,321	6,796
50	----	---	---	----	-----	-----	----	-----	-----	-----	-----	-----	2,999	3,357	3,726	4,155	4,539	5,026	5,441	5,968	6,497	6,988
51	----	---	---	----	-----	-----	----	-----	-----	-----	-----	-----	3,071	3,440	3,818	4,261	4,658	5,162	5,581	6,128	6,673	7,163
52	----	---	---	----	-----	-----	----	-----	-----	-----	-----	-----	3,141	3,523	3,915	4,369	4,778	5,301	5,727	6,288	6,849	7,341
53	----	---	---	----	-----	-----	----	-----	-----	-----	-----	-----	3,213	3,606	4,012	4,475	4,896	5,439	5,867	6,448	7,023	7,520
54	----	---	---	----	-----	-----	----	-----	-----	-----	-----	-----	3,288	3,691	4,108	4,584	5,018	5,578	6,013	6,609	7,190	7,694

TABLE 11

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), young-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 2 feet
Top d.i.b..... 8 inches
Trim allowance per log.. 0.3 feet
Method..... Board-feet per cubic-foot ratios applied to table 12 in U. S. Dept. Agr. Tech. Bul. 201
Number of trees..... 1,434
Location of trees..... Western Oregon and western Washington
Accuracy..... Aggregate deviation 0.1 percent high
Author..... R. E. McArdle, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 14 in U. S. Dept. Agr. Tech. Bul. 201
Year..... 1930

D.b.h. (inches)	Board-foot volume when total height of tree in feet is--																			
	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240
12	32	50	69	87	105	124	140	155	176	196	225	-----	-----	-----	-----	-----	-----	-----	-----	-----
13	39	61	83	107	130	150	170	190	212	238	270	-----	-----	-----	-----	-----	-----	-----	-----	-----
14	47	74	101	129	155	175	201	225	252	282	318	354	-----	-----	-----	-----	-----	-----	-----	-----
15	-----	88	118	148	180	207	233	262	290	324	364	410	-----	-----	-----	-----	-----	-----	-----	-----
16	-----	102	136	170	205	235	265	296	330	368	410	466	-----	-----	-----	-----	-----	-----	-----	-----
17	-----	115	154	193	230	263	296	331	370	412	460	522	584	-----	-----	-----	-----	-----	-----	-----
18	-----	-----	174	215	257	294	329	367	410	460	510	580	640	714	-----	-----	-----	-----	-----	-----
19	-----	-----	192	239	283	325	363	403	450	508	564	640	710	782	858	-----	-----	-----	-----	-----
20	-----	-----	213	262	311	355	397	440	494	558	618	694	774	854	942	1,032	-----	-----	-----	-----
21	-----	-----	-----	285	338	388	438	480	538	608	676	754	844	930	1,026	1,122	-----	-----	-----	-----
22	-----	-----	-----	309	367	420	470	520	584	658	732	820	914	1,010	1,114	1,222	-----	-----	-----	-----
23	-----	-----	-----	-----	397	455	507	562	630	708	788	882	986	1,090	1,204	1,322	1,438	-----	-----	-----
24	-----	-----	-----	-----	426	489	545	607	676	758	848	950	1,058	1,172	1,296	1,422	1,548	1,670	-----	-----
25	-----	-----	-----	-----	458	524	584	648	724	811	909	1,018	1,134	1,257	1,393	1,527	1,667	1,801	-----	-----
26	-----	-----	-----	-----	492	562	626	692	770	866	971	1,088	1,210	1,346	1,495	1,645	1,794	1,938	-----	-----
27	-----	-----	-----	-----	524	598	666	728	821	920	1,034	1,158	1,287	1,435	1,597	1,757	1,921	2,075	-----	-----
28	-----	-----	-----	-----	-----	638	708	782	870	975	1,096	1,230	1,368	1,535	1,699	1,874	2,048	2,215	-----	-----
29	-----	-----	-----	-----	-----	674	750	828	920	1,032	1,162	1,304	1,450	1,627	1,803	1,989	2,180	2,354	-----	-----
30	-----	-----	-----	-----	-----	712	792	876	972	1,088	1,228	1,379	1,536	1,720	1,909	2,104	2,308	2,497	-----	-----
31	-----	-----	-----	-----	-----	-----	836	922	1,023	1,148	1,296	1,454	1,622	1,813	2,014	2,222	2,436	2,635	-----	-----
32	-----	-----	-----	-----	-----	-----	878	970	1,076	1,207	1,366	1,529	1,711	1,906	2,100	2,340	2,569	2,778	3,019	3,246
33	-----	-----	-----	-----	-----	-----	922	1,016	1,129	1,267	1,434	1,601	1,797	1,999	2,226	2,458	2,702	2,921	3,180	3,424
34	-----	-----	-----	-----	-----	-----	964	1,060	1,182	1,327	1,512	1,694	1,880	2,092	2,333	2,576	2,833	3,084	3,338	3,598
35	-----	-----	-----	-----	-----	-----	-----	1,112	1,238	1,387	1,565	1,747	1,964	2,180	2,439	2,694	2,963	3,227	3,496	3,780
36	-----	-----	-----	-----	-----	-----	-----	1,158	1,291	1,447	1,628	1,818	2,046	2,278	2,544	2,812	3,096	3,370	3,657	3,956
37	-----	-----	-----	-----	-----	-----	-----	1,208	1,347	1,510	1,692	1,889	2,128	2,372	2,651	2,931	3,225	3,514	3,818	4,132
38	-----	-----	-----	-----	-----	-----	-----	1,256	1,401	1,575	1,753	1,962	2,208	2,465	2,759	3,049	3,358	3,657	3,981	4,315
39	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1,814	2,035	2,286	2,558	2,867	3,167	3,491	3,800	4,136	4,488
40	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1,874	2,106	2,362	2,651	2,970	3,280	3,619	3,943	4,299	4,667
41	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1,932	2,176	2,437	2,746	3,068	3,398	3,752	4,086	4,459	4,844
42	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1,990	2,244	2,513	2,839	3,168	3,516	3,885	4,229	4,622	5,022
43	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2,045	2,310	2,586	2,932	3,266	3,632	4,018	4,372	4,781	5,200
44	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2,101	2,375	2,659	3,011	3,365	3,747	4,149	4,520	4,939	5,373
45	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2,156	2,440	2,732	3,094	3,463	3,865	4,282	4,663	5,102	5,526
46	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2,207	2,500	2,801	3,174	3,559	3,978	4,413	4,807	5,258	5,720
47	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2,262	2,563	2,869	3,258	3,657	4,096	4,546	4,950	5,420	5,890
48	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2,320	2,630	2,946	3,348	3,762	4,219	4,683	5,097	5,585	6,065
49	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2,373	2,690	3,027	3,433	3,859	4,335	4,816	5,245	5,744	6,236
50	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2,426	2,753	3,107	3,516	3,960	4,453	4,949	5,388	5,907	6,409
51	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2,485	2,821	3,189	3,599	4,059	4,568	5,082	5,536	6,060	6,579
52	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2,540	2,884	3,268	3,685	4,150	4,686	5,215	5,679	6,225	6,752
53	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2,593	2,947	3,351	3,769	4,259	4,804	5,348	5,822	6,388	6,925
54	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2,658	3,010	3,434	3,853	4,357	4,922	5,481	5,965	6,554	7,093

TABLE 12

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), old-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 2 feet
Top d.i.b..... 8 inches
Trim allowance per log.. 0.3 feet
Method..... Adjustment of volumes in table 3 of "Interregional Volume Tables for Old-Growth Douglas-fir"
Number of trees..... 2,643 for base table
Location of trees..... Sites I, II, and III in western Oregon and western Washington
Accuracy..... Not given
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 4 in "Interregional Volume Tables for Old-Growth Douglas-fir"
Year..... 1932

D.b.h. (inches)	Volume in tens of board-feet when total height of tree in feet is--												
	80	100	120	140	160	180	200	220	240	260	280	300	320
16	16	23	31	38	45	--------	--------	--------	--------	--------	--------	--------	--------
18	20	29	39	47	56	62	--------	--------	--------	--------	--------	--------	--------
20	25	36	48	58	68	76	86	--------	--------	--------	--------	--------	--------
22	31	44	57	69	81	91	104	--------	--------	--------	--------	--------	--------
24	36	52	67	81	95	109	125	--------	--------	--------	--------	--------	--------
26	43	60	78	93	112	129	148	169	--------	--------	--------	--------	--------
28	49	70	89	109	130	151	172	196	--------	--------	--------	--------	--------
30	57	80	103	125	149	174	199	225	246	--------	--------	--------	--------
32	64	90	117	142	170	198	226	254	277	--------	--------	--------	--------
34	73	102	132	160	192	224	256	287	314	344	373	400	--------
36	81	115	148	180	215	251	287	320	350	383	416	446	--------
38	90	128	166	201	239	280	320	355	391	425	460	494	--------
40	100	141	185	224	264	310	356	391	432	468	505	543	584
42	109	156	204	246	290	339	390	429	473	513	555	596	642
44	118	171	224	270	318	372	426	469	516	561	608	650	702
46	128	187	244	294	347	404	464	510	562	614	662	710	765
48	138	204	266	321	377	439	503	555	612	669	720	775	832
50	149	221	290	348	408	476	544	600	662	724	778	841	900
52	--------	239	312	376	440	513	586	648	715	784	841	908	975
54	--------	258	336	405	475	553	630	699	770	845	906	980	1,055
56	--------	276	362	433	510	594	676	750	828	906	973	1,055	1,135
58	--------	296	388	464	547	636	724	804	887	970	1,045	1,130	1,215
60	--------	316	413	494	584	678	771	858	949	1,035	1,120	1,205	1,295
62	--------	--------	439	525	622	719	819	912	1,015	1,105	1,195	1,280	1,375
64	--------	--------	466	556	659	762	869	970	1,085	1,180	1,270	1,360	1,460
66	--------	--------	493	589	700	811	922	1,033	1,155	1,255	1,345	1,445	1,540
68	--------	--------	523	624	744	860	978	1,100	1,225	1,335	1,425	1,530	1,630
70	--------	--------	552	658	788	910	1,040	1,170	1,295	1,415	1,510	1,615	1,720
72	--------	--------	582	692	831	960	1,105	1,240	1,365	1,495	1,600	1,700	1,805
74	--------	--------	--------	--------	876	1,015	1,170	1,310	1,440	1,570	1,685	1,785	1,895
76	--------	--------	--------	--------	923	1,070	1,235	1,380	1,515	1,645	1,770	1,875	1,980
78	--------	--------	--------	--------	970	1,130	1,300	1,450	1,590	1,725	1,860	1,965	2,070
80	--------	--------	--------	--------	1,020	1,190	1,365	1,520	1,665	1,805	1,950	2,055	2,160
82	--------	--------	--------	--------	--------	1,245	1,430	1,590	1,740	1,885	2,030	2,140	2,250
84	--------	--------	--------	--------	--------	1,300	1,495	1,660	1,815	1,970	2,120	2,225	2,340
86	--------	--------	--------	--------	--------	1,360	1,560	1,730	1,890	2,050	2,200	2,320	2,430
88	--------	--------	--------	--------	--------	1,420	1,630	1,800	1,980	2,130	2,290	2,410	2,530
90	--------	--------	--------	--------	--------	1,490	1,700	1,875	2,070	2,225	2,380	2,505	2,630
92	--------	--------	--------	--------	--------	1,555	1,765	1,960	2,150	2,320	2,480	2,600	2,730
94	--------	--------	--------	--------	--------	1,615	1,835	2,030	2,220	2,400	2,570	2,700	2,830
96	--------	--------	--------	--------	--------	1,680	1,905	2,100	2,300	2,490	2,660	2,800	2,930
98	--------	--------	--------	--------	--------	1,740	1,975	2,180	2,380	2,580	2,750	2,900	3,030
100	--------	--------	--------	--------	--------	1,800	2,035	2,250	2,460	2,670	2,840	3,000	3,130
102	--------	--------	--------	--------	--------	--------	--------	2,310	2,530	2,750	2,920	3,080	3,220
104	--------	--------	--------	--------	--------	--------	--------	2,380	2,610	2,820	3,010	3,160	3,310
106	--------	--------	--------	--------	--------	--------	--------	2,440	2,680	2,900	3,090	3,240	3,390
108	--------	--------	--------	--------	--------	--------	--------	2,510	2,760	2,970	3,170	3,320	3,480
110	--------	--------	--------	--------	--------	--------	--------	2,580	2,830	3,050	3,250	3,400	3,570
112	--------	--------	--------	--------	--------	--------	--------	2,650	2,910	3,130	3,340	3,490	3,660
114	--------	--------	--------	--------	--------	--------	--------	2,720	2,980	3,210	3,420	3,570	3,750
116	--------	--------	--------	--------	--------	--------	--------	2,790	3,050	3,290	3,500	3,660	3,840
118	--------	--------	--------	--------	--------	--------	--------	2,860	3,130	3,370	3,590	3,740	3,930
120	--------	--------	--------	--------	--------	--------	--------	2,930	3,200	3,450	3,670	3,830	4,030

TABLE 13

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), old-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 1.5 feet
Top d.i.b..... 8 inches
Trim allowance per log.. 0.3 feet
Method..... Adjustment of volumes in table 7 of "Interregional Volume Tables for Old-Growth Douglas-fir"
Number of trees..... 4,072 for base table
Location of trees..... Sites IV and V of the entire range of Douglas-fir
Accuracy..... Not given
Author..... W.H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 8 in "Interregional Volume Tables for Old-Growth Douglas-fir"
Year..... 1932

D.b.h. (inches)	Volume in tens of board-feet when total height of tree in feet is--								
	60	80	100	120	140	160	180	200	220
12	----------	----------	14	17	----------	----------	----------	----------	----------
14	----------	13	18	22	----------	----------	----------	----------	----------
16	12	17	23	28	----------	----------	----------	----------	----------
18	15	22	29	36	----------	----------	----------	----------	----------
20	18	27	37	46	55	----------	----------	----------	----------
22	22	33	45	56	69	----------	----------	108	----------
24	26	39	54	69	84	99	115	130	----------
26	30	46	63	82	100	118	136	155	----------
28	34	53	74	97	117	138	159	181	----------
30	39	60	85	112	136	159	185	210	----------
32	----------	68	97	128	155	182	211	239	----------
34	----------	76	110	145	176	207	240	271	310
36	----------	----------	123	162	199	234	270	305	348
38	----------	----------	137	181	222	262	303	343	390
40	----------	----------	152	200	246	292	336	381	432
42	----------	----------	167	220	270	323	373	421	478
44	----------	----------	183	241	297	356	411	464	525
46	----------	----------	199	263	325	391	453	508	576
48	----------	----------	216	287	354	428	496	556	630
50	----------	----------	----------	311	385	466	540	606	684
52	----------	----------	----------	336	416	504	586	659	741
54	----------	----------	----------	----------	449	545	634	713	802
56	----------	----------	----------	----------	482	587	682	768	865
58	----------	----------	----------	----------	517	630	732	826	928
60	----------	----------	----------	----------	553	674	784	885	996
62	----------	----------	----------	----------	589	719	837	945	1,070
64	----------	----------	----------	----------	625	765	890	1,005	1,145
66	----------	----------	----------	----------	663	810	945	1,075	1,220
68	----------	----------	----------	----------	702	855	1,005	1,150	1,300
70	----------	----------	----------	----------	742	900	1,065	1,230	1,380

TABLE 14

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), old-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 1.5 feet
Top d.i.b..... 8 inches
Trim allowance per log.. 0.3 feet
Method..... Adjustment of volumes in table 9 of "Interregional Volume Tables for Old-Growth Douglas-fir"
Number of trees..... 406 for base table
Location of trees..... Site VI in the entire range of Douglas-fir
Accuracy..... Not given
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 10 in "Interregional Volume Tables for Old-Growth Douglas-fir"
Year..... 1932

D.b.h. (inches)	Volume in tens of board-feet when total height of tree in feet is--									
	40	50	60	70	80	90	100	110	120	130
12	3	4	6	7	8	----------	----------	----------	----------	----------
14	4	6	8	10	13	15	17	20	----------	----------
16	6	8	11	14	18	21	24	27	----------	----------
18	----------	11	14	19	23	27	31	35	40	----------
20	----------	14	18	24	29	34	39	44	49	----------
22	----------	16	23	30	36	42	47	53	60	----------
24	----------	19	28	36	43	50	57	64	70	78
26	----------	22	33	43	50	59	67	74	82	91
28	----------	----------	38	49	58	68	77	85	94	106
30	----------	----------	44	56	67	78	89	97	108	122
32	----------	----------	50	64	76	88	100	112	124	139
34	----------	----------	56	72	86	100	113	126	140	157
36	----------	----------	63	80	96	112	126	142	156	176
38	----------	----------	69	88	106	124	140	158	174	196
40	----------	----------	76	97	116	137	155	175	193	217
42	----------	----------	----------	106	126	150	170	193	213	238
44	----------	----------	----------	115	138	164	186	212	233	260
46	----------	----------	----------	----------	148	177	202	230	253	282
48	----------	----------	----------	----------	160	192	219	249	274	305
50	----------	----------	----------	----------	172	207	236	269	296	330

TABLE 15

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), young-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 2 feet
Top d.i.b. ..... 8 inches
Trim allowance per log. 0.3 feet
Method..... Frustum form factor
Number of trees..... 1,433
Location of trees..... Western Oregon and western Washington
Accuracy..... Aggregate deviation 1.06 percent low
Author..... R. E. McArdle, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 13 in U. S. Dept. Agr. Tech. Bul. 201
Year..... 1930

D.b.h. (inches)	Board-foot volume when number of 16-foot logs is—												
	1-1/4	2	3	4	5	6	7	8	9	10	11	12	13
12	62	80	133	183	235	286	338	--------	--------	--------	--------	--------	--------
13	63	84	140	197	254	310	370	--------	--------	--------	--------	--------	--------
14	64	88	147	210	274	338	400	--------	--------	--------	--------	--------	--------
15	65	91	155	226	296	365	435	--------	--------	--------	--------	--------	--------
16	67	96	163	242	320	399	478	--------	--------	--------	--------	--------	--------
17	69	102	178	262	347	430	515	--------	--------	--------	--------	--------	--------
18	71	109	190	280	370	459	550	640	729	--------	--------	--------	--------
19	73	115	207	305	403	503	602	701	801	901	--------	--------	--------
20	75	123	221	330	435	543	651	758	865	970	--------	--------	--------
21	77	129	240	355	469	584	700	815	930	1,046	--------	--------	--------
22	80	136	258	383	509	633	760	884	1,011	1,136	1,260	--------	--------
23	84	143	277	414	551	688	827	964	1,101	1,239	1,375	--------	--------
24	--------	151	292	438	584	728	882	1,035	1,188	1,340	1,495	1,641	--------
25	--------	160	311	466	623	780	942	1,109	1,275	1,440	1,602	1,763	--------
26	--------	170	333	500	666	832	1,013	1,190	1,368	1,546	1,724	1,895	--------
27	--------	180	351	530	708	889	1,078	1,268	1,458	1,648	1,835	2,020	2,215
28	--------	188	371	560	750	941	1,144	1,346	1,551	1,752	1,956	2,152	2,361
29	--------	--------	--------	602	800	1,005	1,220	1,433	1,650	1,862	2,077	2,282	2,507
30	--------	--------	--------	638	850	1,062	1,291	1,518	1,749	1,975	2,202	2,420	2,656
31	--------	--------	--------	675	901	1,130	1,370	1,609	1,850	2,091	2,330	2,562	2,810
32	--------	--------	--------	716	955	1,195	1,449	1,700	1,954	2,211	2,462	2,707	2,968
33	--------	--------	--------	751	1,005	1,260	1,530	1,800	2,070	2,340	2,613	2,873	3,127
34	--------	--------	--------	791	1,059	1,333	1,614	1,898	2,180	2,463	2,745	3,006	3,295
35	--------	--------	--------	839	1,115	1,402	1,700	1,998	2,295	2,590	2,885	3,160	3,461
36	--------	--------	--------	882	1,175	1,494	1,782	2,095	2,410	2,721	3,025	3,318	3,630
37	--------	--------	--------	930	1,228	1,545	1,873	2,205	2,530	2,860	3,166	3,478	3,810
38	--------	--------	--------	978	1,290	1,614	1,955	2,305	2,660	2,985	3,315	3,642	3,990
39	--------	--------	--------	1,020	1,354	1,690	2,049	2,415	2,790	3,137	3,487	3,825	4,190
40	--------	--------	--------	--------	1,410	1,779	2,150	2,523	2,892	3,266	3,634	3,995	4,380
41	--------	--------	--------	--------	1,478	1,861	2,250	2,633	3,015	3,390	3,768	4,135	4,530
42	--------	--------	--------	--------	1,541	1,937	2,340	2,735	3,138	3,528	3,920	4,301	4,717
43	--------	--------	--------	--------	1,609	2,020	2,440	2,850	3,258	3,672	4,086	4,490	4,917
44	--------	--------	--------	--------	1,663	2,090	2,520	2,949	3,386	3,812	4,240	4,651	5,100
45	--------	--------	--------	--------	1,730	2,171	2,625	3,065	3,508	3,950	4,391	4,822	5,290
46	--------	--------	--------	--------	1,790	2,255	2,724	3,180	3,638	4,094	4,550	5,008	5,495
47	--------	--------	--------	--------	1,854	2,330	2,810	3,225	3,770	4,247	4,720	5,197	5,709
48	--------	--------	--------	--------	1,920	2,420	2,927	3,414	3,905	4,400	4,890	5,400	5,935
49	--------	--------	--------	--------	1,985	2,511	3,020	3,534	4,051	4,572	5,075	5,582	6,120
50	--------	--------	--------	--------	--------	2,606	3,130	3,660	4,190	4,725	5,259	5,774	6,330
51	--------	--------	--------	--------	--------	2,690	3,227	3,775	4,328	4,878	5,440	5,976	6,555
52	--------	--------	--------	--------	--------	2,775	3,330	3,908	4,480	5,055	5,620	6,168	6,758
53	--------	--------	--------	--------	--------	2,864	3,440	4,034	4,616	5,230	5,820	6,395	7,000
54	--------	--------	--------	--------	--------	2,944	3,550	4,153	4,760	5,389	6,010	6,610	7,240

TABLE 16

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), old-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 2 feet
Top d.i.b. ..... 8 inches
Trim allowance per log. 0.3 feet
Method..... Alinement chart
Number of trees..... 2,643
Location of trees..... Sites I, II, and III in western Oregon and western Washington
Accuracy..... Aggregate deviation 0.25 percent high
Author..... W.H.Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 3 in "Interregional Volume Tables for Old-Growth Douglas-fir"
Year..... 1932

D.b.h. (inches)	Volume in tens of board-feet when number of 16-foot logs is--																
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
16	11	19	26	33	40	47	53	59	-----	-----	-----	-----	-----	-----	-----	-----	-----
18	13	22	30	39	48	56	63	71	-----	-----	-----	-----	-----	-----	-----	-----	-----
20	15	25	35	46	56	65	74	83	92	102	-----	-----	-----	-----	-----	-----	-----
22	17	29	41	53	65	76	87	99	109	122	-----	-----	-----	-----	-----	-----	-----
24	19	33	47	61	74	87	101	115	128	143	-----	-----	-----	-----	-----	-----	-----
26	21	37	53	69	84	101	116	132	147	165	-----	-----	-----	-----	-----	-----	-----
28	23	41	59	77	96	115	132	150	168	188	-----	-----	-----	-----	-----	-----	-----
30	25	46	66	87	108	130	149	170	190	214	235	255	-----	-----	-----	-----	-----
32	-----	51	73	97	120	145	166	190	215	242	265	290	-----	-----	-----	-----	-----
34	-----	56	80	107	134	160	185	214	241	270	300	325	-----	-----	-----	-----	-----
36	-----	62	88	117	148	175	205	238	267	300	335	362	395	430	460	495	525
38	-----	67	96	129	163	193	227	262	295	333	365	400	435	470	505	540	580
40	-----	72	105	141	178	213	249	290	326	366	400	440	475	515	555	595	635
42	-----	-----	114	153	193	233	273	318	357	399	440	480	520	560	605	650	690
44	-----	-----	123	165	210	253	299	344	389	435	480	520	570	615	655	705	750
46	-----	-----	133	180	228	275	326	375	422	472	520	565	620	665	710	765	815
48	-----	-----	143	195	247	300	353	405	456	510	560	610	665	715	765	825	875
50	-----	-----	153	210	267	325	380	435	490	550	600	655	710	770	825	885	945
52	-----	-----	163	225	288	350	410	470	525	590	645	700	765	830	880	950	1,015
54	-----	-----	175	240	310	375	440	505	560	630	690	755	820	890	945	1,025	1,095
56	-----	-----	187	258	333	400	470	540	595	675	740	810	875	950	1,010	1,100	1,175
58	-----	-----	200	276	356	428	500	575	635	720	790	865	935	1,010	1,085	1,170	1,255
60	-----	-----	216	297	379	457	530	610	680	765	840	920	995	1,085	1,160	1,245	1,335
62	-----	-----	-----	-----	402	486	565	645	725	810	895	975	1,065	1,150	1,230	1,320	1,415
64	-----	-----	-----	-----	428	515	600	685	770	855	950	1,030	1,130	1,220	1,310	1,400	1,500
66	-----	-----	-----	-----	454	545	635	725	815	910	1,005	1,095	1,195	1,290	1,390	1,480	1,585
68	-----	-----	-----	-----	480	578	670	770	860	965	1,060	1,160	1,260	1,360	1,470	1,570	1,665
70	-----	-----	-----	-----	506	612	705	815	910	1,020	1,120	1,225	1,335	1,440	1,545	1,650	1,750
72	-----	-----	-----	-----	532	646	745	860	960	1,080	1,180	1,290	1,410	1,515	1,625	1,730	1,840
74	-----	-----	-----	-----	560	680	785	905	1,010	1,140	1,250	1,360	1,485	1,595	1,700	1,815	1,930
76	-----	-----	-----	-----	588	715	830	950	1,065	1,200	1,320	1,430	1,560	1,675	1,780	1,900	2,015
78	-----	-----	-----	-----	619	750	875	995	1,120	1,260	1,390	1,500	1,635	1,750	1,860	1,985	2,100
80	-----	-----	-----	-----	650	785	920	1,050	1,180	1,320	1,450	1,570	1,705	1,825	1,940	2,065	2,175
82	-----	-----	-----	-----	-----	815	965	1,105	1,240	1,380	1,510	1,630	1,775	1,900	2,020	2,145	2,250
84	-----	-----	-----	-----	-----	850	1,010	1,160	1,300	1,440	1,580	1,710	1,850	1,980	2,100	2,225	2,330
86	-----	-----	-----	-----	-----	890	1,055	1,215	1,360	1,500	1,650	1,790	1,925	2,060	2,180	2,300	2,420
88	-----	-----	-----	-----	-----	930	1,100	1,270	1,420	1,570	1,720	1,870	2,000	2,140	2,260	2,380	2,510
90	-----	-----	-----	-----	-----	970	1,150	1,325	1,480	1,640	1,790	1,930	2,075	2,210	2,320	2,460	2,600
92	-----	-----	-----	-----	-----	-----	1,200	1,380	1,540	1,710	1,860	1,990	2,145	2,280	2,400	2,550	2,700
94	-----	-----	-----	-----	-----	-----	1,250	1,440	1,600	1,780	1,930	2,070	2,215	2,350	2,490	2,640	2,800
96	-----	-----	-----	-----	-----	-----	1,300	1,500	1,660	1,850	2,000	2,140	2,285	2,420	2,580	2,740	2,890
98	-----	-----	-----	-----	-----	-----	1,355	1,560	1,720	1,920	2,070	2,210	2,355	2,510	2,670	2,830	2,980
100	-----	-----	-----	-----	-----	-----	1,410	1,620	1,780	1,980	2,125	2,280	2,430	2,600	2,750	2,920	3,070
102	-----	-----	-----	-----	-----	-----	1,470	1,660	1,840	2,040	2,180	2,340	2,500	2,690	2,830	3,010	3,170
104	-----	-----	-----	-----	-----	-----	1,500	1,710	1,900	2,100	2,240	2,410	2,590	2,770	2,920	3,100	3,270
106	-----	-----	-----	-----	-----	-----	1,570	1,780	1,960	2,160	2,300	2,480	2,680	2,840	3,010	3,190	3,360
108	-----	-----	-----	-----	-----	-----	-----	1,830	2,020	2,220	2,360	2,560	2,760	2,920	3,100	3,280	3,450
110	-----	-----	-----	-----	-----	-----	-----	1,900	2,080	2,280	2,420	2,640	2,840	3,000	3,190	3,370	3,540
112	-----	-----	-----	-----	-----	-----	-----	-----	2,130	2,330	2,480	2,710	2,920	3,070	3,280	3,450	3,630
114	-----	-----	-----	-----	-----	-----	-----	-----	2,180	2,390	2,530	2,780	3,000	3,150	3,370	3,540	3,720
116	-----	-----	-----	-----	-----	-----	-----	-----	2,240	2,450	2,590	2,850	3,080	3,220	3,460	3,630	3,810
118	-----	-----	-----	-----	-----	-----	-----	-----	2,300	2,500	2,650	2,930	3,160	3,300	3,550	3,720	3,910
120	-----	-----	-----	-----	-----	-----	-----	-----	2,360	2,560	2,710	3,000	3,240	3,370	3,650	3,820	4,000

TABLE 17

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), old-growth
Unit of measure..... Board-foot
Variables..... D. b. h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 1.5 feet
Top d.i.b..... 8 inches
Trim allowance per log.. 0.3 feet
Method..... Alinement chart
Number of trees..... 4,072
Location of trees..... Sites IV and V in the entire range of Douglas-fir
Accuracy..... Aggregate deviation 0.51 percent high
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 7 in "Interregional Volume Tables for Old-Growth Douglas-fir"
Year..... 1932

D.b.h. (inches)	Volume in tens of board-feet when number of 16-foot logs is--										
	2	3	4	5	6	7	8	9	10	11	12
10	6.6	10	13	17	21	----------	----------	----------	----------	----------	----------
12	8.1	12	16	22	26	----------	----------	----------	----------	----------	----------
14	9.6	14	20	27	33	38	----------	----------	----------	----------	----------
16	11.1	18	25	33	40	47	----------	----------	----------	----------	----------
18	12.6	21	30	39	48	56	66	----------	----------	----------	----------
20	14.2	24	35	46	57	67	78	----------	----------	----------	----------
22	16	28	41	54	67	79	93	106	----------	----------	----------
24	18	32	47	62	78	92	109	125	----------	----------	----------
26	20	36	53	71	89	106	126	145	162	----------	----------
28	22	41	60	81	101	122	144	166	188	----------	----------
30	24	46	68	91	115	138	163	190	214	237	----------
32	----------	51	76	101	129	155	185	214	240	269	----------
34	----------	56	84	113	144	174	207	239	270	300	333
36	----------	62	92	126	159	193	229	267	300	333	370
38	----------	----------	101	139	174	212	253	295	330	368	411
40	----------	----------	111	152	193	232	280	323	364	408	452
42	----------	----------	122	165	212	255	306	352	400	448	500
44	----------	----------	----------	180	231	280	332	387	439	490	548
46	----------	----------	----------	197	250	303	361	422	478	535	593
48	----------	----------	----------	215	270	328	393	456	518	580	645
50	----------	----------	----------	236	292	353	425	495	560	625	695
52	----------	----------	----------	----------	313	380	456	535	600	675	750
54	----------	----------	----------	----------	335	410	492	576	650	727	805
56	----------	----------	----------	----------	360	440	529	616	698	780	865
58	----------	----------	----------	----------	386	472	566	659	748	835	930
60	----------	----------	----------	----------	413	505	603	704	800	890	990
62	----------	----------	----------	----------	440	540	640	750	850	950	1,050
64	----------	----------	----------	----------	468	575	680	795	900	1,005	1,120
66	----------	----------	----------	----------	500	610	720	840	945	1,065	1,190
68	----------	----------	----------	----------	532	650	760	890	995	1,130	1,260
70	----------	----------	----------	----------	578	685	800	940	1,050	1,200	1,330

TABLE 18

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), old-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 1.5 feet
Top d.i.b..... 8 inches
Trim allowance per log. 0.3 feet
Method..... Alinement chart
Number of trees..... 406
Location of trees..... Site VI in entire range of Douglas-fir
Accuracy..... Aggregate deviation 1.3 percent high
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 9 in "Interregional Volume Tables for Old-Growth Douglas-fir"
Year..... 1932

D.b.h. (inches)	Volume in tens of board-feet when number of 16-foot logs is--					
	2	3	4	5	6	7
10	7	12	----	----	----	----
12	8	14	----	----	----	----
14	10	17	----	----	----	----
16	12	20	28	37	45	----
18	13	23	33	44	54	----
20	15	27	39	51	63	----
22	17	31	45	60	75	----
24	19	36	52	70	87	105
26	21	41	59	80	99	121
28	24	46	67	91	114	138
30	27	51	76	102	130	155
32	----	57	85	115	146	175
34	----	63	95	128	162	195
36	----	70	105	142	180	217
38	----	77	115	156	198	239
40	----	84	127	172	218	262
42	----	91	139	188	238	289
44	----	99	151	205	258	314
46	----	107	163	223	280	340
48	----	116	175	241	304	369
50	----	125	188	259	328	398

TABLE 19

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), old- and young-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... Not given
Top d.i.b..... 8 to 14 inches
Trim allowance per log. Not given
Method..... Scale of average log multiplied by number of logs
Number of trees..... Not given
Location of trees..... Not given
Accuracy..... Not given
Author..... J. W. Girard, Pacific Northwest Forest and Range Expt. Sta.
Source..... File report
Year..... 1932
Note..... This table was prepared for use east of the Cascades

D. b.h. (inches)	Volume in tens of board-feet when number of 16-foot logs is--								
	1	2	3	4	5	6	7	8	9
14	4	8	12	16	----	----	----	----	----
16	6	12	18	24	----	----	----	----	----
18	----	14	21	28	35	----	----	----	----
20	----	16	25	34	42	49	----	----	----
22	----	----	30	40	50	59	----	----	----
24	----	----	36	47	60	71	84	----	----
26	----	----	43	56	71	85	100	----	----
28	----	----	----	66	84	99	116	----	----
30	----	----	----	77	97	115	134	156	----
32	----	----	----	90	112	134	153	178	----
34	----	----	----	----	127	152	175	202	----
36	----	----	----	----	143	172	196	228	----
38	----	----	----	----	160	193	221	253	----
40	----	----	----	----	177	212	247	282	318
42	----	----	----	----	----	235	272	311	350
44	----	----	----	----	----	256	299	341	384
46	----	----	----	----	----	279	325	374	420
48	----	----	----	----	----	300	351	405	458
50	----	----	----	----	----	321	376	437	494

TABLE 20

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), young-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... Scribner
Scaling length for logs. 32 feet
Stump height..... 2 feet
Top d.i.b..... 8 inches
Trim allowance per log. 0.6 feet
Method..... Adjustment of volumes in table 14 U. S. Dept. Agr. Tech. Bul. 201
Number of trees..... 1,434 for base table
Location of trees..... Western Oregon and western Washington
Accuracy..... Aggregate deviation for base table 0.1 percent high
Author..... H. A. Rapraeger, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 1 in Research Note No. 82
Year..... 1952

D.b.h. (inches)	Volume in tens of board-feet when total height of tree in feet is--																		
	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240
12	5	6	8	10	11	13	15	17	19	22	-----	-----	-----	-----	-----	-----	-----	-----	-----
14	7	9	11	13	16	18	20	23	26	29	33	-----	-----	-----	-----	-----	-----	-----	-----
16	9	12	14	17	20	23	26	30	33	37	42	-----	-----	-----	-----	-----	-----	-----	-----
18	-----	15	18	21	25	29	32	36	40	45	51	58	65	-----	-----	-----	-----	-----	-----
20	-----	18	22	26	30	34	38	43	48	54	61	69	77	86	95	-----	-----	-----	-----
22	-----	-----	26	30	35	40	45	51	56	63	71	80	90	100	111	-----	-----	-----	-----
24	-----	-----	-----	35	40	46	52	58	65	73	82	92	104	116	129	143	158	-----	-----
26	-----	-----	-----	40	46	52	59	66	74	83	93	105	119	133	148	163	178	-----	-----
28	-----	-----	-----	-----	53	59	66	74	83	93	105	119	134	150	167	185	203	-----	-----
30	-----	-----	-----	-----	59	65	73	82	92	104	117	132	150	168	187	207	227	-----	-----
32	-----	-----	-----	-----	-----	72	81	90	101	115	130	146	165	186	208	230	252	275	298
34	-----	-----	-----	-----	-----	79	89	99	111	126	143	161	181	204	229	252	275	300	329
36	-----	-----	-----	-----	-----	-----	97	108	121	137	156	176	198	223	249	275	301	330	364
38	-----	-----	-----	-----	-----	-----	106	117	131	148	168	190	214	242	270	298	327	360	395
40	-----	-----	-----	-----	-----	-----	-----	-----	-----	159	180	204	230	260	291	323	354	388	426
42	-----	-----	-----	-----	-----	-----	-----	-----	-----	170	192	218	247	279	312	346	380	418	460
44	-----	-----	-----	-----	-----	-----	-----	-----	-----	182	205	232	264	298	334	370	409	449	492
46	-----	-----	-----	-----	-----	-----	-----	-----	-----	193	218	246	280	317	355	395	437	480	525
48	-----	-----	-----	-----	-----	-----	-----	-----	-----	204	230	260	297	336	377	420	465	510	560
50	-----	-----	-----	-----	-----	-----	-----	-----	-----	215	243	275	315	355	400	445	493	542	595
52	-----	-----	-----	-----	-----	-----	-----	-----	-----	226	255	290	332	375	422	470	521	574	630
54	-----	-----	-----	-----	-----	-----	-----	-----	-----	237	268	305	350	395	445	495	550	606	665

TABLE 21

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), young-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... Scribner
Scaling length for logs. 32 feet
Stump height..... As cut
Top d.i.b..... 12 inches
Trim allowance per log. 0.6 feet
Method..... Application of curved ratios of board-feet to cubic feet to table 12 U. S. Dept. Agr. Tech. Bul. 201
Number of trees..... 177
Location of trees..... Western Oregon and western Washington
Accuracy..... Aggregate deviation 0.09 percent low
Author..... P. A. Briegleb, Pacific Northwest Forest and Range Expt. Sta.
Source..... File report
Year..... 1941

D.b.h. (inches)	BF/CF ratio	Board-foot volume when total height of tree in feet is--																
		80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240
16	2.50	111	123	135	146	158	170	186	201	215	231	247	-----	-----	-----	-----	-----	-----
18	3.59	196	219	241	256	277	300	328	355	381	409	438	467	-----	-----	-----	-----	-----
20	4.15	-----	-----	328	352	382	414	452	490	527	569	610	652	697	-----	-----	-----	-----
22	4.52	-----	-----	-----	448	488	529	574	624	673	723	777	836	895	949	-----	-----	-----
24	4.84	-----	-----	-----	-----	595	644	697	760	823	891	958	1,031	1,108	1,186	-----	-----	-----
26	5.11	-----	-----	-----	-----	710	766	828	910	986	1,063	1,155	1,242	1,334	1,436	1,533	-----	-----
28	5.36	-----	-----	-----	-----	-----	900	970	1,061	1,158	1,249	1,356	1,469	1,581	1,699	1,828	1,924	-----
30	5.58	-----	-----	-----	-----	-----	1,032	1,116	1,228	1,334	1,445	1,574	1,713	1,825	1,975	2,126	2,249	2,422
32	5.77	-----	-----	-----	-----	-----	1,171	1,269	1,391	1,518	1,644	1,800	1,939	2,089	2,256	2,429	2,591	2,781
34	5.93	-----	-----	-----	-----	-----	1,311	1,423	1,560	1,714	1,839	2,004	2,164	2,342	2,538	2,740	2,941	3,155
36	6.06	-----	-----	-----	-----	-----	1,448	1,570	1,733	1,879	2,030	2,218	2,400	2,606	2,818	3,054	3,291	3,527
38	6.15	-----	-----	-----	-----	-----	-----	-----	1,888	2,042	2,214	2,417	2,626	2,860	3,093	3,364	3,616	3,887
40	6.21	-----	-----	-----	-----	-----	-----	-----	2,018	2,192	2,385	2,614	2,844	3,105	3,366	3,664	3,950	4,241
42	6.25	-----	-----	-----	-----	-----	-----	-----	2,144	2,350	2,562	2,800	3,062	3,344	3,631	3,950	4,269	4,587
44	6.27	-----	-----	-----	-----	-----	-----	-----	-----	2,495	2,727	2,985	3,273	3,586	3,900	4,232	4,590	4,928
46	6.29	-----	-----	-----	-----	-----	-----	-----	-----	2,642	2,893	3,170	3,478	3,818	4,164	4,516	4,894	5,296
48	6.30	-----	-----	-----	-----	-----	-----	-----	-----	2,785	3,062	3,352	3,685	4,051	4,416	4,801	5,204	5,601
50	6.31	-----	-----	-----	-----	-----	-----	-----	-----	2,928	3,224	3,527	3,881	4,291	4,682	5,080	5,515	5,938
52	6.31	-----	-----	-----	-----	-----	-----	-----	-----	3,073	3,382	3,698	4,083	4,518	4,934	5,351	5,818	6,266
54	6.32	-----	-----	-----	-----	-----	-----	-----	-----	3,223	3,552	3,887	4,291	4,765	5,214	5,625	6,130	6,604

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), old-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... Scribner
Scaling length for logs. 32 feet
Stump height..... 2 feet
Top d.i.b. ..... 12 inches
Trim allowance per log. 0.6 feet
Method..... Adjustment of volumes in table 1 of "Interregional Volume Tables for Old-Growth Douglas-fir"
Number of trees..... 2,463 for base table
Location of trees..... Sites I, II, and III in western Oregon and western Washington
Accuracy..... Not given
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 2 in "Interregional Volume Tables for Old-Growth Douglas-fir"
Year..... 1932

D.b.h. (inches)	Volume in tens of board-feet when total height of tree in feet is--											
	100	120	140	160	180	200	220	240	260	280	300	320
16--------	12	17	23	30	39	47	---------	---------	---------	---------	---------	---------
18--------	17	23	31	41	51	60	---------	---------	---------	---------	---------	---------
20--------	22	30	41	53	64	75	85	---------	---------	---------	---------	---------
22--------	29	39	51	66	78	92	104	---------	---------	---------	---------	---------
24--------	36	48	63	80	94	110	125	---------	---------	---------	---------	---------
26--------	44	58	77	95	113	130	148	163	181	---------	---------	---------
28--------	52	70	92	111	132	151	170	189	209	---------	---------	---------
30--------	61	83	107	128	152	173	195	216	239	262	---------	---------
32--------	70	96	123	146	173	196	221	245	269	296	---------	---------
34--------	81	110	139	166	195	221	250	276	304	333	---------	---------
36--------	92	125	156	187	219	249	281	310	340	372	---------	---------
38--------	103	140	175	210	245	277	314	345	380	414	---------	---------
40--------	115	156	194	233	272	307	347	383	420	458	490	530
42--------	127	173	214	257	300	340	382	422	464	504	542	585
44--------	140	191	236	284	330	375	420	465	511	556	598	643
46--------	154	210	258	311	362	412	460	510	562	612	652	706
48--------	168	230	283	340	397	452	502	556	616	670	713	772
50--------	184	250	308	370	432	492	546	607	670	728	776	838
52--------	---------	270	333	400	467	532	590	658	725	786	842	902
54--------	---------	290	359	430	503	574	638	710	780	847	910	972
56--------	---------	310	385	460	541	617	684	762	837	908	980	1,050
58--------	---------	330	411	492	580	661	734	818	895	970	1,055	1,130
60--------	---------	349	436	524	619	706	784	875	955	1,040	1,130	1,210
62--------	---------	368	461	556	658	750	835	932	1,020	1,115	1,205	1,290
64--------	---------	387	485	590	697	795	885	994	1,085	1,185	1,280	1,370
66--------	---------	406	510	625	737	843	945	1,060	1,155	1,260	1,360	1,455
68--------	---------	---------	---------	660	779	893	1,005	1,125	1,230	1,335	1,440	1,540
70--------	---------	---------	---------	695	822	944	1,065	1,190	1,305	1,415	1,520	1,630
72--------	---------	---------	---------	730	866	996	1,125	1,255	1,380	1,490	1,600	1,715
74--------	---------	---------	---------	767	910	1,060	1,190	1,325	1,455	1,565	1,680	1,800
76--------	---------	---------	---------	804	956	1,115	1,255	1,395	1,525	1,640	1,760	1,885
78--------	---------	---------	---------	841	1,012	1,170	1,320	1,470	1,600	1,720	1,840	1,970
80--------	---------	---------	---------	878	1,060	1,225	1,385	1,540	1,675	1,795	1,920	2,055
82--------	---------	---------	---------	915	1,110	1,285	1,450	1,610	1,750	1,875	2,000	2,140
84--------	---------	---------	---------	952	1,160	1,340	1,515	1,680	1,825	1,955	2,080	2,225
86--------	---------	---------	---------	998	1,215	1,400	1,585	1,750	1,900	2,035	2,165	2,315
88--------	---------	---------	---------	---------	1,270	1,460	1,655	1,825	1,980	2,115	2,255	2,405
90--------	---------	---------	---------	---------	1,325	1,520	1,730	1,900	2,060	2,200	2,345	2,495
92--------	---------	---------	---------	---------	1,385	1,585	1,800	1,975	2,140	2,285	2,435	2,585
94--------	---------	---------	---------	---------	1,440	1,645	1,870	2,050	2,220	2,370	2,520	2,675
96--------	---------	---------	---------	---------	1,495	1,705	1,940	2,125	2,300	2,455	2,605	2,765
98--------	---------	---------	---------	---------	1,550	1,765	2,010	2,200	2,380	2,540	2,695	2,855
100--------	---------	---------	---------	---------	1,605	1,825	2,075	2,270	2,455	2,620	2,780	2,945
102--------	---------	---------	---------	---------	---------	---------	2,135	2,345	2,530	2,700	2,865	3,030
104--------	---------	---------	---------	---------	---------	---------	2,200	2,420	2,605	2,780	2,950	3,115
106--------	---------	---------	---------	---------	---------	---------	2,265	2,495	2,680	2,860	3,040	3,200
108--------	---------	---------	---------	---------	---------	---------	2,335	2,570	2,760	2,940	3,130	3,290
110--------	---------	---------	---------	---------	---------	---------	2,400	2,645	2,840	3,025	3,220	3,380
112--------	---------	---------	---------	---------	---------	---------	2,470	2,720	2,920	3,110	3,305	3,465
114--------	---------	---------	---------	---------	---------	---------	2,540	2,800	3,000	3,195	3,395	3,555
116--------	---------	---------	---------	---------	---------	---------	2,610	2,880	3,080	3,280	3,485	3,645
118--------	---------	---------	---------	---------	---------	---------	2,680	2,960	3,165	3,370	3,575	3,735
120--------	---------	---------	---------	---------	---------	---------	2,750	3,040	3,250	3,460	3,665	3,825

TABLE 23

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), old- and young-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 32 feet
Stump height..... Not given
Top d.i.b..... 11 to 16 inches
Trim allowance per log. Not given
Method..... Based on formula (d.b.h. + 4)/2 equals d.i.b. at small end of average 16-foot log for trees 32 inches or more in diameter, and based on average taper for trees below 32 inches.
Number of trees..... Not given
Location of trees..... Not given
Accuracy..... Not given
Author..... J. W. Girard, Pacific Northwest Forest and Range Expt. Sta.
Source..... File report
Year..... 1931
Note..... Known as "Girard's Rule-of-Thumb Table" and prepared for use west of the Cascades

D.b.h. (inches)	Volume in tens of board-feet when number of 16-foot logs is--													
	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	23	30	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
18	20	28	35	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
20	-------	31	41	50	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
22	-------	36	46	57	69	-------	-------	-------	-------	-------	-------	-------	-------	-------
24	-------	-------	52	64	77	-------	-------	-------	-------	-------	-------	-------	-------	-------
26	-------	-------	59	73	87	101	-------	-------	-------	-------	-------	-------	-------	-------
28	-------	-------	66	82	98	113	-------	-------	-------	-------	-------	-------	-------	-------
30	-------	-------	-------	92	110	128	146	-------	-------	-------	-------	-------	-------	-------
32	-------	-------	-------	105	126	147	168	-------	-------	-------	-------	-------	-------	-------
34	-------	-------	-------	-------	144	168	192	216	-------	-------	-------	-------	-------	-------
36	-------	-------	-------	-------	168	196	224	252	-------	-------	-------	-------	-------	-------
38	-------	-------	-------	-------	-------	210	240	270	300	-------	-------	-------	-------	-------
40	-------	-------	-------	-------	-------	-------	264	297	330	363	-------	-------	-------	-------
42	-------	-------	-------	-------	-------	-------	304	342	380	418	-------	-------	-------	-------
44	-------	-------	-------	-------	-------	-------	320	360	400	440	-------	-------	-------	-------
46	-------	-------	-------	-------	-------	-------	-------	414	460	506	552	-------	-------	-------
48	-------	-------	-------	-------	-------	-------	-------	450	500	550	600	-------	-------	-------
50	-------	-------	-------	-------	-------	-------	-------	495	550	605	660	-------	-------	-------
52	-------	-------	-------	-------	-------	-------	-------	522	580	638	696	-------	-------	-------
54	-------	-------	-------	-------	-------	-------	-------	549	610	671	732	793	-------	-------
56	-------	-------	-------	-------	-------	-------	-------	-------	660	726	792	858	924	-------
58	-------	-------	-------	-------	-------	-------	-------	-------	710	781	852	923	994	-------
60	-------	-------	-------	-------	-------	-------	-------	-------	740	814	888	962	1,036	-------
62	-------	-------	-------	-------	-------	-------	-------	-------	-------	858	936	1,014	1,092	-------
64	-------	-------	-------	-------	-------	-------	-------	-------	-------	880	960	1,040	1,120	-------
66	-------	-------	-------	-------	-------	-------	-------	-------	-------	968	1,056	1,144	1,232	1,320
68	-------	-------	-------	-------	-------	-------	-------	-------	-------	1,012	1,104	1,196	1,288	1,380
70	-------	-------	-------	-------	-------	-------	-------	-------	-------	1,133	1,236	1,339	1,442	1,545

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), old-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 32-foot logs
Log rule..... Scribner
Scaling length for logs. 32 feet
Stump height..... 2 feet
Top d.i.b..... 12 inches
Trim allowance per log. 0.6 feet
Method..... Alinement chart
Number of trees..... 2,463
Location of trees..... Sites I, II, and III in western Oregon and western Washington
Accuracy..... Aggregate deviation 0.23 percent low
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 1 in "Interregional Volume Tables for Old-Growth Douglas-fir"
Year..... 1932

D.b.h. (inches)	Volume in tens of board-feet when number of 32-foot logs is--															
	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6	6 1/2	7	7 1/2	8	8 1/2	9
16---------	26	37	46	55	64	74	83	------	------	------	------	------	------	------	------	------
18---------	28	40	51	62	73	84	94	------	------	------	------	------	------	------	------	------
20---------	30	44	57	69	82	95	107	120	133	------	------	------	------	------	------	------
22---------	32	48	63	78	92	108	123	138	153	------	------	------	------	------	------	------
24---------	34	53	70	86	104	121	140	158	174	------	------	------	------	------	------	------
26---------	36	57	77	95	115	134	156	175	194	------	------	------	------	------	------	------
28---------	38	62	84	104	126	148	172	193	214	------	------	------	------	------	------	------
30---------	40	67	91	113	138	163	188	211	236	258	287	------	------	------	------	------
32---------	42	72	98	123	150	178	205	232	260	288	317	------	------	------	------	------
34---------	45	78	106	134	164	195	225	255	285	315	348	------	------	------	------	------
36---------	47	83	114	145	178	212	245	278	310	342	380	413	443	475	508	540
38---------	------	88	123	158	193	230	265	301	336	370	410	448	483	515	550	590
40---------	------	94	132	171	210	249	287	327	365	403	444	487	523	560	600	640
42---------	------	101	142	184	227	270	311	354	395	437	482	528	570	610	650	695
44---------	------	108	154	198	245	292	338	384	428	473	522	573	620	660	700	750
46---------	------	116	166	214	265	315	365	415	464	512	564	620	670	715	760	810
48---------	------	123	178	230	286	340	394	447	500	552	610	670	720	770	820	880
50---------	------	131	190	247	308	367	424	481	536	595	655	720	770	830	885	950
52---------	------	------	------	264	330	394	454	515	575	640	700	765	820	890	950	1,020
54---------	------	------	------	281	350	420	484	548	615	680	745	820	880	950	1,020	1,100
56---------	------	------	------	298	372	446	514	582	655	720	795	875	940	1,010	1,090	1,180
58---------	------	------	------	316	394	473	544	620	695	765	845	930	1,000	1,080	1,165	1,255
60---------	------	------	------	333	416	500	574	660	730	805	895	980	1,060	1,150	1,240	1,325
62---------	------	------	------	351	438	526	605	690	765	850	945	1,035	1,130	1,220	1,315	1,395
64---------	------	------	------	369	460	552	640	730	810	900	995	1,100	1,200	1,290	1,390	1,470
66---------	------	------	------	388	485	583	675	765	855	950	1,055	1,165	1,270	1,360	1,465	1,550
68---------	------	------	------	408	510	614	710	805	900	1,000	1,120	1,230	1,340	1,430	1,540	1,620
70---------	------	------	------	428	535	645	745	845	950	1,060	1,185	1,300	1,410	1,505	1,615	1,700
72---------	------	------	------	------	------	676	780	890	1,000	1,120	1,250	1,370	1,480	1,580	1,690	1,780
74---------	------	------	------	------	------	710	815	935	1,055	1,185	1,320	1,435	1,550	1,650	1,765	1,865
76---------	------	------	------	------	------	745	855	980	1,110	1,250	1,380	1,500	1,620	1,725	1,840	1,950
78---------	------	------	------	------	------	780	895	1,025	1,165	1,310	1,440	1,570	1,690	1,800	1,920	2,030
80---------	------	------	------	------	------	815	935	1,080	1,220	1,370	1,500	1,630	1,760	1,875	2,000	2,110
82---------	------	------	------	------	------	850	975	1,135	1,275	1,425	1,565	1,700	1,830	1,950	2,080	2,200
84---------	------	------	------	------	------	885	1,020	1,190	1,335	1,485	1,630	1,770	1,900	2,030	2,160	2,280
86---------	------	------	------	------	------	920	1,065	1,245	1,390	1,545	1,695	1,840	1,975	2,110	2,240	2,360
88---------	------	------	------	------	------	955	1,115	1,300	1,445	1,605	1,760	1,910	2,050	2,180	2,320	2,450
90---------	------	------	------	------	------	990	1,165	1,350	1,500	1,660	1,830	1,980	2,125	2,260	2,400	2,530
92---------	------	------	------	------	------	------	------	1,400	1,555	1,720	1,900	2,050	2,200	2,330	2,490	2,620
94---------	------	------	------	------	------	------	------	1,450	1,610	1,780	1,970	2,120	2,275	2,410	2,580	2,710
96---------	------	------	------	------	------	------	------	1,500	1,670	1,840	2,040	2,190	2,350	2,490	2,660	2,800
98---------	------	------	------	------	------	------	------	1,550	1,730	1,910	2,100	2,260	2,425	2,570	2,740	2,890
100--------	------	------	------	------	------	------	------	1,600	1,790	1,970	2,160	2,330	2,500	2,650	2,820	2,975
102--------	------	------	------	------	------	------	------	1,650	1,850	2,030	2,220	2,400	2,575	2,730	2,900	3,060
104--------	------	------	------	------	------	------	------	1,700	1,910	2,090	2,290	2,470	2,650	2,810	2,980	3,145
106--------	------	------	------	------	------	------	------	------	------	2,150	2,360	2,550	2,725	2,890	3,060	3,230
108--------	------	------	------	------	------	------	------	------	------	2,220	2,430	2,630	2,800	2,970	3,140	3,320
110--------	------	------	------	------	------	------	------	------	------	2,280	2,500	2,700	2,880	3,050	3,230	3,410
112--------	------	------	------	------	------	------	------	------	------	2,350	2,580	2,780	2,960	3,140	3,320	3,500
114--------	------	------	------	------	------	------	------	------	------	2,420	2,650	2,860	3,040	3,230	3,410	3,590
116--------	------	------	------	------	------	------	------	------	------	2,490	2,720	2,940	3,120	3,310	3,500	3,680
118--------	------	------	------	------	------	------	------	------	------	2,560	2,800	3,020	3,200	3,390	3,600	3,770
120--------	------	------	------	------	------	------	------	------	------	2,630	2,880	3,100	3,290	3,480	3,700	3,860

TABLE 25

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), old-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 32-foot logs
Log rule..... Scribner
Scaling length for logs. 32 feet
Stump height..... 2 feet
Top d.i.b..... Variable (see table)
Trim allowance per log. 0.6 feet
Method..... Alinement chart
Number of trees..... 2,583
Location of trees..... Sites I, II, and III in western Oregon and western Washington
Accuracy..... Aggregate deviation 0.23 percent low
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 5 in "Interregional Volume Tables for Old-Growth Douglas-fir"
Year..... 1932

D.b.h. (inches)	Volume in tens of board feet when number of 32-foot logs is--												Average top diameter inside bark (inches)
	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6	6 1/2	7	
16	15	21	28	36	45	53	63	--------	--------	--------	--------	--------	8
18	17	24	34	44	55	65	77	--------	--------	--------	--------	--------	8.5
20	19	28	40	52	65	78	93	107	123	--------	--------	--------	9
22	21	32	46	61	78	93	110	126	143	--------	--------	--------	10
24	24	37	53	71	91	110	127	145	165	--------	--------	--------	10.5
26	28	43	62	83	106	127	146	168	190	--------	--------	--------	11
28	32	50	74	98	123	144	169	194	220	--------	--------	--------	11.5
30	36	57	86	113	140	165	193	222	250	291	330	--------	12
32	41	66	98	127	157	186	218	252	280	328	370	--------	13
34	46	75	110	140	174	207	243	280	313	365	410	--------	13.5
36	52	84	122	152	192	228	268	310	346	402	450	495	14
38	--------	93	134	169	210	251	294	340	381	440	495	545	15
40	--------	103	146	186	231	275	320	372	418	480	540	600	15.5
42	--------	113	159	203	254	300	353	405	470	525	590	655	16
44	--------	126	177	226	280	330	390	450	520	585	650	725	17
46	--------	139	196	252	310	370	430	500	575	645	725	800	17.5
48	--------	153	216	278	345	410	475	550	630	705	800	875	18.5
50	--------	168	238	305	377	450	525	605	690	770	875	970	19.5
52	--------	--------	262	336	414	490	575	660	750	850	970	1,070	20.5
54	--------	--------	288	367	453	540	625	720	820	930	1,065	1,170	22
56	--------	--------	315	400	496	590	680	780	900	1,015	1,160	1,270	24
58	--------	--------	342	435	539	640	740	850	980	1,100	1,255	1,370	25.5
60	--------	--------	369	470	588	690	800	920	1,060	1,185	1,350	1,475	27
62	--------	--------	394	505	630	740	860	990	1,140	1,270	1,445	1,580	28
64	--------	--------	420	540	670	790	920	1,060	1,220	1,360	1,540	1,685	29.5
66	--------	--------	446	575	710	840	985	1,130	1,300	1,450	1,635	1,795	30.5
68	--------	--------	478	615	760	900	1,050	1,200	1,380	1,550	1,730	1,905	31.5
70	--------	--------	510	650	810	960	1,125	1,270	1,460	1,655	1,840	2,030	32.5
72	--------	--------	540	690	860	1,030	1,200	1,350	1,550	1,760	1,960	2,165	33.5
74	--------	--------	570	730	920	1,090	1,270	1,440	1,650	1,870	2,090	2,300	34
76	--------	--------	610	780	980	1,160	1,340	1,530	1,750	1,980	2,220	2,440	35
78	--------	--------	640	820	1,030	1,220	1,410	1,620	1,850	2,090	2,350	2,580	36
80	--------	--------	670	860	1,080	1,280	1,480	1,710	1,950	2,200	2,470	2,720	37
82	--------	--------	--------	910	1,130	1,340	1,560	1,800	2,050	2,310	2,590	2,860	37.5
84	--------	--------	--------	950	1,180	1,400	1,640	1,890	2,150	2,420	2,710	3,000	38.5
86	--------	--------	--------	1,000	1,240	1,460	1,710	1,980	2,250	2,530	2,840	3,140	39
88	--------	--------	--------	1,040	1,290	1,530	1,790	2,070	2,350	2,640	2,970	3,270	40
90	--------	--------	--------	1,090	1,340	1,600	1,860	2,160	2,450	2,750	3,110	3,400	41
92	--------	--------	--------	1,130	1,390	1,670	1,940	2,250	2,550	2,860	2,240	3,540	42
94	--------	--------	--------	1,180	1,450	1,740	2,020	2,340	2,660	3,000	3,370	--------	43
96	--------	--------	--------	1,230	1,510	1,820	2,120	2,430	2,780	3,140	3,500	--------	44
98	--------	--------	--------	1,290	1,580	1,900	2,220	2,530	2,900	3,280	3,660	--------	45
100	--------	--------	--------	1,340	1,660	2,000	2,330	2,650	3,050	3,430	3,830	--------	46
102	--------	--------	--------	1,400	1,750	2,100	2,450	2,780	3,200	3,600	--------	--------	47
104	--------	--------	--------	1,470	1,840	2,200	2,560	2,920	3,350	3,780	--------	--------	48
106	--------	--------	--------	1,560	1,930	2,300	2,680	3,060	3,520	3,990	--------	--------	49
108	--------	--------	--------	--------	2,030	2,410	2,800	3,210	3,680	4,200	--------	--------	50
110	--------	--------	--------	--------	2,130	2,520	2,920	3,350	3,850	4,380	--------	--------	51
112	--------	--------	--------	--------	2,230	2,620	3,040	3,500	4,030	--------	--------	--------	52
114	--------	--------	--------	--------	2,340	2,730	3,170	3,650	4,200	--------	--------	--------	53
116	--------	--------	--------	--------	2,460	2,850	3,310	3,800	4,380	--------	--------	--------	54
118	--------	--------	--------	--------	2,580	2,970	3,450	3,970	4,570	--------	--------	--------	55
120	--------	--------	--------	--------	2,700	3,080	3,590	4,130	4,760	--------	--------	--------	56

TABLE 26

Species..... DOUGLAS-FIR (Pseudotsuga menziesii), young-growth
Unit of measure..... Cords per tree
Variables..... D.b.h. and total height
Stump height..... Equivalent to d.b.h. with a 24-inch maximum
Top d.i.b..... 4 inches
Method..... Conversion of volumes in table 5 of "Volume Tables for Permanent Sample Plots"
Number of trees..... 1,956 for base table
Location of trees..... Western Oregon and western Washington
Accuracy..... Not given
Author..... G. R. Staebler and E. W. Shaw, Pacific Northwest Forest and Range Expt. Sta.
Source..... Research Note No. 52
Year..... 1949
Note..... Cordwood assumed cut into 8-foot lengths

D.b.h. (inches)	Volume in cords when total height of tree in feet is--												
	30	40	50	60	70	80	90	100	110	120	130	140	150
6	0.024	0.034	0.042	0.051	0.060	0.070	--------	--------	--------	--------	--------	--------	--------
8	.052	.068	.085	.100	.119	.139	0.151	--------	--------	--------	--------	--------	--------
10	.081	.107	.131	.159	.186	.212	.232	0.259	0.286	0.310	--------	--------	--------
12	.120	.156	.191	.229	.263	.300	.328	.363	.406	.441	--------	--------	--------
14	.156	.205	.251	.302	.353	.405	.448	.494	.538	.593	0.640	0.696	--------
16	--------	.263	.323	.384	.449	.511	.570	.624	.673	.744	.799	.876	0.948
18	--------	--------	.400	.478	.551	.624	.696	.772	.826	.902	.976	1.070	1.171
20	--------	--------	.482	.573	.661	.746	.828	.916	.983	1.073	1.171	1.280	1.390
22	--------	--------	.566	.660	.765	.863	.955	1.047	1.133	1.241	1.349	1.458	1.602
24	--------	--------	--------	.756	.871	.975	1.083	1.169	1.274	1.393	1.500	1.631	1.786

TABLE 27

Species..... PONDEROSA PINE (Pinus ponderosa), small-sized trees
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Included
Top d.i.b..... Included
Method..... Form factor
Number of trees..... 84
Location of trees..... Eastern Oregon and eastern Washington
Accuracy..... Aggregate deviation 0.11 percent low
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 25 in U. S. Dept. Agr. Tech. Bul. 407
Year..... 1934

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--						
	10	15	20	25	30	35	40
1	0.051	0.076	0.101	0.126	0.152	0.178	0.203
2	.137	.206	.275	.321	.412	.481	.550
3	.252	.380	.508	.635	.760	.880	1.02
4	.40	.60	.80	.99	1.20	1.39	1.59
5	.58	.86	1.16	1.45	1.74	2.02	2.32
6	.82	1.22	1.63	2.04	2.45	2.85	3.26
7	1.08	1.62	2.17	2.70	3.25	3.77	4.32
8	1.38	2.00	2.75	3.45	4.15	4.85	5.55
9	1.73	2.58	3.45	4.35	5.20	6.05	6.90
10	2.10	3.15	4.20	5.25	6.30	7.35	8.40

TABLE 28

Species..... PONDEROSA PINE (Pinus ponderosa), young-growth
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Included
Top d.i.b..... Included
Method..... Alinement chart
Number of trees..... 2,947
Location of trees..... All sites in Oregon, California, Colorado, New Mexico, Montana, and Arizona
Accuracy..... Aggregate deviation 0.24 percent high
Author..... W.H.Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 32 in U. S. Dept. Agr. Tech. Bul. 630
Year..... 1938

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--													
	20	30	40	50	60	70	80	90	100	110	120	130	140	150
4	0.8	1.2	1.5	1.9	2.2	--------	--------	--------	--------	--------	--------	--------	--------	--------
6	1.7	2.3	2.9	3.6	4.2	4.8	5.5	--------	--------	--------	--------	--------	--------	--------
8	--------	3.7	4.9	6.0	7.1	8.3	9.5	11	12	--------	--------	--------	--------	--------
10	--------	5.8	7.7	9.5	11.5	12.5	15.5	17.5	20	22	24	--------	--------	--------
12	--------	--------	11	14	17	20	23	26	29	32	35	38	--------	--------
14	--------	--------	15	19	23	28	32	36	40	44	48	52	56	--------
16	--------	--------	20	26	31	36	42	47	52	58	63	68	72	76
18	--------	--------	26	33	40	46	53	60	66	74	80	86	92	98
20	--------	--------	32	41	50	58	66	74	83	91	99	107	114	121
22	--------	--------	--------	49	60	70	80	90	100	110	119	129	137	146
24	--------	--------	--------	59	71	83	96	107	119	130	141	151	162	171
26	--------	--------	--------	70	84	98	112	125	139	152	164	177	186	199
28	--------	--------	--------	--------	98	114	130	144	160	175	189	203	216	229
30	--------	--------	--------	--------	112	130	148	165	182	198	214	230	244	259
32	--------	--------	--------	--------	126	146	167	186	204	222	239	257	272	288
34	--------	--------	--------	--------	140	165	186	208	226	246	265	284	300	316
36	--------	--------	--------	--------	--------	182	206	230	250	271	290	311	328	344
38	--------	--------	--------	--------	--------	200	227	252	274	296	315	337	356	374
40	--------	--------	--------	--------	--------	220	248	274	298	321	341	364	384	404
42	--------	--------	--------	--------	--------	--------	269	296	322	346	367	391	412	433
44	--------	--------	--------	--------	--------	--------	290	318	346	371	393	418	440	462
46	--------	--------	--------	--------	--------	--------	--------	340	370	396	419	445	468	492
48	--------	--------	--------	--------	--------	--------	--------	362	394	421	445	472	496	521
50	--------	--------	--------	--------	--------	--------	--------	385	418	446	471	499	524	550

TABLE 29

Species..... PONDEROSA PINE (Pinus ponderosa), young-growth
Unit of measure..... Cubic-foot
Variables..... D.b.h. and total height
Stump height..... Equivalent to d.b.h. with a 24-inch maximum
Top d.i.b..... 4 inches
Method..... Adjustment of volumes in table 32 U. S. Dept. Agr. Tech. Bul. 630
Number of trees..... 2,947 for base table
Location of trees..... All sites in Oregon, California, Colorado, Montana, New Mexico, and Arizona
Accuracy..... Aggregate deviation for base table 0.24 percent high
Author..... F. L. Moravets, Pacific Northwest Forest and Range Expt. Sta.
Source..... File report
Year..... 1948

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--													
	20	30	40	50	60	70	80	90	100	110	120	130	140	150
6	1.3	1.5	1.8	2.4	2.8	3.2	3.9	--------	--------	--------	--------	--------	--------	--------
8	--------	2.9	4.0	4.9	5.9	7.0	8.2	9.4	10.4	--------	--------	--------	--------	--------
10	--------	4.9	6.8	8.4	10.3	11.2	14.1	16.0	18.5	20.4	22.4	--------	--------	--------
12	--------	6.0	9	12	15	18	21	24	27	30	33	36	--------	--------
14	--------	--------	13	17	21	26	30	34	38	42	46	50	54	--------
16	--------	--------	18	24	29	33	39	45	49	55	60	65	69	73
18	--------	--------	23	30	37	43	50	57	63	71	77	83	89	94
20	--------	--------	28	37	46	54	62	70	79	87	95	103	110	117
22	--------	--------	--------	44	55	65	75	85	94	104	114	124	132	140
24	--------	--------	--------	52	64	76	89	100	112	123	134	144	155	164
26	--------	--------	--------	62	76	90	104	117	131	144	156	169	178	191
28	--------	--------	--------	--------	89	105	121	135	151	166	180	194	207	220
30	--------	--------	--------	--------	102	120	138	155	172	188	204	220	234	249
32	--------	--------	--------	--------	114	134	155	174	192	210	227	245	260	276
34	--------	--------	--------	--------	127	152	173	195	213	233	252	271	287	303
36	--------	--------	--------	--------	--------	167	191	215	235	256	275	296	313	329
38	--------	--------	--------	--------	--------	184	211	236	258	280	299	321	340	358
40	--------	--------	--------	--------	--------	202	230	256	280	303	323	346	366	386
42	--------	--------	--------	--------	--------	--------	249	276	302	326	347	371	392	413
44	--------	--------	--------	--------	--------	--------	268	296	324	349	371	396	418	440
46	--------	--------	--------	--------	--------	--------	--------	317	347	372	395	421	444	468
48	--------	--------	--------	--------	--------	--------	--------	336	368	395	419	446	470	495
50	--------	--------	--------	--------	--------	--------	--------	357	390	418	443	471	496	522

TABLE 30

Species..... PONDEROSA PINE (Pinus ponderosa), young-growth
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Included
Top d.i.b..... Included
Method..... Alinement chart
Number of trees..... 767
Location of trees..... Site IV in eastern Oregon
Accuracy..... Aggregate deviation 0.32 percent low
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 26 in U. S. Dept. Agr. Tech. Bul. 407
Year..... 1934

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--												
	30	40	50	60	70	80	90	100	110	120	130	140	150
5	1.4	2.1	2.6	3.1	3.3	--------	--------	--------	--------	--------	--------	--------	--------
6	2.0	3.0	3.7	4.4	5.4	--------	--------	--------	--------	--------	--------	--------	--------
7	2.7	4.0	5.0	6.0	7.2	--------	--------	--------	--------	--------	--------	--------	--------
8	3.6	5.2	6.6	7.8	9.2	--------	--------	--------	--------	--------	--------	--------	--------
9	4.6	6.6	8.2	9.8	11.7	--------	--------	--------	--------	--------	--------	--------	--------
10	5.8	8.1	10.0	12.0	14.0	--------	--------	--------	--------	--------	--------	--------	--------
11	7.2	9.9	12.1	14.5	16.8	--------	--------	--------	--------	--------	--------	--------	--------
12	8.8	11.9	14.5	17.0	20.1	--------	--------	--------	--------	--------	--------	--------	--------
13	10.1	13.9	16.6	20.1	23.8	26.9	30.0	--------	--------	--------	--------	--------	--------
14	12.0	15.9	19.5	23.7	27.2	31.0	35.8	--------	--------	--------	--------	--------	--------
15	13.9	18.2	22.8	27.0	31.9	35.5	40.0	45.0	50.5	--------	--------	--------	--------
16	15.3	20.8	25.5	30.7	35.1	40.1	45.1	51.0	56.5	62.0	--------	--------	--------
17	17.0	23.5	28.9	34.2	39.5	45.1	51	57	63	70	--------	--------	--------
18	19.1	25.9	31.8	37.1	44	51	57	63	70	78	86	--------	--------
19	22.5	29.0	35.0	41.2	48	56	63	70	78	87	96	--------	--------
20	24.0	32.0	39.8	46.5	53	61	70	78	87	96	106	115	--------
21	26.0	35.0	43	51	59	67	77	86	95	105	115	125	136
22	28.9	38.5	47	56	65	74	84	94	104	114	125	136	149
23	31.2	41.5	51	61	71	81	92	103	113	124	138	148	162
24	33.5	45	56	66	77	88	99	111	123	136	150	161	175
25	--------	50	61	72	84	96	107	120	133	147	162	176	189
26	--------	54	66	78	92	104	116	130	145	159	176	189	205
27	--------	58	71	85	100	112	125	140	156	172	188	205	220
28	--------	63	77	92	107	121	135	151	168	185	200	220	240
29	--------	68	84	100	115	130	145	162	181	198	215	235	250
30	--------	73	90	107	124	140	156	174	193	211	230	250	264
31	--------	79	96	115	133	150	167	186	206	225	249	262	280
32	--------	84	103	122	141	160	180	199	218	239	258	276	296
33	--------	90	110	130	150	170	190	210	231	252	272	290	305
34	--------	95	116	137	159	180	200	220	242	265	285	300	315
35	--------	100	121	145	168	190	210	230	252	275	295	310	325
36	--------	105	127	152	177	199	220	240	262	285	305	320	340
37	--------	110	134	159	186	207	230	255	273	295	315	330	350
38	--------	116	141	167	195	215	240	265	285	305	325	345	365
39	--------	123	148	176	205	225	250	275	297	315	340	360	380
40	--------	130	155	185	215	235	260	285	310	330	350	370	390

TABLE 31

Species..... PONDEROSA PINE (Pinus ponderosa), old-growth
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Included
Top d.i.b..... Included
Method..... Alinement chart
Number of trees..... 392
Location of trees..... Good Site III and poor Site II on the Rogue River, Lassen, Payette, and Plumas National Forests
Accuracy..... Aggregate deviation 0.70 percent high
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 27 in U. S. Dept. Agr. Tech. Bul. 407
Year..... 1934

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--															
	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190
4	1.4	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
6	3.0	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
8	5.1	6.1	------	------	------	------	------	------	------	------	------	------	------	------	------	------
10	7.7	9.5	11.2	13.0	------	------	------	------	------	------	------	------	------	------	------	------
12	10.9	13.4	15.8	18.5	21	24	------	------	------	------	------	------	------	------	------	------
14	14.3	18.0	22.0	25.5	29	32	36	40	------	------	------	------	------	------	------	------
16	------	24	28.5	33	38	44	49	54	------	------	------	------	------	------	------	------
18	------	30	36	43	49	56	62	68	75	82	89	------	------	------	------	------
20	------	37	45	53	62	69	77	85	93	102	110	------	------	------	------	------
22	------	46	55	65	75	84	94	104	113	123	132	140	150	------	------	------
24	------	55	66	77	89	101	112	124	134	145	156	167	180	------	------	------
26	------	64	78	91	106	118	130	144	156	170	182	195	210	225	240	------
28	------	74	91	107	122	136	150	167	181	196	211	228	246	260	275	------
30	------	85	105	122	139	157	174	189	207	230	245	265	285	305	320	------
32	------	------	------	138	160	178	198	220	241	260	280	305	325	345	365	385
34	------	------	------	156	180	200	225	249	270	290	320	340	365	390	415	440
36	------	------	------	173	199	223	251	280	302	330	355	380	410	435	465	495
38	------	------	------	193	223	250	280	310	338	365	395	425	460	490	520	545
40	------	------	------	215	250	282	315	345	380	410	445	480	515	545	575	610
42	------	------	------	------	------	------	------	380	420	460	495	525	560	600	640	675
44	------	------	------	------	------	------	------	425	465	510	545	583	625	665	705	740
46	------	------	------	------	------	------	------	470	510	550	579	640	685	730	770	810
48	------	------	------	------	------	------	------	510	550	605	650	700	750	800	850	900
50	------	------	------	------	------	------	------	550	600	655	710	752	805	875	925	975
52	------	------	------	------	------	------	------	600	660	715	770	820	890	945	1,000	1,060
54	------	------	------	------	------	------	------	650	710	770	830	900	960	1,020	1,100	1,150
56	------	------	------	------	------	------	------	700	760	830	900	960	1,045	1,110	1,180	1,240
58	------	------	------	------	------	------	------	750	820	900	970	1,035	1,120	1,190	1,250	1,330
60	------	------	------	------	------	------	------	805	880	960	1,030	1,110	1,200	1,280	1,350	1,430
62	------	------	------	------	------	------	------	870	940	1,030	1,110	1,190	1,290	1,380	1,450	1,535
64	------	------	------	------	------	------	------	930	1,000	1,110	1,200	1,280	1,390	1,480	1,550	1,645

TABLE 32

Species..... PONDEROSA PINE (Pinus ponderosa), old-growth
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Included
Top d.i.b..... Included
Method..... Alinement chart
Number of trees..... 4,065
Location of trees..... Good Site IV and poor Site III on the Rogue River, Salmon, Whitman, Payette, Shasta, Boise, Coconino, and Umatilla National Forests
Accuracy..... Aggregate deviation negligible
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 28 in U. S. Dept. Agr. Tech. Bul. 407
Year..... 1934

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--															
	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
4	0.3	0.7	1.3	1.8	2.3	2.6	------	------	------	------	------	------	------	------	------	------
6	.8	1.8	2.9	4.0	4.9	5.7	------	------	------	------	------	------	------	------	------	------
8	1.5	3.2	5.1	6.9	8.6	9.8	------	------	------	------	------	------	------	------	------	------
10	2.6	5.2	8.0	10.6	13.0	15.0	------	------	------	------	------	------	------	------	------	------
12	------	7.8	11.5	15.2	18.0	21.0	24	------	------	------	------	------	------	------	------	------
14	------	10.6	15.3	20	24.5	28	32	36	------	------	------	------	------	------	------	------
16	------	13.8	19.3	26	31	37	42	48	53	------	------	------	------	------	------	------
18	------	16.7	24.4	32	40	46	54	61	68	74	81	------	------	------	------	------
20	------	20.5	30	40	50	58	67	75	84	93	101	------	------	------	------	------
22	------	25	36	49	60	70	81	90	102	112	122	132	142	150	------	------
24	------	------	43	59	72	84	97	110	122	134	145	158	170	180	------	------
26	------	------	51	69	85	100	114	129	142	156	172	136	200	211	------	------
28	------	------	61	82	100	117	134	150	167	184	200	217	230	249	------	------
30	------	------	70	95	116	135	155	175	194	212	230	252	272	289	308	------
32	------	------	------	109	132	153	177	200	220	243	266	290	310	332	354	------
34	------	------	------	122	149	174	200	225	250	276	300	330	354	375	400	------
36	------	------	------	135	167	195	222	252	282	310	340	370	396	428	450	------
38	------	------	------	------	188	219	255	285	320	352	384	420	450	480	505	------
40	------	------	------	------	------	249	285	322	362	398	435	474	505	540	570	600
42	------	------	------	------	------	275	320	360	405	443	482	525	560	595	640	680
44	------	------	------	------	------	305	356	400	450	488	536	580	620	660	700	750
46	------	------	------	------	------	337	390	440	488	535	585	640	685	725	775	820
48	------	------	------	------	------	370	430	480	532	585	640	690	750	800	845	900
50	------	------	------	------	------	------	470	520	580	642	695	760	815	865	920	980
52	------	------	------	------	------	------	------	570	632	695	760	832	885	945	990	1,060
54	------	------	------	------	------	------	------	610	682	750	825	895	955	1,010	1,070	1,140
56	------	------	------	------	------	------	------	650	735	815	885	960	1,020	1,085	1,150	1,220
58	------	------	------	------	------	------	------	------	805	880	950	1,030	1,090	1,170	1,230	1,310
60	------	------	------	------	------	------	------	------	870	950	1,025	1,110	1,185	1,250	1,335	1,425

TABLE 33

Species..... PONDEROSA PINE (Pinus ponderosa), old-growth
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Included
Top d.i.b..... Included
Method..... Alinement chart
Number of trees..... 6,176
Location of trees..... Good Site V and poor Site IV on the San Juan, Coconino, Bitterroot, and Lolo National Forests
Accuracy..... Aggregate deviation 0.5 percent high
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 29 in U. S. Dept. Agr. Tech. Bul. 407
Year..... 1934

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--												
	30	40	50	60	70	80	90	100	110	120	130	140	150
6	2.8	3.5	4.3	5.3	--------	--------	--------	--------	--------	--------	--------	--------	--------
8	4.7	6.2	7.6	9.2	--------	--------	--------	--------	--------	--------	--------	--------	--------
10	7.2	9.5	11.8	14.0	--------	--------	--------	--------	--------	--------	--------	--------	--------
12	10.0	13.3	16.8	20.0	23.0	26	--------	--------	--------	--------	--------	--------	--------
14	13.4	18.0	22.2	26.5	30.8	35	40	44	48	53	58	--------	--------
16	17.5	23.3	28.9	34.5	40	46	52	58	64	70	75	80	87
18	22.0	29.0	36	43	51	59	66	74	80	89	96	104	112
20	26.8	35.5	45	54	64	75	82	91	101	111	120	130	139
22	32	43	55	66	76	89	100	111	124	134	145	157	168
24	38	52	65	78	91	105	119	133	146	158	173	185	200
26	45	61	76	92	108	125	140	156	171	186	203	220	235
28	--------	--------	88	107	126	145	160	180	198	216	236	253	275
30	--------	--------	102	124	145	165	186	210	230	250	275	295	318
32	--------	--------	118	141	165	190	215	238	262	289	314	335	360
34	--------	--------	133	159	185	214	243	270	298	323	355	380	405
36	--------	--------	148	177	206	238	270	302	330	360	395	420	450
38	--------	--------	163	198	232	272	298	337	370	400	438	465	495
40	--------	--------	182	221	259	296	332	372	410	445	480	515	545
42	--------	--------	--------	243	287	330	370	408	450	490	528	560	600
44	--------	--------	--------	270	315	364	406	454	490	535	575	615	650
46	--------	--------	--------	295	346	398	445	490	530	580	625	670	710
48	--------	--------	--------	330	380	434	485	530	575	630	680	730	770
50	--------	--------	--------	--------	410	468	525	570	620	680	740	790	840
52	--------	--------	--------	--------	445	505	565	610	655	735	800	850	900
54	--------	--------	--------	--------	475	540	600	655	725	795	850	910	960
56	--------	--------	--------	--------	505	580	640	710	785	845	910	970	1,035
58	--------	--------	--------	--------	540	620	680	770	830	895	970	1,040	1,100
60	--------	--------	--------	--------	575	660	740	825	885	960	1,040	1,110	1,180

Species..... PONDEROSA PINE (Pinus ponderosa), old-growth
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Included
Top d.i.b..... Included
Method..... Alinement chart
Number of trees..... 818
Location of trees..... Site VI and medium Site V on the Custer and Black Hills National Forests
Accuracy..... Aggregate deviation 0.2 percent high
Author..... W.H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 30 in U. S. Dept. Agr. Tech. Bul. 407
Year..... 1934

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--									
	30	40	50	60	70	80	90	100	110	120
5	1.9	2.5	3.4	----	----	----	----	----	----	----
6	2.8	3.6	4.9	----	----	----	----	----	----	----
7	3.9	5.0	6.6	----	----	----	----	----	----	----
8	5.4	6.6	8.4	----	----	----	----	----	----	----
9	6.6	8.4	10.5	----	----	----	----	----	----	----
10	8.4	10.2	12.8	15	17	----	----	----	----	----
11	10.2	13.0	15.3	17	20	----	----	----	----	----
12	13.0	15.5	17.8	20	24	----	----	----	----	----
13	15.0	17.5	20.5	24	28	----	----	----	----	----
14	17.0	19.5	23	28	33	38	43	----	----	----
15	18.9	23	27	31	36	44	50	----	----	----
16	21	26	30	36	42	50	58	----	----	----
17	24	29	35	41	48	58	65	----	----	----
18	27	32	39	46	55	65	73	82	90	----
19	30	36	43	51	62	73	82	91	101	----
20	33	40	47	57	69	80	90	102	113	123
21	37	44	52	64	76	88	100	113	124	134
22	40	49	58	70	83	96	110	123	135	146
23	43	54	64	76	90	106	120	133	146	158
24	47	59	70	83	99	116	129	145	158	173
25	----	----	76	90	108	124	139	155	171	188
26	----	----	82	97	116	134	150	167	185	204
27	----	----	88	105	124	144	160	180	200	220
28	----	----	95	114	132	154	174	194	214	235
29	----	----	102	122	141	164	187	210	230	250
30	----	----	109	130	152	177	200	223	245	268
31	----	----	117	137	160	189	213	237	260	284
32	----	----	125	145	170	200	225	252	278	304
33	----	----	132	154	182	211	235	270	295	325
34	----	----	138	162	190	223	250	285	311	344
35	----	----	145	170	200	235	270	300	330	360
36	----	----	152	180	213	247	285	315	345	380
37	----	----	159	190	225	265	298	335	365	400
38	----	----	166	200	235	280	312	350	385	420
39	----	----	176	212	245	296	335	370	405	440
40	----	----	187	223	255	310	350	390	428	460

TABLE 35

Species..... PONDEROSA PINE (Pinus ponderosa), old-growth
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Equivalent to d.b.h. with a 24-inch maximum
Top d.i.b..... 4 inches
Method..... Adjustment of volumes in table 27 of U. S. Dept. Agr. Tech. Bul. 407
Number of trees..... 392 for base table
Location of trees..... Good Site III and poor Site II on the Rogue River, Payette, Lassen, and Plumas National Forests
Accuracy..... Aggregate deviation for base table 0.7 percent high
Author..... Not given
Source..... File report, Pacific Northwest Forest and Range Expt. Sta.
Year..... Not given

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--																
	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
12	10	12	16	20	23	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
14	13	16	20	24	27	30	34	38	-----	-----	-----	-----	-----	-----	-----	-----	-----
16	-----	21	26	31	36	42	47	52	-----	-----	-----	-----	-----	-----	-----	-----	-----
18	-----	27	33	40	46	53	59	65	72	79	86	-----	-----	-----	-----	-----	-----
20	-----	33	41	49	58	65	73	81	89	98	106	-----	-----	-----	-----	-----	-----
22	-----	41	50	60	70	79	89	99	108	118	127	135	145	-----	-----	-----	-----
24	-----	48	59	70	82	94	105	117	127	138	149	160	173	-----	-----	-----	-----
26	-----	56	70	83	98	110	122	136	148	162	174	187	202	217	232	-----	-----
28	-----	65	83	99	114	128	142	159	173	188	203	219	237	251	266	-----	-----
30	-----	75	95	112	129	147	164	179	197	220	235	255	275	295	310	-----	-----
32	-----	-----	-----	126	148	166	186	208	229	248	268	293	313	333	353	373	398
34	-----	-----	-----	143	167	187	212	236	257	285	307	327	352	377	402	427	452
36	-----	-----	-----	158	184	208	236	265	287	315	340	365	395	420	450	480	505
38	-----	-----	-----	176	206	234	264	294	322	348	378	409	444	474	504	529	559
40	-----	-----	-----	197	232	264	297	327	362	392	427	462	497	527	557	592	627
42	-----	-----	-----	-----	-----	-----	-----	360	400	440	475	505	540	580	620	655	685
44	-----	-----	-----	-----	-----	-----	-----	403	443	488	523	561	603	643	683	718	763
46	-----	-----	-----	-----	-----	-----	-----	446	488	526	555	616	661	706	746	786	836
48	-----	-----	-----	-----	-----	-----	-----	484	524	579	624	674	724	774	824	874	924
50	-----	-----	-----	-----	-----	-----	-----	522	572	627	682	724	777	847	897	947	1,002
52	-----	-----	-----	-----	-----	-----	-----	570	630	685	740	790	860	915	970	1,030	1,080
54	-----	-----	-----	-----	-----	-----	-----	617	677	737	797	867	927	987	1,047	1,117	1,177
56	-----	-----	-----	-----	-----	-----	-----	665	725	795	865	925	1,010	1,075	1,145	1,205	1,275
58	-----	-----	-----	-----	-----	-----	-----	712	782	862	932	997	1,082	1,152	1,215	1,295	1,372
60	-----	-----	-----	-----	-----	-----	-----	765	840	920	970	1,070	1,160	1,240	1,310	1,390	1,470

TABLE 36

Species..... PONDEROSA PINE (Pinus ponderosa), old-growth
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Equivalent to d.b.h. with a 24-inch maximum
Top d.i.b..... 4 inches
Method..... Adjustment of volumes in table 28 of U. S. Dept. Agr. Tech. Bul. 407
Number of trees..... 4,065 for base table
Location of trees..... Good Site IV and poor Site III on the Rogue River, Salmon, Lassen, Whitman, Payette, Shasta, Boise, Coconino, and Umatilla National Forests
Accuracy..... Aggregate deviation for base table negligible
Author..... Not given
Source..... File report, Pacific Northwest Forest and Range Expt. Sta.
Year..... Not given

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--														
	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
12	7	10	14	17	20	22	-------	-------	-------	-------	-------	-------	-------	-------	-------
14	9	14	18	23	26	30	34	-------	-------	-------	-------	-------	-------	-------	-------
16	------	17	24	29	34	39	45	50	-------	-------	-------	-------	-------	-------	-------
18	------	21	29	37	44	51	58	65	71	77	-------	-------	-------	-------	-------
20	------	26	36	45	53	62	70	79	88	96	-------	-------	-------	-------	-------
22	------	-----	44	55	65	75	85	96	106	116	126	136	144	-------	-------
24	------	-----	52	65	77	90	103	115	127	138	151	163	173	-------	-------
26	------	-----	61	77	92	106	121	135	148	164	178	192	203	-------	-------
28	------	-----	73	91	108	125	141	159	175	191	208	221	240	-------	-------
30	------	-----	85	106	124	145	164	184	202	220	242	262	279	298	-------
32	------	-----	97	121	141	165	188	208	231	254	278	298	320	342	-------
34	------	-----	109	136	161	187	212	237	263	287	317	341	362	387	-------
36	------	-----	121	152	181	207	237	267	295	325	355	381	413	435	-------
38	------	-----	-------	172	202	238	268	303	335	367	403	434	463	488	-------
40	------	-----	-------	-------	231	267	304	344	380	417	456	487	522	552	582
42	------	-----	-------	-------	255	300	340	385	423	462	505	540	575	620	660
44	------	-----	-------	-------	283	334	378	428	466	514	558	598	638	678	728
46	------	-----	-------	-------	313	366	416	464	511	561	616	661	701	751	796
48	------	-----	-------	-------	344	404	454	506	559	614	664	724	774	819	874
50	------	-----	-------	-------	-------	442	492	552	614	667	732	787	837	892	952
52	------	-----	-------	-------	-------	-------	539	602	665	730	802	855	915	960	1,030
54	------	-----	-------	-------	-------	-------	577	649	717	792	862	922	977	1,037	1,107
56	------	-----	-------	-------	-------	-------	615	700	780	850	925	985	1,050	1,115	1,185
58	------	-----	-------	-------	-------	-------	-------	767	842	912	992	1,052	1,132	1,192	1,272
60	------	-----	-------	-------	-------	-------	-------	830	910	985	1,070	1,145	1,210	1,295	1,385

TABLE 37

Species..... PONDEROSA PINE (Pinus ponderosa), old-growth
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Equivalent to d.b.h. with a 24-inch maximum
Top d.i.b..... 4 inches
Method..... Adjustment of volumes in table 29 of U. S. Dept. Agr. Tech. Bul. 407
Number of trees..... 6,176 for base table
Location of trees..... Good Site V and poor Site IV on the San Juan, Deerlodge, Coconino, and Bitterroot National Forests
Accuracy..... Aggregate deviation for base table 0.5 percent high.
Author..... Not given
Source..... File report, Pacific Northwest Forest and Range Expt. Sta.
Year..... Not given

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--												
	30	40	50	60	70	80	90	100	110	120	130	140	150
12	9	12	15	19	22	25	--------	--------	--------	--------	--------	--------	--------
14	12	15	20	25	29	33	38	42	46	51	56	--------	--------
16	15	20	26	32	38	44	50	56	62	68	73	78	85
18	19	26	33	40	48	56	63	71	77	86	93	101	109
20	23	31	41	50	60	71	78	87	97	107	116	126	135
22	27	38	50	61	71	84	95	106	119	129	140	152	163
24	33	45	60	73	86	100	114	128	139	151	166	178	193
26	37	53	68	84	100	117	132	148	163	178	195	212	227
28	--------	--------	79	98	117	136	151	171	189	207	227	244	266
30	--------	--------	92	114	135	155	176	200	220	240	265	285	308
32	--------	--------	106	129	153	178	203	226	250	277	302	323	348
34	--------	--------	120	146	172	201	230	257	285	310	342	367	392
36	--------	--------	133	162	191	223	255	287	315	345	380	405	435
38	--------	--------	147	182	216	256	282	321	354	384	422	449	479
40	--------	--------	164	203	241	278	314	354	392	427	462	497	527
42	--------	--------	--------	223	267	310	350	398	430	470	508	540	580
44	--------	--------	--------	248	293	342	384	432	468	513	553	593	628
46	--------	--------	--------	271	322	374	421	466	506	556	601	646	686
48	--------	--------	--------	290	354	408	459	504	549	604	654	704	744
50	--------	--------	--------	--------	382	440	497	542	592	652	712	762	812
52	--------	--------	--------	--------	415	475	535	580	635	705	770	820	870
54	--------	--------	--------	--------	442	507	567	622	692	762	817	877	927
56	--------	--------	--------	--------	470	545	605	675	750	810	875	935	1,000
58	--------	--------	--------	--------	502	582	642	732	792	857	932	1,002	1,062
60	--------	--------	--------	--------	535	620	700	785	845	920	1,000	1,070	1,140

TABLE 38

Species..... PONDEROSA PINE (Pinus ponderosa), young-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... International 1/8-inch kerf
Scaling length for logs. 16 feet
Stump height..... 1 to 2 feet
Top d.i.b..... 6 inches
Trim allowance per log. 0.3 feet
Method..... Alinement chart
Number of trees..... 2,865
Location of trees..... Oregon, California, Montana, Arizona, Colorado, and New Mexico
Accuracy..... Aggregate deviation 0.10 percent low
Author..... W.H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 33 in U.S. Dept. Agr. Tech. Bul. 630
Year..... 1938

D.b.h. (inches)	Volume in tens of board-feet when total height of tree in feet is--											
	40	50	60	70	80	90	100	110	120	130	140	150
8	1	1	1	2	2	--------	--------	--------	--------	--------	--------	--------
10	2	3	4	6	7	9	10	12	13	--------	--------	--------
12	4	6	8	10	12	15	17	19	22	24	--------	--------
14	6	9	12	16	19	22	25	28	32	35	38	--------
16	9	13	17	22	26	30	34	38	43	47	52	56
18	12	17	22	28	34	39	44	50	55	61	66	72
20	15	22	28	35	42	49	56	62	70	76	84	91
22	--------	27	35	43	52	60	68	76	85	94	103	111
24	--------	33	42	52	62	72	82	93	102	112	122	131
26	--------	--------	50	62	74	86	98	110	121	132	142	152
28	--------	--------	59	73	87	101	114	127	139	151	162	173
30	--------	--------	69	85	101	117	131	144	158	170	182	194
32	--------	--------	79	98	116	133	148	161	176	190	202	216
34	--------	--------	90	112	130	149	164	179	194	210	224	238
36	--------	--------	--------	125	144	164	180	197	214	230	245	260
38	--------	--------	--------	138	158	179	197	215	234	250	266	283
40	--------	--------	--------	151	172	195	214	234	254	272	289	307
42	--------	--------	--------	--------	187	211	232	253	274	293	312	331
44	--------	--------	--------	--------	202	226	250	272	294	315	335	355
46	--------	--------	--------	--------	--------	243	268	291	314	337	359	380
48	--------	--------	--------	--------	--------	260	286	311	335	359	383	406
50	--------	--------	--------	--------	--------	278	306	331	357	382	407	432

TABLE 39

Species..... PONDEROSA PINE (Pinus ponderosa), young-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... International 1/8-inch kerf
Scaling length for logs. 16 feet
Stump height..... 1 to 1-1/2 feet
Top d.i.b..... 6 to 9 inches
Trim allowance per log. 0.3 feet
Method..... Frustum form factor
Number of trees..... 186
Location of trees..... Wallowa and Whitman National Forests
Accuracy..... Aggregate deviation 0.05 percent high
Author..... E. J. Hanzlik, U. S. Forest Service, Pacific Northwest Region
Source..... File report
Year..... 1926

D.b.h. (inches)	Board-foot volume when number of 16-foot logs is--									
	1	2	3	4	5	6	7	8	9	10
8	20	55	90	----------	----------	----------	----------	----------	----------	----------
9	20	60	100	----------	----------	----------	----------	----------	----------	----------
10	25	65	110	----------	----------	----------	----------	----------	----------	----------
11	25	70	120	175	----------	----------	----------	----------	----------	----------
12	25	75	135	195	----------	----------	----------	----------	----------	----------
13	25	85	145	215	----------	----------	----------	----------	----------	----------
14	25	90	160	240	320	390	----------	----------	----------	----------
15	25	100	180	265	350	435	----------	----------	----------	----------
16	30	110	195	290	390	480	----------	----------	----------	----------
17	30	120	215	320	430	530	----------	----------	----------	----------
18	30	130	235	350	470	580	700	----------	----------	----------
19	30	145	260	385	510	635	765	----------	----------	----------
20	35	155	280	420	550	690	815	----------	----------	----------
21	35	170	305	455	595	750	880	----------	----------	----------
22	35	180	330	490	645	810	950	1,140	----------	----------
23	40	195	360	530	700	875	1,030	1,240	----------	----------
24	40	205	385	570	755	945	1,115	1,345	----------	----------
25	45	220	415	615	810	1,015	1,205	1,440	----------	----------
26	45	230	445	655	870	1,085	1,300	1,535	1,750	----------
27	45	245	475	705	935	1,165	1,395	1,640	1,850	----------
28	45	260	505	750	1,000	1,245	1,490	1,740	1,960	----------
29	45	275	540	800	1,060	1,325	1,590	1,850	2,090	----------
30	50	290	575	855	1,130	1,410	1,695	1,970	2,220	2,530
31	----------	305	605	905	1,200	1,490	1,805	2,095	2,360	2,680
32	----------	320	645	960	1,270	1,575	1,915	2,225	2,515	2,835
33	----------	----------	680	1,015	1,340	1,670	2,030	2,360	2,680	3,020
34	----------	----------	715	1,075	1,420	1,760	2,150	2,505	2,850	3,215
35	----------	----------	755	1,130	1,500	1,850	2,270	2,650	3,020	3,405
36	----------	----------	790	1,190	1,580	1,960	2,395	2,790	3,185	3,600
37	----------	----------	830	1,250	1,660	2,065	2,520	2,935	3,350	3,790
38	----------	----------	865	1,310	1,745	2,175	2,640	3,075	3,515	3,980
39	----------	----------	905	1,370	1,830	2,285	2,760	3,215	3,680	4,165
40	----------	----------	940	1,430	1,915	2,395	2,885	3,355	3,850	4,360
41	----------	----------	980	1,490	2,000	2,500	3,005	3,495	4,020	4,550
42	----------	----------	1,020	1,550	2,085	2,610	3,130	3,635	4,190	4,735

Species..... PONDEROSA PINE (Pinus ponderosa), old-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... International 1/8-inch kerf
Scaling length for logs. 16 feet
Stump height..... 1 to 1-1/2 feet
Top d.i.b..... 6.5 to 11.5 inches (see table)
Trim allowance per log. 0.3 feet
Method..... Frustum form factor
Number of trees..... 462
Location of trees..... Wallowa and Whitman National Forests
Accuracy..... Aggregate deviation 0.61 percent low
Author..... E. J. Hanzlik, U. S. Forest Service, Pacific Northwest Region
Source..... File report
Year..... 1926

D.b.h. (inches)	Board-foot volume when number of 16-foot logs is--										Top d.i.b. (inches)
	1-1/4	2	3	4	5	6	7	8	9	10	
8	25	55	90	----------	----------	----------	----------	----------	----------	----------	6.5
9	30	65	110	----------	----------	----------	----------	----------	----------	----------	6.7
10	40	75	125	----------	----------	----------	----------	----------	----------	----------	6.8
11	45	85	145	195	----------	----------	----------	----------	----------	----------	7.0
12	55	100	165	225	----------	----------	----------	----------	----------	----------	7.2
13	60	110	185	255	----------	----------	----------	----------	----------	----------	7.3
14	70	120	205	285	375	----------	----------	----------	----------	----------	7.5
15	75	130	225	320	420	510	----------	----------	----------	----------	7.6
16	85	145	250	350	465	570	----------	----------	----------	----------	7.7
17	90	155	270	300	510	630	----------	----------	----------	----------	7.8
18	100	170	295	425	555	695	840	----------	----------	----------	7.9
19	105	180	320	465	605	755	915	----------	----------	----------	7.9
20	115	195	345	505	660	825	990	----------	----------	----------	8.0
21	120	205	375	550	720	895	1,075	----------	----------	----------	8.0
22	130	220	405	595	780	970	1,160	1,335	----------	----------	8.1
23	140	235	435	640	845	1,050	1,255	1,450	----------	----------	8.2
24	145	250	470	695	915	1,130	1,355	1,575	----------	----------	8.2
25	155	270	505	750	990	1,220	1,460	1,700	1,935	----------	8.3
26	160	290	540	805	1,060	1,315	1,570	1,840	2,100	----------	8.5
27	170	310	580	865	1,140	1,415	1,690	1,985	2,270	----------	8.6
28	185	330	620	925	1,225	1,520	1,815	2,135	2,445	----------	8.8
29	200	350	665	995	1,315	1,630	1,950	2,295	2,620	----------	9.0
30	220	375	710	1,065	1,405	1,745	2,090	2,460	2,805	3,125	9.3
31	----------	395	760	1,135	1,495	1,870	2,240	2,630	2,995	3,340	9.5
32	----------	420	810	1,210	1,595	1,995	2,390	2,800	3,195	3,565	9.7
33	----------	445	860	1,285	1,700	2,120	2,545	2,975	3,400	3,800	9.9
34	----------	470	910	1,360	1,805	2,250	2,705	3,150	3,610	4,045	10.1
35	----------	490	965	1,440	1,915	2,385	2,870	3,335	3,820	4,295	10.3
36	----------	520	1,020	1,520	2,020	2,520	3,035	3,530	4,030	4,545	10.4
37	----------	----------	1,075	1,605	2,135	2,655	3,200	3,725	4,245	4,795	10.5
38	----------	----------	1,130	1,685	2,250	2,795	3,365	3,920	4,465	5,045	10.6
39	----------	----------	1,185	1,770	2,360	2,930	3,535	4,115	4,690	5,300	10.7
40	----------	----------	1,240	1,855	2,470	3,065	3,705	4,315	4,920	5,555	10.8
41	----------	----------	1,295	1,935	2,585	3,205	3,870	4,515	5,155	5,810	10.9
42	----------	----------	1,350	2,020	2,700	3,345	4,040	4,720	5,395	6,065	11.0
43	----------	----------	----------	2,105	2,815	3,495	4,210	4,925	5,635	6,325	11.1
44	----------	----------	----------	2,185	2,930	3,645	4,385	5,130	5,880	6,590	11.1
45	----------	----------	----------	2,275	3,050	3,795	4,565	5,340	6,125	6,860	11.2
46	----------	----------	----------	2,360	3,170	3,950	4,745	5,560	6,375	7,130	11.2
47	----------	----------	----------	2,445	3,290	4,105	4,930	5,780	6,630	7,420	11.3
48	----------	----------	----------	2,535	3,415	4,260	5,120	6,005	6,885	7,725	11.3
49	----------	----------	----------	----------	3,540	4,420	5,315	6,230	7,140	8,035	11.4
50	----------	----------	----------	----------	3,670	4,585	5,510	6,460	7,400	8,340	11.4
51	----------	----------	----------	----------	3,800	4,755	5,710	6,690	7,660	8,650	11.5
52	----------	----------	----------	----------	3,930	4,925	5,915	6,920	7,920	8,950	11.5
53	----------	----------	----------	----------	4,060	5,095	6,120	7,150	8,185	9,250	11.5
54	----------	----------	----------	----------	4,190	5,265	6,325	7,385	8,450	9,550	11.5

TABLE 41

Species..... PONDEROSA PINE (Pinus ponderosa), young-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 1 to 2 feet
Top d.i.b..... 8 inches
Trim allowance per log. 0.3 feet
Method..... Alinement chart
Number of trees..... 2,865
Location of trees..... Oregon, California, Montana, Colorado, Arizona, and New Mexico
Accuracy..... Aggregate deviation 0.25 percent low
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 34 in U. S. Dept. Agr. Tech. Bul. 630
Year..... 1938

D.b.h. (inches)	Volume in tens of board-feet when total height of tree in feet is—											
	40	50	60	70	80	90	100	110	120	130	140	150
10	1	1	2	2	3	3	4	4	5	—	—	—
12	2	4	5	6	8	10	11	12	14	15	—	—
14	4	6	8	11	13	15	18	20	22	24	26	—
16	6	10	12	16	18	21	24	27	30	34	36	40
18	9	13	17	21	24	29	34	37	41	46	50	54
20	12	17	22	27	32	37	44	48	53	58	64	69
22	—	21	27	34	41	47	54	60	67	74	81	89
24	—	26	33	42	50	58	66	74	83	91	100	109
26	—	—	41	51	60	69	79	90	100	109	119	129
28	—	—	48	59	70	82	94	106	117	127	138	148
30	—	—	56	69	81	96	109	122	134	145	157	167
32	—	—	64	80	95	110	124	138	151	163	175	186
34	—	—	74	91	109	124	140	154	168	181	194	206
36	—	—	—	104	123	138	156	171	185	199	213	226
38	—	—	—	117	137	152	172	188	203	218	232	247
40	—	—	—	130	150	167	188	204	221	237	252	268
42	—	—	—	—	163	182	203	221	238	256	273	289
44	—	—	—	—	176	197	218	238	257	275	293	309
46	—	—	—	—	—	211	234	255	275	294	313	329
48	—	—	—	—	—	225	249	272	293	313	333	350
50	—	—	—	—	—	240	264	289	311	332	353	371

Species..... PONDEROSA PINE (Pinus ponderosa), old-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 1.5 feet
Top d.i.b..... 8 inches
Trim allowance per log. 0.3 feet
Method..... Adjustment of volumes in table 36 of U. S. Dept. Agr. Tech. Bul. 407
Number of trees..... 1,020 for base table
Location of trees..... Good Site III and poor Site II on the Rogue River, Payette, Lassen, and Plumas National Forests
Accuracy..... Aggregate deviation for base table 0.4 percent low
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 31 in U. S. Dept. Agr. Tech. Bul. 407
Year..... 1934

D.b.h. (inches)	Board-foot volume when total height of tree in feet is--															
	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
10	23	37	54	------	------	------	------	------	------	------	------	------	------	------	------	------
11	28	45	65	------	------	------	------	------	------	------	------	------	------	------	------	------
12	34	55	78	103	------	------	------	------	------	------	------	------	------	------	------	------
13	41	66	91	121	------	------	------	------	------	------	------	------	------	------	------	------
14	49	78	108	141	173	------	------	------	------	------	------	------	------	------	------	------
15	57	92	127	163	198	240	------	------	------	------	------	------	------	------	------	------
16	66	107	146	187	226	270	310	------	------	------	------	------	------	------	------	------
17	76	123	168	213	257	305	350	390	420	445	------	------	------	------	------	------
18	87	140	191	240	290	345	395	435	470	500	------	------	------	------	------	------
19	99	158	214	269	324	385	440	485	525	555	------	------	------	------	------	------
20	112	178	240	301	360	430	490	540	585	620	------	------	------	------	------	------
21	125	198	267	335	400	480	540	600	650	690	725	765	------	------	------	------
22	139	219	295	370	445	530	600	660	720	760	800	845	------	------	------	------
23	156	242	325	410	485	580	660	725	790	835	880	925	------	------	------	------
24	173	266	355	450	535	635	725	795	870	915	970	1,020	------	------	------	------
25	191	290	390	490	585	695	790	865	950	1,000	1,070	1,120	------	------	------	------
26	211	315	430	535	640	755	860	945	1,040	1,110	1,175	1,230	1,310	1,380	------	------
27	232	345	465	580	700	820	935	1,035	1,130	1,220	1,290	1,350	1,440	1,520	------	------
28	253	370	505	630	760	875	1,020	1,130	1,240	1,330	1,410	1,480	1,570	1,660	------	------
29	276	400	550	680	825	955	1,115	1,230	1,350	1,450	1,540	1,625	1,710	1,810	------	------
30	300	435	595	740	890	1,040	1,210	1,340	1,470	1,580	1,675	1,775	1,360	1,970	------	------
31	------	------	640	800	960	1,130	1,310	1,450	1,590	1,710	1,820	1,925	2,020	2,140	2,275	2,410
32	------	------	690	860	1,040	1,220	1,415	1,570	1,720	1,850	1,970	2,075	2,190	2,320	2,465	2,600
33	------	------	740	925	1,120	1,315	1,520	1,690	1,850	2,000	2,120	2,240	2,370	2,510	2,655	2,820
34	------	------	800	1,000	1,210	1,420	1,630	1,820	1,990	2,150	2,280	2,420	2,560	2,710	2,860	3,035
35	------	------	855	1,075	1,300	1,525	1,750	1,960	2,140	2,315	2,450	2,610	2,760	2,920	3,080	3,260
36	------	------	920	1,150	1,390	1,630	1,880	2,100	2,290	2,480	2,620	2,800	2,960	3,140	3,300	3,500
37	------	------	980	1,230	1,490	1,740	2,010	2,240	2,450	2,650	2,800	2,990	3,175	3,360	3,540	3,750
38	------	------	1,055	1,320	1,590	1,860	2,140	2,380	2,620	2,825	2,990	3,180	3,390	3,590	3,790	4,000
39	------	------	1,130	1,410	1,695	1,980	2,275	2,530	2,790	3,000	3,180	3,380	3,610	3,825	4,040	4,260
40	------	------	1,205	1,500	1,810	2,110	2,410	2,680	2,965	3,200	3,380	3,600	3,840	4,065	4,290	4,520
41	------	------	------	------	------	------	2,550	2,840	3,140	3,375	3,585	3,825	4,080	4,320	4,550	4,790
42	------	------	------	------	------	------	2,690	3,000	3,320	3,575	3,800	4,050	4,320	4,580	4,820	5,080
43	------	------	------	------	------	------	2,845	3,170	3,500	3,775	4,020	4,280	4,570	4,850	5,100	5,380
44	------	------	------	------	------	------	3,000	3,340	3,680	3,975	4,240	4,530	4,830	5,120	5,390	5,680
45	------	------	------	------	------	------	3,155	3,520	3,870	4,190	4,470	4,780	5,100	5,390	5,690	6,000
46	------	------	------	------	------	------	3,310	3,690	4,070	4,405	4,700	5,040	5,380	5,680	6,000	6,320
47	------	------	------	------	------	------	3,470	3,870	4,270	4,620	4,930	5,320	5,660	6,000	6,320	6,670
48	------	------	------	------	------	------	3,630	4,050	4,470	4,840	5,175	5,600	5,960	6,320	6,650	7,020
49	------	------	------	------	------	------	3,795	4,260	4,680	5,070	5,430	5,880	6,260	6,640	6,990	7,370
50	------	------	------	------	------	------	3,970	4,470	4,900	5,300	5,680	6,160	6,560	6,960	7,330	7,720
51	------	------	------	------	------	------	4,145	4,680	5,120	5,530	5,930	6,440	6,860	7,280	7,670	8,070
52	------	------	------	------	------	------	4,320	4,890	5,340	5,770	6,200	6,720	7,160	7,610	8,040	8,445
53	------	------	------	------	------	------	4,510	5,100	5,560	6,010	6,475	7,000	7,470	7,940	8,410	8,820
54	------	------	------	------	------	------	4,700	5,310	5,800	6,250	6,750	7,280	7,790	8,280	8,780	9,195
55	------	------	------	------	------	------	4,890	5,520	6,040	6,500	7,025	7,570	8,110	8,620	9,160	9,570
56	------	------	------	------	------	------	5,080	5,730	6,280	6,800	7,300	7,860	8,430	8,960	9,540	9,945
57	------	------	------	------	------	------	5,280	5,950	6,520	7,100	7,580	8,150	8,750	9,300	9,930	10,320
58	------	------	------	------	------	------	5,490	6,160	6,760	7,350	7,880	8,450	9,070	9,650	10,250	10,700
59	------	------	------	------	------	------	5,700	6,470	7,000	7,600	8,180	8,760	9,390	10,100	10,600	11,100
60	------	------	------	------	------	------	5,900	6,690	7,240	7,850	8,480	9,070	9,710	10,450	10,950	11,500
61	------	------	------	------	------	------	6,100	6,900	7,480	8,100	8,780	9,380	10,030	10,800	11,300	11,900
62	------	------	------	------	------	------	6,300	7,050	7,730	8,350	9,080	9,690	10,360	11,150	11,650	12,300
63	------	------	------	------	------	------	6,500	7,270	7,980	8,600	9,380	10,000	10,700	11,450	12,000	12,700
64	------	------	------	------	------	------	6,700	7,480	8,230	8,850	9,690	10,330	11,050	11,750	12,350	13,100
65	------	------	------	------	------	------	6,900	7,710	8,480	9,150	10,000	10,670	11,400	12,100	12,700	13,500

TABLE 43

Species..... PONDEROSA PINE (Pinus ponderosa), old-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 1.5 feet
Top d.i.b..... 8 inches
Trim allowance per log. 0.3 feet
Method..... Adjustment of volumes in table 37 of U. S. Dept. Agr. Tech. Bul. 407
Number of trees..... 4,960 for base table
Location of trees..... Good Site IV and poor Site III on the Rogue River, Salmon, Lassen, Whitman, Payette, Shasta, Boise, Coconino, and Umatilla National Forests
Accuracy..... Aggregate deviation for base table 0.4 percent high
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 32 in U. S. Dept. Agr. Tech. Bul. 407
Year..... 1934

D.b.h. (inches)	Board-foot volume when total height of tree in feet is--												
	50	60	70	80	90	100	110	120	130	140	150	160	170
10	18	32	45	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
11	26	42	59	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
12	33	52	75	110	--------	--------	--------	--------	--------	--------	--------	--------	--------
13	41	65	94	128	--------	--------	--------	--------	--------	--------	--------	--------	--------
14	50	78	114	150	180	--------	--------	--------	--------	--------	--------	--------	--------
15	60	92	133	174	206	--------	--------	--------	--------	--------	--------	--------	--------
16	71	108	154	198	235	278	--------	--------	--------	--------	--------	--------	--------
17	84	125	177	225	268	318	--------	--------	--------	--------	--------	--------	--------
18	97	143	200	254	302	360	407	442	--------	--------	--------	--------	--------
19	110	162	225	284	338	402	452	498	--------	--------	--------	--------	--------
20	124	184	252	315	380	450	505	560	--------	--------	--------	--------	--------
21	138	208	280	350	423	500	565	621	--------	--------	--------	--------	--------
22	154	233	312	387	466	555	630	690	750	790	840	--------	--------
23	171	257	345	427	512	610	692	760	825	872	925	--------	--------
24	190	282	380	470	565	675	762	840	910	960	1,030	--------	--------
25	210	310	415	515	622	738	837	925	1,000	1,070	1,140	--------	--------
26	232	340	455	562	682	810	910	1,015	1,100	1,180	1,260	--------	--------
27	254	372	496	615	744	880	995	1,115	1,210	1,300	1,380	--------	--------
28	278	406	540	669	808	955	1,080	1,220	1,325	1,425	1,510	--------	--------
29	304	442	584	726	875	1,035	1,180	1,325	1,445	1,550	1,650	--------	--------
30	332	482	632	793	951	1,130	1,290	1,435	1,575	1,695	1,790	1,880	--------
31	360	524	687	850	1,025	1,220	1,400	1,560	1,710	1,840	1,945	2,040	--------
32	390	568	737	918	1,115	1,320	1,515	1,685	1,840	1,980	2,100	2,210	--------
33	420	615	795	988	1,200	1,425	1,635	1,815	1,975	2,130	2,260	2,380	--------
34	455	664	860	1,060	1,300	1,535	1,755	1,960	2,115	2,285	2,430	2,570	--------
35	495	716	920	1,140	1,400	1,645	1,890	2,100	2,265	2,455	2,600	2,770	--------
36	531	773	988	1,225	1,500	1,755	2,020	2,240	2,425	2,620	2,775	2,970	--------
37	--------	832	1,058	1,315	1,600	1,875	2,160	2,380	2,590	2,790	2,965	3,170	--------
38	--------	895	1,130	1,410	1,700	2,000	2,300	2,530	2,765	2,970	3,165	3,370	--------
39	--------	958	1,205	1,510	1,810	2,120	2,440	2,690	2,945	3,155	3,365	3,590	--------
40	--------	--------	1,280	1,600	1,925	2,240	2,580	2,850	3,125	3,340	3,570	3,810	4,050
41	--------	--------	1,355	1,700	2,040	2,365	2,715	3,020	3,305	3,530	3,780	4,030	4,300
42	--------	--------	1,435	1,800	2,150	2,490	2,855	3,200	3,485	3,730	3,990	4,260	4,350
43	--------	--------	1,520	1,900	2,260	2,620	3,000	3,370	3,675	3,940	4,200	4,500	4,800
44	--------	--------	1,600	2,000	2,375	2,750	3,150	3,550	3,875	4,150	4,420	4,750	5,050
45	--------	--------	1,685	2,100	2,490	2,880	3,300	3,725	4,080	4,360	4,640	5,000	5,320
46	--------	--------	1,770	2,200	2,600	3,015	3,460	3,900	4,290	4,575	4,880	5,250	5,600
47	--------	--------	1,860	2,300	2,720	3,160	3,625	4,080	4,490	4,800	5,130	5,500	5,900
48	--------	--------	1,950	2,410	2,850	3,310	3,785	4,270	4,700	5,035	5,390	5,775	6,200
49	--------	--------	--------	2,520	2,980	3,450	3,950	4,470	4,910	5,275	5,650	6,050	6,500
50	--------	--------	--------	2,630	3,110	3,600	4,120	4,680	5,125	5,500	5,910	6,330	6,800
51	--------	--------	--------	2,745	3,250	3,760	4,290	4,870	5,340	5,730	6,180	6,610	7,100
52	--------	--------	--------	--------	3,400	3,930	4,470	5,070	5,550	5,960	6,450	6,890	7,400
53	--------	--------	--------	--------	3,550	4,100	4,660	5,280	5,790	6,210	6,730	7,190	7,700
54	--------	--------	--------	--------	3,690	4,270	4,850	5,490	6,030	6,460	7,020	7,500	8,000
55	--------	--------	--------	--------	3,840	4,440	5,030	5,695	6,260	6,710	7,310	7,810	8,300
56	--------	--------	--------	--------	3,980	4,615	5,210	5,900	6,480	6,970	7,600	8,100	8,600
57	--------	--------	--------	--------	4,130	4,795	5,400	6,110	6,700	7,240	7,890	8,400	8,950
58	--------	--------	--------	--------	--------	4,975	5,600	6,330	6,940	7,520	8,170	8,700	9,300
59	--------	--------	--------	--------	--------	5,155	5,800	6,550	7,180	7,800	8,440	8,990	9,650
60	--------	--------	--------	--------	--------	5,330	6,000	6,770	7,430	8,080	8,700	9,250	9,950

TABLE 44

Species..... PONDEROSA PINE (Pinus ponderosa), old-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 1.5 feet
Top d.i.b..... 8 inches
Trim allowance per log. 0.3 feet
Method..... Adjustment of volumes in table 38 of U. S. Dept. Agr. Tech. Bul. 407
Number of trees..... 7,291 for base table
Location of trees..... Good Site V and poor Site IV on the San Juan, Carson, Coconino, Bitterroot, and Deerlodge National Forests
Accuracy..... Aggregate deviation for base table 0.6 percent low
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 33 in U. S. Dept. Agr. Tech. Bul. 407
Year..... 1934

D.b.h. (inches)	Board-foot volume when total height of tree in feet is--											
	40	50	60	70	80	90	100	110	120	130	140	150
10--------	18	30	44	63	--------	--------	--------	--------	--------	--------	--------	--------
12--------	28	44	65	91	112	139	166	190	215	236	--------	--------
14--------	40	62	92	125	158	192	226	260	290	317	--------	--------
16--------	54	84	125	170	215	258	300	344	382	420	465	515
18--------	72	108	165	220	279	335	385	445	494	545	605	670
20--------	92	142	212	282	355	425	494	565	630	692	770	855
22--------	--------	178	266	352	440	530	615	702	785	860	960	1,060
24--------	--------	222	328	430	537	650	756	865	965	1,065	1,180	1,290
26--------	--------	267	397	517	650	785	920	1,045	1,160	1,285	1,410	1,540
28--------	--------	318	470	618	768	940	1,095	1,240	1,385	1,525	1,670	1,820
30--------	--------	376	557	728	895	1,100	1,280	1,450	1,640	1,790	1,950	2,120
32--------	--------	440	647	840	1,035	1,265	1,470	1,680	1,885	2,075	2,250	2,430
34--------	--------	510	745	965	1,190	1,440	1,675	1,920	2,160	2,365	2,550	2,770
36--------	--------	--------	848	1,100	1,345	1,620	1,900	2,180	2,440	2,675	2,900	3,140
38--------	--------	--------	955	1,225	1,500	1,815	2,130	2,440	2,735	3,005	3,250	3,530
40--------	--------	--------	1,065	1,365	1,670	2,025	2,370	2,710	3,040	3,345	3,615	3,920
42--------	--------	--------	1,175	1,510	1,855	2,240	2,615	2,980	3,360	3,695	4,000	4,320
44--------	--------	--------	1,300	1,655	2,045	2,460	2,875	3,275	3,680	4,055	4,400	4,760
46--------	--------	--------	1,430	1,810	2,235	2,690	3,145	3,575	4,015	4,420	4,810	5,230
48--------	--------	--------	1,560	1,975	2,445	2,935	3,425	3,890	4,360	4,800	5,250	5,710
50--------	--------	--------	1,700	2,145	2,660	3,195	3,725	4,215	4,720	5,210	5,710	6,210
52--------	--------	--------	--------	2,310	2,880	3,450	4,020	4,560	5,090	5,640	6,180	6,730
54--------	--------	--------	--------	2,490	3,100	3,725	4,330	4,920	5,470	6,080	6,670	7,270
56--------	--------	--------	--------	--------	3,320	4,000	4,650	5,300	5,890	6,520	7,170	7,800
58--------	--------	--------	--------	--------	3,555	4,280	4,980	5,685	6,320	6,990	7,680	8,370
60--------	--------	--------	--------	--------	3,795	4,560	5,300	6,050	6,740	7,450	8,220	8,960

TABLE 45

Species..... PONDEROSA PINE (Pinus ponderosa), old-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 1.5 feet
Top d.i.b..... 8 inches
Trim allowance per log. 0.3 feet
Method..... Adjustment of volumes in table 39 of U. S. Dept. Agr. Tech. Bul. 407
Number of trees..... 798 for base table
Location of trees..... Site VI and medium Site V on the Custer and Black Hills National Forests
Accuracy..... Aggregate deviation 0.6 percent high for base table
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 34 in U. S. Dept. Agr. Tech. Bul. 407
Year..... 1934

D.b.h. (inches)	Board-foot volume when total height of tree in feet is--								
	40	50	60	70	80	90	100	110	120
10	16	26	41	58	----------	----------	----------	----------	----------
11	21	33	52	74	----------	----------	----------	----------	----------
12	26	40	66	91	----------	----------	----------	----------	----------
13	31	50	82	110	----------	----------	----------	----------	----------
14	38	61	100	130	170	200	----------	----------	----------
15	46	73	117	154	196	235	----------	----------	----------
16	55	87	135	175	227	270	----------	----------	----------
17	66	101	155	207	260	305	----------	----------	----------
18	78	117	177	236	295	348	410	470	----------
19	91	134	200	268	334	395	465	538	----------
20	104	152	226	304	378	450	520	605	675
21	116	170	253	340	425	505	595	675	752
22	130	192	283	380	475	565	660	750	840
23	144	214	315	420	528	630	730	830	930
24	158	237	350	465	585	700	815	915	1,025
25	----------	262	385	512	645	770	895	1,005	1,125
26	----------	288	425	562	705	845	980	1,100	1,225
27	----------	314	465	615	765	920	1,070	1,190	1,325
28	----------	342	505	670	828	1,000	1,160	1,280	1,430
29	----------	371	548	727	890	1,080	1,250	1,385	1,540
30	----------	400	595	782	956	1,160	1,345	1,485	1,655
31	----------	429	640	837	1,025	1,240	1,435	1,590	1,775
32	----------	458	685	895	1,100	1,320	1,535	1,700	1,900
33	----------	488	735	955	1,170	1,400	1,640	1,815	2,025
34	----------	520	790	1,015	1,240	1,490	1,745	1,935	2,150
35	----------	552	840	1,080	1,315	1,585	1,850	2,060	2,275
36	----------	587	895	1,145	1,390	1,680	1,950	2,180	2,400
37	----------	627	950	1,210	2,470	1,775	2,070	2,300	2,530
38	----------	675	1,000	1,275	1,555	1,875	2,175	2,425	2,665
39	----------	712	1,060	1,345	1,645	1,970	2,280	2,555	2,800
40	----------	755	1,125	1,420	1,730	2,070	2,390	2,680	2,935

Species..... PONDEROSA PINE (Pinus ponderosa), young-growth
Unit of measure..... Board-foot
Variables..... D. b. h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 1 to 1 1/2 feet
Top d.i.b..... 6 to 9 inches
Trim allowance per log. 0.3 feet
Method..... Frustum form factor
Number of trees..... 186
Location of trees..... Wallowa and Whitman National Forests
Accuracy..... Aggregate deviation 0.69 percent low
Author..... E. J. Hanzlik, U. S. Forest Service, Pacific Northwest Region
Source..... File report
Year..... 1926

D.b.h. (inches)	Board-foot volume when number of 16-foot logs is--									
	1	2	3	4	5	6	7	8	9	10
8	20	50	80	----------	----------	----------	----------	----------	----------	----------
9	20	50	85	----------	----------	----------	----------	----------	----------	----------
10	20	55	90	----------	----------	----------	----------	----------	----------	----------
11	25	55	95	135	----------	----------	----------	----------	----------	----------
12	25	60	105	145	----------	----------	----------	----------	----------	----------
13	25	65	110	160	----------	----------	----------	----------	----------	----------
14	25	70	120	180	230	----------	----------	----------	----------	----------
15	25	75	135	200	255	325	----------	----------	----------	----------
16	25	85	145	220	285	360	----------	----------	----------	----------
17	25	90	160	240	320	400	----------	----------	----------	----------
18	30	100	175	260	355	445	540	----------	----------	----------
19	30	110	195	285	390	490	590	----------	----------	----------
20	30	115	215	315	425	535	645	----------	----------	----------
21	30	125	235	340	465	585	700	----------	----------	----------
22	30	135	255	370	510	635	760	920	----------	----------
23	30	150	275	405	555	690	830	1,000		
24	35	160	300	440	600	745	900	1,075	----------	----------
25	35	175	325	480	645	805	970	1,160	----------	----------
26	35	190	350	520	695	865	1,040	1,245	1,460	----------
27	35	205	375	560	745	930	1,120	1,335	1,560	----------
28	40	220	400	600	800	1,000	1,205	1,430	1,660	----------
29	45	235	430	640	860	1,070	1,295	1,530	1,760	----------
30	45	255	460	685	920	1,140	1,385	1,635	1,870	2,140
31	----------	275	490	730	980	1,215	1,480	1,740	1,985	2,265
32	----------	295	515	775	1,040	1,290	1,575	1,845	2,100	2,395
33	----------	----------	545	820	1,100	1,365	1,670	1,955	2,225	2,525
34	----------	----------	575	870	1,165	1,445	1,765	2,065	2,355	2,660
35	----------	----------	605	920	1,230	1,525	1,860	2,175	2,485	2,795
36	----------	----------	630	970	1,295	1,600	1,960	2,285	2,610	2,935
37	----------	----------	660	1,015	1,360	1,680	2,055	2,395	2,740	3,080
38	----------	----------	690	1,060	1,430	1,760	2,150	2,505	2,870	3,225
39	----------	----------	720	1,115	1,500	1,840	2,250	2,615	3,000	3,375
40	----------	----------	750	1,160	1,565	1,920	2,350	2,725	3,125	3,530
41	----------	----------	780	1,210	1,635	2,000	2,445	2,840	3,255	3,690
42	----------	----------	810	1,260	1,700	2,080	2,545	2,950	3,385	3,860

TABLE 47

Species..... PONDEROSA PINE (Pinus ponderosa), old- and young-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... Not given
Top d.i.b..... 40 to 60 percent of d.b.h.
Trim allowance per log. Not given
Method..... Diameter inside bark at small end of average log equals 67 percent of d.b.h.
Number of trees..... Not given
Location of trees..... Not given
Accuracy..... Not given
Author..... J. W. Girard, Pacific Northwest Forest and Range Expt. Sta.
Source..... Forest Survey file report
Year..... 1932

D.b.h. (inches)	Volume in tens of board-feet when number of 16-foot logs is--										
	1	2	3	4	5	6	7	8	9	10	11
12	3	6	----------	----------	----------	----------	----------	----------	----------	----------	----------
14	5	11	16	----------	----------	----------	----------	----------	----------	----------	----------
16	----------	14	20	----------	----------	----------	----------	----------	----------	----------	----------
18	----------	17	25	33	----------	----------	----------	----------	----------	----------	----------
20	----------	21	32	41	----------	----------	----------	----------	----------	----------	----------
22	----------	26	39	51	66	----------	----------	----------	----------	----------	----------
24	----------	----------	48	62	80	96	----------	----------	----------	----------	----------
26	----------	----------	58	76	97	115	----------	----------	----------	----------	----------
28	----------	----------	71	91	115	138	165	----------	----------	----------	----------
30	----------	----------	82	109	137	163	192	----------	----------	----------	----------
32	----------	----------	96	127	160	190	223	----------	----------	----------	----------
34	----------	----------	111	146	183	218	255	----------	----------	----------	----------
36	----------	----------	126	167	208	248	290	----------	----------	----------	----------
38	----------	----------	----------	187	232	280	322	----------	----------	----------	----------
40	----------	----------	----------	215	265	313	360	410	470	520	----------
42	----------	----------	----------	240	290	345	400	455	520	580	----------
44	----------	----------	----------	----------	330	381	440	505	575	640	700
46	----------	----------	----------	----------	360	420	480	555	630	700	765
48	----------	----------	----------	----------	390	458	523	610	685	760	835
50	----------	----------	----------	----------	420	495	566	660	740	830	905
54	----------	----------	----------	----------	----------	565	660	768	860	960	1,040
58	----------	----------	----------	----------	----------	666	755	880	990	1,100	1,190
62	----------	----------	----------	----------	----------	734	855	1,000	1,130	1,260	1,360
66	----------	----------	----------	----------	----------	828	965	1,120	1,270	1,400	1,530
70	----------	----------	----------	----------	----------	940	1,080	1,250	1,410	1,550	1,710

Species..... PONDEROSA PINE (Pinus ponderosa), old-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 1.5 feet
Top d.i.b. ..... 8 inches
Trim allowance per log. 0.3 feet
Method..... Frustum form factor
Number of trees..... 1,020
Location of trees..... Medium and good Site III and poor Site II on the Rogue River, Payette, Lassen, and Plumas National Forests
Accuracy..... Aggregate deviation 0.4 percent low
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 36 in U. S. Dept. Agr. Tech. Bul. 407
Year..... 1934

D.b.h. (inches)	Volume in tens of board-feet when number of 16-foot logs is—											Basis, trees
	1-1/4	2	3	4	5	6	7	8	9	10	11	
10	3	6	10	14	18	----------	----------	--------	--------	--------	----------	----------
12	4	7	12	17	22	----------	----------	--------	--------	--------	----------	5
14	5	8	14	21	27	33	----------	--------	--------	--------	----------	2
16	6	10	17	25	33	40	47	54	60	--------	----------	23
18	7	11	20	30	39	48	56	66	73	--------	----------	38
20	----------	13	24	36	47	58	69	80	90	--------	----------	64
22	----------	15	28	42	55	70	82	96	109	--------	----------	49
24	----------	17	33	49	65	82	98	115	130	--------	----------	86
26	----------	20	38	58	76	96	116	136	154	--------	----------	77
28	----------	23	44	67	89	113	136	159	182	205	----------	98
30	----------	--------	51	77	102	131	158	185	212	240	----------	100
32	----------	--------	58	88	118	151	182	213	244	275	306	98
34	----------	--------	66	100	135	172	208	242	278	313	351	80
36	----------	--------	76	113	154	196	236	276	316	358	397	59
38	----------	--------	85	127	173	220	265	309	355	402	447	41
40	----------	--------	----------	142	193	246	295	346	396	448	498	59
42	----------	--------	----------	158	214	273	328	385	438	498	552	46
44	----------	--------	----------	175	238	300	363	424	485	552	610	24
46	----------	--------	----------	192	261	330	398	466	532	605	672	21
48	----------	--------	----------	210	286	361	436	510	583	664	734	21
50	----------	--------	----------	229	311	392	473	554	636	722	802	14
52	----------	--------	----------	247	337	427	515	603	691	783	873	4
54	----------	--------	----------	266	363	462	555	649	746	845	943	6
56	----------	--------	----------	--------	--------	497	599	698	802	907	1,010	1
58	----------	--------	----------	--------	--------	534	642	747	858	969	1,080	1
60	----------	--------	----------	--------	--------	572	687	803	916	1,030	1,160	2
62	----------	--------	----------	--------	--------	610	731	857	977	1,100	1,240	----------
64	----------	--------	----------	--------	--------	648	775	914	1,040	1,180	1,320	----------
66	----------	--------	----------	--------	--------	687	820	969	1,100	1,250	1,400	1
68	----------	--------	----------	--------	--------	727	869	1,020	1,170	1,320	1,470	----------
70	----------	--------	----------	--------	--------	766	921	1,080	1,230	1,390	1,550	----------
72	----------	--------	----------	--------	--------	805	975	1,130	1,300	1,460	1,630	----------
Basis, trees	----------	12	18	95	170	250	192	192	73	15	3	1,020

TABLE 49

Species..... PONDEROSA PINE (Pinus ponderosa), old-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 1.5 feet
Top d.i.b..... 8 inches
Trim allowance per log. 0.3 feet
Method..... Frustum form factor
Number of trees..... 4,960
Location of trees..... Medium and good Site IV and poor Site III on the Rogue River, Salmon, Lassen, Whitman, Boise, Coconino, and Umatilla National Forests
Accuracy..... Aggregate deviation 0.4 percent high
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 37 in U. S. Dept. Agr. Tech. Bul. 407
Year..... 1934

D.b.h. (inches)	Volume in tens of board-feet when number of 16-foot logs is--										Basis, trees
	1 1/4	2	3	4	5	6	7	8	9	10	
10	3	6	10	14	----------	----------	----------	----------	----------	----------	3
12	4	7	12	17	22	----------	----------	----------	----------	----------	56
14	5	8	15	21	27	34	----------	----------	----------	----------	123
16	6	10	18	26	34	41	49	----------	----------	----------	201
18	7	12	21	31	40	49	59	----------	----------	----------	332
20	8	13	25	37	48	60	72	----------	----------	----------	421
22	9	16	30	44	58	73	86	100	----------	----------	565
24	10	18	35	52	70	87	104	121	----------	----------	605
26	----------	21	41	61	81	102	123	145	165	----------	548
28	----------	24	47	71	95	120	145	170	195	----------	560
30	----------	28	55	82	110	140	169	199	227	----------	370
32	----------	32	63	94	126	162	195	229	261	----------	371
34	----------	36	71	107	145	184	222	260	298	335	273
36	----------	40	80	122	164	209	251	295	336	381	207
38	----------	45	90	136	184	234	282	328	375	425	123
40	----------	----------	100	151	204	260	313	365	417	471	97
42	----------	----------	110	167	226	286	345	402	460	523	42
44	----------	----------	----------	184	250	315	380	443	509	576	32
46	----------	----------	----------	201	272	345	415	485	556	633	16
48	----------	----------	----------	219	297	375	453	530	608	692	7
50	----------	----------	----------	237	322	408	490	575	659	748	4
52	----------	----------	----------	256	349	441	531	624	714	818	3
54	----------	----------	----------	275	375	475	573	671	770	870	----------
56	----------	----------	----------	----------	402	510	616	723	827	934	----------
58	----------	----------	----------	----------	431	546	660	771	882	995	1
60	----------	----------	----------	----------	460	584	704	823	937	1,060	----------
62	----------	----------	----------	----------	489	622	749	875	997	1,130	----------
64	----------	----------	----------	----------	519	661	794	932	1,060	1,200	----------
66	----------	----------	----------	----------	550	701	840	992	1,120	1,280	----------
Basis, trees	12	102	338	663	1,257	1,449	891	219	27	2	4,960

TABLE 50

Species..... PONDEROSA PINE (Pinus ponderosa), old-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 1.5 feet
Top d.i.b..... 8 inches
Trim allowance per log. 0.3 feet
Method..... Frustum form factor
Number of trees..... 7,291
Location of trees..... Good Site V and poor Site IV on the Deerlodge, Carson, San Juan, Coconino, and Bitterroot National Forests
Accuracy..... Aggregate deviation 0.6 percent low
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 38 in U. S. Dept. Agr. Tech. Bul. 407
Year..... 1934

D.b.h. (inches)	Volume in tens of board-feet when number of 16-foot logs is--								Basic, trees
	1 1/4	2	3	4	5	6	7	8	
10	3	6	10	----	----	----	----	----	36
12	4	7	12	18	----	----	----	----	398
14	5	9	15	22	28	----	----	----	603
16	6	10	18	27	34	42	----	----	770
18	7	12	22	32	42	52	----	----	855
20	8	14	26	39	51	64	75	----	835
22	10	17	31	46	62	78	91	----	808
24	11	20	37	56	74	94	112	----	773
26	----	23	44	66	89	112	134	----	651
28	----	27	52	78	105	132	160	186	508
30	----	31	60	90	121	154	187	218	379
32	----	35	68	103	139	177	214	250	278
34	----	39	77	116	157	200	242	282	157
36	----	43	87	129	176	224	270	315	97
38	----	48	95	144	195	248	297	348	54
40	----	----	104	158	215	272	326	382	29
42	----	----	114	173	235	298	357	417	23
44	----	----	124	189	257	325	391	455	12
46	----	----	135	205	279	353	425	495	9
48	----	----	----	223	303	384	462	538	8
50	----	----	----	240	328	415	500	583	5
52	----	----	----	259	354	449	540	632	1
54	----	----	----	278	380	483	580	678	----
56	----	----	----	298	408	518	622	727	----
58	----	----	----	319	435	554	665	777	2
60	----	----	----	340	462	590	710	830	----
62	----	----	----	361	491	627	755	884	----
64	----	----	----	382	520	666	800	939	----
Basis, trees	143	593	2,066	2,545	1,542	348	50	4	7,291

TABLE 51

Species..... PONDEROSA PINE (Pinus ponderosa), old-growth
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 1.5 feet
Top d.i.b..... 8 inches
Trim allowance per log. 0.3 feet
Method..... Frustum form factor
Number of trees..... 798
Location of trees..... Site VI and poor and medium Site V on the Custer and Black Hills National Forests
Accuracy..... Aggregate deviation 0.6 percent high
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 39 in U. S. Dept. Agr. Tech. Bul. 407
Year..... 1934

D.b.h. (inches)	Volume in tens of board-feet when number of 16-foot logs is--						Basis, trees
	1-1/4	2	3	4	5	6	
10	4	6	----	----	----	----	8
12	4	8	13	----	----	----	134
14	5	9	16	24	----	----	151
16	6	11	19	28	37	----	178
18	8	13	23	34	45	56	126
20	9	15	28	42	55	68	108
22	10	18	34	51	67	84	57
24	12	21	41	61	81	102	30
26	----	25	48	72	96	121	4
28	----	29	56	84	112	142	2
30	----	33	64	96	128	164	----
32	----	37	72	108	146	186	----
34	----	41	81	121	165	209	----
36	----	45	89	134	183	233	----
38	----	49	98	148	202	257	----
40	----	54	107	163	221	282	----
Basis, trees	19	165	325	247	41	1	798

TABLE 52

Species..... WESTERN HEMLOCK (Tsuga heterophylla)
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Included
Top d.i.b..... Included
Method..... Alinement chart
Number of trees..... 1,572
Location of trees..... Young and old stands in Oregon and Washington
Accuracy..... Aggregate deviation 0.11 percent high
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 46 in U. S. Dept. Agr. Tech. Bul. 544
Year..... 1937
Note..... The original table was extended below 6 inches d.b.h. and below 40 feet total height

D.b.h. (in.)	Cubic-foot volume when total height of tree in feet is--																						
	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240
2----	0.4	0.9	1.4	1.9	2.5	----	----	-----	----	----	----	----	----	---	---	----	----	-----	----	----	----	-----	-----
3----	.5	1.1	1.6	2.2	3.0	3.8	4.5	-----	----	----	----	----	----	---	---	----	----	-----	----	----	----	-----	-----
4----	.7	1.3	2.0	2.6	3.4	4.1	5.0	-----	----	----	----	----	----	---	---	----	----	-----	----	----	----	-----	-----
5----	1.0	1.7	2.4	3.2	4.0	5.0	6.0	7.1	----	----	----	----	----	---	---	----	----	-----	----	----	----	-----	-----
6----	1.4	2.2	3.0	4.0	5.1	6.2	7.5	8.8	----	----	----	----	----	---	---	----	----	-----	----	----	----	-----	-----
7----	1.9	2.8	4.1	5.3	6.4	8.1	9.5	11	----	----	----	----	----	---	---	----	----	-----	----	----	----	-----	-----
8----	2.5	3.6	5.1	6.9	8.7	10.5	12.4	14	16	18	----	----	----	---	---	----	----	-----	----	----	----	-----	-----
9----	3.5	5.3	7.1	8.9	10.5	13.0	15	17	20	22	24	----	----	---	---	----	----	-----	----	----	----	-----	-----
10----	5.4	7.4	9.0	11.0	13.0	16	18	21	23	26	29	31	34	---	---	----	----	-----	----	----	----	-----	-----
11----	----	-----	----	----	16	19	22	25	28	31	35	38	42	---	---	----	----	-----	----	----	----	-----	-----
12----	----	-----	----	----	19	23	26	30	34	37	41	44	48	51	54	58	----	-----	----	----	----	-----	-----
13----	----	-----	----	----	22	27	31	35	39	43	47	51	56	60	64	68	----	-----	----	----	----	-----	-----
14----	----	-----	----	----	26	31	36	41	45	50	54	59	64	68	73	78	----	-----	----	----	----	-----	-----
15----	----	-----	----	----	30	36	41	46	51	57	62	67	74	78	84	90	----	-----	----	----	----	-----	-----
16----	----	-----	----	----	34	40	46	52	58	64	70	76	82	88	94	101	107	114	120	----	----	-----	-----
17----	----	-----	----	----	38	45	52	58	65	72	78	85	93	98	106	113	120	126	133	----	----	-----	-----
18----	----	-----	----	----	43	50	57	65	73	80	87	95	103	110	117	125	132	139	146	----	----	-----	-----
19----	----	-----	----	----	----	56	64	72	80	89	97	105	114	122	129	138	146	151	160	----	----	-----	-----
20----	----	-----	----	----	----	61	70	80	89	98	107	117	126	133	142	151	159	167	175	183	191	-----	-----
21----	----	-----	----	----	----	----	77	87	98	107	117	128	137	146	155	164	174	182	190	199	208	-----	-----
22----	----	-----	----	----	----	----	84	95	106	117	128	138	148	158	168	178	188	197	206	215	225	-----	-----
23----	----	-----	----	----	----	----	----	102	115	127	138	150	160	172	182	192	204	213	223	233	242	-----	-----
24----	----	-----	----	----	----	----	----	110	124	138	150	162	173	184	195	207	219	229	240	251	260	-----	-----
25----	----	-----	----	----	----	----	----	118	134	148	161	174	184	194	209	222	235	246	258	269	278	-----	-----
26----	----	-----	----	----	----	----	----	125	144	158	172	185	198	210	223	237	250	262	275	288	300	-----	-----
27----	----	-----	----	----	----	----	----	-----	154	170	183	198	210	226	238	254	268	280	294	307	320	-----	-----
28----	----	-----	----	----	----	----	----	-----	164	180	195	210	225	239	254	270	284	298	312	326	340	-----	-----
29----	----	-----	----	----	----	----	----	-----	175	192	207	223	238	254	270	286	302	316	331	346	360	-----	-----
30----	----	-----	----	----	----	----	----	-----	185	202	219	236	252	268	285	303	320	335	350	366	382	-----	-----
31----	----	-----	----	----	----	----	----	-----	196	214	232	248	267	284	302	320	338	354	370	387	404	-----	-----
32----	----	-----	----	----	----	----	----	-----	208	226	245	263	281	299	319	338	356	373	391	410	425	450	470
33----	----	-----	----	----	----	----	----	-----	219	238	258	276	297	316	336	356	376	394	413	432	450	475	495
34----	----	-----	----	----	----	----	----	-----	231	251	270	291	312	332	353	375	395	415	435	455	475	500	520
35----	----	-----	----	----	----	----	----	-----	----	----	----	305	330	348	372	395	416	436	458	477	499	524	545
36----	----	-----	----	----	----	----	----	-----	----	----	----	320	345	365	390	415	435	455	480	500	525	550	570
37----	----	-----	----	----	----	----	----	-----	----	----	----	----	363	384	410	435	456	478	502	525	550	575	598
38----	----	-----	----	----	----	----	----	-----	----	----	----	----	380	405	430	455	480	500	525	550	575	600	625
39----	----	-----	----	----	----	----	----	-----	----	----	----	----	396	422	448	475	499	522	548	575	599	625	650
40----	----	-----	----	----	----	----	----	-----	----	----	----	----	415	440	465	495	520	545	570	600	625	650	675
41----	----	-----	----	----	----	----	----	-----	----	----	----	----	431	458	485	518	542	568	595	624	650	675	702
42----	----	-----	----	----	----	----	----	-----	----	----	----	----	450	475	505	540	565	590	620	650	675	700	730
43----	----	-----	----	----	----	----	----	-----	----	----	----	----	467	496	525	560	588	614	645	674	702	730	760
44----	----	-----	----	----	----	----	----	-----	----	----	----	----	485	515	545	580	610	640	670	700	730	760	790
45----	----	-----	----	----	----	----	----	-----	----	----	----	----	503	534	568	602	632	664	695	724	755	785	818
46----	----	-----	----	----	----	----	----	-----	----	----	----	----	520	550	590	625	660	690	720	750	780	810	845
47----	----	-----	----	----	----	----	----	-----	----	----	----	----	540	570	610	650	685	716	745	776	810	840	875
48----	----	-----	----	----	----	----	----	-----	----	----	----	----	560	590	630	675	710	740	770	805	840	870	905
49----	----	-----	----	----	----	----	----	-----	----	----	----	----	589	600	652	698	733	766	795	831	868	900	939
50----	----	-----	----	----	----	----	----	-----	----	----	----	----	600	630	675	720	755	790	820	860	895	930	970
51----	----	-----	----	----	----	----	----	-----	----	----	----	----	----	----	700	745	784	816	848	886	924	962	1,002
52----	----	-----	----	----	----	----	----	-----	----	----	----	----	----	----	725	770	810	840	875	915	955	995	1,035
53----	----	-----	----	----	----	----	----	-----	----	----	----	----	----	----	748	795	834	867	902	942	984	1,025	1,065
54----	----	-----	----	----	----	----	----	-----	----	----	----	----	----	----	770	820	860	895	930	975	1,015	1,055	1,095
55----	----	-----	----	----	----	----	----	-----	----	----	----	----	----	----	792	842	884	932	958	1,002	1,043	1,082	1,125
56----	----	-----	----	----	----	----	----	-----	----	----	----	----	----	----	815	865	910	945	985	1,030	1,070	1,110	1,155
57----	----	-----	----	----	----	----	----	-----	----	----	----	----	----	----	838	890	936	976	1,015	1,058	1,098	1,140	1,185
58----	----	-----	----	----	----	----	----	-----	----	----	----	----	----	----	860	915	960	1,005	1,040	1,085	1,125	1,170	1,215
59----	----	-----	----	----	----	----	----	-----	----	----	----	----	----	----	880	938	988	1,030	1,070	1,113	1,153	1,197	1,245
60----	----	-----	----	----	----	----	----	-----	----	----	----	----	----	----	900	960	1,015	1,055	1,095	1,140	1,180	1,225	1,275

Species..... WESTERN HEMLOCK (Tsuga heterophylla)
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Equivalent to d.b.h. with a 24-inch maximum
Top d.i.b..... 4 inches
Method..... Adjustment of volumes in table 46 of U. S. Dept. Agr. Tech. Bul. 544
Number of trees..... 1,572 for base table
Location of trees..... Young and old stands in Oregon and Washington
Accuracy..... Aggregate deviation for base table 0.11 percent high
Author..... J. R. Dilworth, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 6 in "Volume Tables for Permanent Sample Plots"
Year..... 1947

D.b.h. (in.)	Cubic-foot volume when total height of tree in feet is--																						
	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260
6----	2.3	3.3	4.4	5.4	6.7	6.9	-----	----	-----	----	----	-----	-----	----	----	-----	-----	-----	-----	-----	-----	-----	-----
7----	3.3	4.7	6.1	7.5	9.1	10.0	-----	----	-----	----	----	-----	-----	----	----	-----	-----	-----	-----	-----	-----	-----	-----
8----	4.3	6.1	7.9	9.6	11.5	13.1	15	17	-----	----	----	-----	-----	----	----	-----	-----	-----	-----	-----	-----	-----	-----
9----	----	8.0	10.0	12.3	14.2	16.5	18	21	-----	----	----	-----	-----	----	----	-----	-----	-----	-----	-----	-----	-----	-----
10----	----	10	12	15	17	20	22	25	28	30	33	-----	-----	----	----	-----	-----	-----	-----	-----	-----	-----	-----
11----	----	----	15	18	20	24	27	30	33	36	39	-----	-----	----	----	-----	-----	-----	-----	-----	-----	-----	-----
12----	----	----	18	22	24	28	32	35	39	42	46	49	52	56	----	-----	-----	-----	-----	-----	-----	-----	-----
13----	----	----	21	25	29	33	37	41	45	49	54	57	61	66	----	-----	-----	-----	-----	-----	-----	-----	-----
14----	----	----	24	29	34	39	43	48	52	57	62	66	71	76	----	-----	-----	-----	-----	-----	-----	-----	-----
15----	----	----	28	33	39	44	49	55	60	65	71	76	80	87	----	-----	-----	-----	-----	-----	-----	-----	-----
16----	----	----	32	38	44	50	56	62	68	74	80	86	90	99	105	112	118	-----	-----	-----	-----	-----	-----
17----	----	----	36	42	49	56	63	69	76	83	90	96	102	110	117	124	130	-----	-----	-----	-----	-----	-----
18----	----	----	40	47	54	62	70	77	84	92	100	107	114	122	129	136	143	-----	-----	-----	-----	-----	-----
19----	----	----	-----	52	60	69	77	85	93	102	111	118	126	134	142	149	157	-----	-----	-----	-----	-----	-----
20----	----	----	-----	57	66	76	85	94	103	113	122	129	138	147	155	163	171	179	187	-----	-----	-----	-----
21----	----	----	-----	----	72	83	93	103	113	123	132	136	150	160	169	177	186	194	203	-----	-----	-----	-----
22----	----	----	-----	----	79	90	101	112	123	133	143	153	163	173	183	192	201	210	220	-----	-----	-----	-----
23----	----	----	-----	----	----	96	109	121	133	144	154	165	175	186	197	207	217	227	237	-----	-----	-----	-----
24----	----	----	-----	----	----	103	117	131	143	155	166	177	188	200	212	222	233	244	254	-----	-----	-----	-----
25----	----	----	-----	----	----	110	126	140	153	166	178	189	201	214	227	238	250	262	273	-----	-----	-----	-----
26----	----	----	-----	----	----	117	136	150	164	177	190	202	215	229	242	254	267	280	292	-----	-----	-----	-----
27----	----	----	-----	----	----	----	145	160	175	189	203	216	230	245	258	271	285	298	311	-----	-----	-----	-----
28----	----	----	-----	----	----	----	155	171	186	201	216	230	245	261	275	289	303	317	331	-----	-----	-----	-----
29----	----	----	-----	----	----	----	165	181	197	213	229	244	260	277	292	307	321	336	351	-----	-----	-----	-----
30----	----	----	-----	----	----	----	175	192	209	226	242	258	275	293	310	325	340	356	372	-----	-----	-----	-----
31----	----	----	-----	----	----	----	186	209	221	239	256	273	291	310	327	343	360	377	393	-----	-----	-----	-----
32----	----	----	-----	----	----	----	197	227	234	252	270	288	308	327	345	362	380	399	414	439	459	-----	-----
33----	----	----	-----	----	----	----	207	232	245	265	284	303	324	344	363	382	401	420	438	463	483	-----	-----
34----	----	----	-----	----	----	----	218	238	257	278	299	319	340	362	382	402	422	442	462	487	507	-----	-----
35----	----	----	-----	----	----	----	-----	----	-----	292	315	335	358	381	402	421	444	464	486	511	531	-----	-----
36----	----	----	-----	----	----	----	-----	----	-----	306	331	351	376	401	421	441	466	486	511	536	556	-----	-----
37----	----	----	-----	----	----	----	-----	----	-----	----	347	370	395	420	442	462	487	510	535	560	582	-----	-----
38----	----	----	-----	----	----	----	-----	----	-----	----	364	389	414	439	464	484	509	534	559	584	609	-----	-----
39----	----	----	-----	----	----	----	-----	----	-----	-----	380	405	430	458	483	505	530	558	583	608	633	-----	-----
40----	----	----	-----	----	----	----	-----	----	-----	----	397	422	447	477	502	527	552	582	607	632	657	682	707
41----	----	----	-----	----	----	----	-----	----	-----	----	414	439	466	499	524	549	576	606	632	656	684	711	739
42----	----	----	-----	----	----	----	-----	----	-----	----	431	456	486	521	546	571	601	631	658	681	711	741	771
43----	----	----	-----	----	----	----	-----	----	-----	----	447	475	505	540	567	595	625	655	683	710	740	770	800
44----	----	----	-----	----	----	----	-----	----	-----	----	464	494	524	559	589	619	649	679	709	739	769	799	829
45----	----	----	-----	----	----	----	-----	----	-----	----	480	510	545	580	613	643	673	703	733	763	795	828	858
46----	----	----	-----	----	----	----	-----	----	-----	----	497	527	567	602	637	667	697	727	757	787	822	857	887
47----	----	----	-----	----	----	----	-----	----	-----	----	516	546	591	626	661	691	721	753	786	816	851	884	921
48----	----	----	-----	----	----	----	-----	----	-----	----	535	565	615	650	685	715	745	780	815	845	880	912	955
49----	----	----	-----	----	----	----	-----	----	-----	----	554	584	631	671	706	739	769	806	841	874	911	947	986
50----	----	----	-----	----	----	----	-----	----	-----	----	573	603	648	693	728	763	793	833	868	903	943	983	1,018
51----	----	----	-----	----	----	----	-----	----	-----	----	----	----	671	716	754	786	819	859	896	934	974	1,014	1,049
52----	----	----	-----	----	----	----	-----	----	-----	----	----	----	695	740	780	810	845	885	925	965	1,005	1,045	1,080
53----	----	----	-----	----	----	----	-----	----	-----	----	----	----	716	764	804	836	871	914	954	994	1,034	1,074	1.111
54----	----	----	-----	----	----	----	-----	----	-----	----	----	----	738	788	828	863	898	943	983	1,023	1,063	1,103	1.143
55----	----	----	-----	----	----	----	-----	----	-----	----	----	----	759	809	852	887	924	969	1,009	1,049	1.092	1,132	1,172
56----	----	----	-----	----	----	----	-----	----	-----	----	----	----	781	831	876	911	951	996	1,036	1,076	1,121	1,161	1,201
57----	----	----	-----	----	----	----	-----	----	-----	----	----	----	802	852	899	939	979	1,022	1,062	1,104	1,149	1,189	1,232
58----	----	----	-----	----	----	----	-----	----	-----	----	----	----	823	873	923	968	1,008	1,048	1,088	1,133	1,178	1,218	1,263
59----	----	----	-----	----	----	----	-----	----	-----	----	----	----	842	897	949	992	1,032	1.074	1,114	1,159	1,207	1,249	1,297
60----	----	----	-----	----	----	----	-----	----	-----	----	----	----	861	921	976	1,016	1,056	1,101	1,141	1,186	1,236	1,281	1,331

TABLE 54

Species..... WESTERN HEMLOCK (Tsuga heterophylla)
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... International 1/8-inch kerf
Scaling length for logs. 16 feet
Stump height..... 2 feet
Top d.i.b. ..... 6 inches
Trim allowance per log. 0.3 feet
Method..... Alinement chart
Number of trees..... 1,566
Location of trees..... Young and old stands in Oregon and Washington
Accuracy..... Aggregate deviation 0.56 percent high
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 47 in U. S. Dept. Agr. Tech. Bul. 544
Year..... 1937

D.b.h. (inches)	Volume in tens of board-feet when total height of tree in feet is--																					
	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260
8--------	2	3	4	5	7	8	9	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
10--------	6	8	9	11	13	15	16	17	20	22	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
12--------	10	12	14	17	19	22	24	26	29	32	35	37	40	-----	-----	-----	-----	-----	-----	-----	-----	-----
14--------	14	17	20	24	27	30	34	37	40	44	48	53	58	-----	-----	-----	-----	-----	-----	-----	-----	-----
16--------	---	22	27	31	36	40	45	49	54	59	63	68	76	81	86	91	-----	-----	-----	-----	-----	-----
18--------	---	28	34	40	46	51	57	63	69	75	81	88	95	101	107	113	-----	-----	-----	-----	-----	-----
20--------	---	34	41	49	57	64	71	78	86	93	100	108	116	123	130	138	145	153	-----	-----	-----	-----
22--------	---	---	---	59	68	77	86	95	104	113	121	130	137	145	153	162	170	178	-----	-----	-----	-----
24--------	---	---	---	---	81	92	102	112	123	133	143	152	160	169	178	188	197	207	-----	-----	-----	-----
26--------	---	---	---	---	95	108	120	132	143	154	164	174	184	194	204	215	226	237	-----	-----	-----	-----
28--------	---	---	---	---	-----	125	139	151	163	175	187	198	209	220	232	245	257	270	-----	-----	-----	-----
30--------	---	---	---	---	-----	143	157	170	185	197	211	214	236	249	263	276	290	304	-----	-----	-----	-----
32--------	---	---	---	---	-----	160	175	190	205	220	235	250	264	279	294	309	325	340	355	370	-----	-----
34--------	---	---	---	---	-----	177	195	213	230	246	263	280	295	310	325	345	360	380	395	415	-----	-----
36--------	---	---	---	---	-----	-----	-----	----	255	270	290	320	325	345	360	380	400	420	435	455	-----	-----
38--------	---	---	---	---	-----	-----	-----	----	-----	300	320	340	355	375	395	420	440	460	480	500	-----	-----
40--------	---	---	---	---	-----	-----	-----	----	-----	325	350	370	390	415	435	460	480	500	525	545	570	600
42--------	---	---	---	---	-----	-----	-----	----	-----	355	380	405	425	450	475	500	525	550	570	595	625	660
44--------	---	---	---	---	-----	-----	-----	----	-----	385	410	440	460	485	510	540	570	595	615	645	680	720
46--------	---	---	---	---	-----	-----	-----	----	-----	420	445	475	500	525	550	580	615	645	670	700	735	775
48--------	---	---	---	---	-----	-----	-----	----	-----	450	480	510	540	570	600	630	665	695	720	755	795	835
50--------	---	---	---	---	-----	-----	-----	----	-----	480	515	545	580	610	640	680	715	745	775	810	850	895
52--------	---	---	---	---	-----	-----	-----	----	-----	-----	550	590	620	660	690	730	765	800	830	870	910	955
54--------	---	---	---	---	-----	-----	-----	----	-----	-----	590	630	670	705	740	780	820	850	890	930	970	1,010
56--------	---	---	---	---	-----	-----	-----	----	-----	-----	-----	670	710	750	790	830	870	905	940	990	1,030	1,070
58--------	---	---	---	---	-----	-----	-----	----	-----	-----	-----	720	760	800	840	880	920	960	1,000	1,050	1,100	1,140
60--------	---	---	---	---	-----	-----	-----	----	-----	-----	-----	760	800	840	885	935	975	1,015	1,060	1,120	1,170	1,220

TABLE 55

Species..... WESTERN HEMLOCK (Tsuga heterophylla)
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... International 1/4-inch kerf
Scaling length for logs. 16 feet
Stump height..... 2 feet
Top d.i.b..... 6 inches
Trim allowance per log. 0.3 feet
Method..... Adjustment of volumes in table 47 of U. S. Dept. Agr. Tech. Bul. 544
Number of trees..... 1,566 for base table
Location of trees..... Young and old stands in Oregon and Washington
Accuracy..... Aggregate deviation for base table 0.56 percent high
Author..... E. C. Skinner, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 11 in "Volume Tables for Permanent Sample Plots"
Year..... 1953

D.b.h. (inches)	Volume in tens of board-feet when total height of tree in feet is--																					
	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260
8--------	2	3	4	5	6	7	8	----	----	----	-----	----	----	----	-----	----	----	----	----	----	-----	-----
9--------	4	5	6	8	9	10	11	----	----	----	-----	----	----	----	-----	----	----	----	----	----	-----	-----
10--------	5	7	8	10	12	14	14	15	18	20	-----	----	----	----	-----	----	----	----	----	----	-----	-----
11--------	7	9	10	12	14	17	18	20	22	24	-----	----	----	----	-----	----	----	----	----	----	-----	-----
12--------	9	11	13	15	17	20	22	24	26	29	32	33	36	----	-----	----	----	----	----	----	-----	-----
13--------	11	13	16	18	20	24	26	28	31	34	38	40	44	----	-----	----	----	----	----	----	-----	-----
14--------	13	15	18	22	24	27	31	33	36	40	43	48	52	----	-----	----	----	----	----	----	-----	-----
15--------	---	18	21	25	28	32	36	38	42	46	50	55	60	----	-----	----	----	----	----	----	-----	-----
16--------	---	20	24	28	33	36	41	44	49	53	57	62	69	73	78	82	----	----	----	----	-----	-----
17--------	---	22	28	32	38	41	46	50	56	60	65	71	78	82	88	92	----	----	----	----	-----	-----
18--------	---	25	31	36	42	46	52	57	62	68	73	80	86	91	97	102	----	----	----	----	-----	-----
19--------	---	28	34	40	47	52	58	64	70	76	82	89	96	101	108	114	----	----	----	----	-----	-----
20--------	---	31	37	44	52	58	64	71	78	84	90	98	105	111	118	125	131	138	----	----	-----	-----
21--------	---	---	--	48	57	64	71	78	86	93	100	108	114	121	128	136	142	150	----	----	-----	-----
22--------	---	---	--	53	62	70	78	86	94	102	110	118	124	131	138	147	154	161	----	----	-----	-----
23--------	---	---	--	---	68	76	85	94	102	111	120	128	134	142	150	158	166	174	----	----	-----	-----
24--------	---	---	--	---	73	83	92	101	111	120	129	138	145	153	161	170	178	187	----	----	-----	-----
25--------	---	---	--	---	80	90	100	110	120	130	138	148	156	164	173	182	192	200	----	----	-----	-----
26--------	---	---	--	---	86	98	109	119	129	139	148	157	167	176	185	195	205	214	----	----	-----	-----
27--------	---	---	--	---	-----	106	118	128	138	148	158	168	178	188	198	208	219	229	----	----	-----	-----
28--------	---	---	--	---	-----	113	126	137	148	158	169	179	189	199	210	222	233	244	----	----	-----	-----
29--------	---	---	--	---	-----	121	134	146	158	168	180	186	202	212	224	236	248	260	----	----	-----	-----
30--------	---	---	--	---	-----	129	142	154	167	178	191	194	214	225	238	250	262	275	----	----	-----	-----
31--------	---	---	--	---	-----	137	150	163	176	188	202	210	226	238	252	265	278	292	----	----	-----	-----
32--------	---	---	--	---	-----	145	158	172	186	199	213	226	239	252	266	280	294	308	321	335	-----	-----
33--------	---	---	--	---	-----	152	167	182	197	211	226	240	253	266	280	296	310	326	339	356	-----	-----
34--------	---	---	--	---	-----	160	176	193	208	223	238	253	267	281	294	312	326	344	357	376	-----	-----
35--------	---	---	--	---	-----	----	-----	----	220	234	250	272	280	296	310	328	344	362	376	394	-----	-----
36--------	---	---	--	---	-----	----	-----	----	231	244	262	290	294	312	326	344	362	380	394	412	-----	-----
37--------	---	---	--	---	-----	----	-----	----	----	258	276	299	308	326	342	362	380	398	414	432	-----	-----
38--------	---	---	--	---	-----	----	-----	----	----	272	290	308	321	339	357	380	398	416	434	452	-----	-----
39--------	---	---	--	---	-----	----	-----	----	----	283	304	322	337	358	376	398	416	434	454	472	-----	-----
40--------	---	---	--	---	-----	----	-----	----	----	294	317	335	353	376	394	416	434	452	475	493	516	543
41--------	---	---	--	---	-----	----	-----	----	----	308	330	351	369	392	412	434	454	475	496	516	541	570
42--------	---	---	--	---	-----	----	-----	----	----	321	344	367	385	407	430	452	475	498	516	538	566	597
43--------	---	---	--	---	-----	----	-----	----	----	334	358	382	400	423	446	470	496	518	536	561	590	624
44--------	---	---	--	---	-----	----	-----	----	----	348	371	398	416	439	462	489	516	538	557	584	615	652
45--------	---	---	--	---	-----	----	-----	----	----	364	387	414	434	457	480	507	536	561	582	609	640	676
46--------	---	---	--	---	-----	----	-----	----	----	380	403	430	452	475	498	525	557	584	606	634	665	701
47--------	---	---	--	---	-----	----	-----	----	----	394	418	446	470	496	520	548	580	606	629	658	692	728
48--------	---	---	--	---	-----	----	-----	----	----	407	434	462	489	516	543	570	602	629	652	683	719	756
49--------	---	---	--	---	-----	----	-----	----	----	421	450	478	507	534	561	592	624	652	676	708	744	783
50--------	---	---	--	---	-----	----	-----	----	----	434	466	493	525	552	579	615	647	674	701	733	769	810
51--------	---	---	--	---	-----	----	-----	----	----	----	482	514	543	574	602	638	670	699	726	760	796	838
52--------	---	---	--	---	-----	----	-----	----	----	----	498	534	561	597	624	661	692	724	751	787	824	864
53--------	---	---	--	---	-----	----	-----	----	----	----	516	552	584	618	647	684	717	746	778	814	851	889
54--------	---	---	--	---	-----	----	-----	----	----	----	534	570	606	638	670	706	742	769	805	842	878	914
55--------	---	---	--	---	-----	----	-----	----	----	----	-----	588	624	658	692	728	764	794	828	869	905	941
56--------	---	---	--	---	-----	----	-----	----	----	----	-----	606	643	679	715	751	787	819	851	896	932	968
57--------	---	---	--	---	-----	----	-----	----	----	----	-----	629	666	702	738	774	810	844	878	923	964	1,000
58--------	---	---	--	---	-----	----	-----	----	----	----	-----	652	688	724	760	796	833	869	905	950	996	1,032
59--------	---	---	--	---	-----	----	-----	----	----	----	-----	670	706	742	780	821	858	894	932	982	1,028	1,068
60--------	---	---	--	---	-----	----	-----	----	----	----	-----	688	724	760	801	846	882	919	959	1,014	1,059	1,104

TABLE 56

Species..... WESTERN HEMLOCK (Tsuga Heterophylla)
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 2 feet
Top d.i.b..... 8 inches
Trim allowance per log. 0.3 feet
Method..... Alinement chart
Number of trees..... 1,461
Location of trees..... Young and old stands in Oregon and Washington
Accuracy..... Aggregate deviation 0.06 percent low
Author..... W.H.Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 48 in U. S. Dept. Agr. Tech. Bul. 544
Year..... 1937
Note..... Values for odd d.b.h.'s added in 1953

D.b.h. (inches)	Volume in tens of board-feet when total height of tree in feet is--																				
	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260
12	8	10	12	14	15	17	19	20	22	23	24	26	-----	-----	-----	-----	-----	-----	-----	-----	-----
13	10	12	15	17	19	21	23	25	27	29	30	33	-----	-----	-----	-----	-----	-----	-----	-----	-----
14	12	15	18	20	23	25	27	30	32	35	37	40	-----	-----	-----	-----	-----	-----	-----	-----	-----
15	14	17	21	24	27	30	32	35	38	41	44	47	-----	-----	-----	-----	-----	-----	-----	-----	-----
16	17	20	24	28	32	35	38	41	44	48	52	55	59	63	67	-----	-----	-----	-----	-----	-----
17	19	23	28	32	37	40	44	47	51	56	59	63	67	72	77	-----	-----	-----	-----	-----	-----
18	22	27	32	37	42	46	50	54	58	64	67	71	76	82	88	-----	-----	-----	-----	-----	-----
19	25	30	36	41	47	52	56	61	65	71	75	79	84	91	97	-----	-----	-----	-----	-----	-----
20	28	34	40	46	52	58	63	68	73	79	83	87	93	100	107	113	118	-----	-----	-----	-----
21	-----	38	44	51	58	64	70	75	81	87	92	97	103	109	116	122	128	-----	-----	-----	-----
22	-----	42	49	56	64	71	77	83	90	96	101	107	113	119	125	132	138	-----	-----	-----	-----
23	-----	-----	54	62	70	77	84	91	98	105	111	117	124	130	137	144	150	-----	-----	-----	-----
24	-----	-----	60	68	76	84	92	99	107	114	121	128	135	142	150	157	163	-----	-----	-----	-----
25	-----	-----	-----	74	82	91	100	108	116	124	131	139	147	155	165	172	178	-----	-----	-----	-----
26	-----	-----	-----	80	89	98	108	117	125	134	142	150	159	168	180	187	194	-----	-----	-----	-----
27	-----	-----	-----	-----	96	106	116	126	135	144	153	162	172	182	194	203	210	-----	-----	-----	-----
28	-----	-----	-----	-----	104	114	124	135	145	155	165	175	186	197	209	222	227	-----	-----	-----	-----
29	-----	-----	-----	-----	112	122	132	144	155	166	177	188	199	211	224	235	244	-----	-----	-----	-----
30	-----	-----	-----	-----	120	130	141	153	165	177	189	201	213	225	239	250	262	-----	-----	-----	-----
31	-----	-----	-----	-----	127	138	150	163	175	188	201	209	227	240	254	266	279	-----	-----	-----	-----
32	-----	-----	-----	-----	135	147	160	173	186	200	214	218	241	255	270	282	296	310	324	-----	-----
33	-----	-----	-----	-----	-----	155	169	183	198	207	227	237	256	271	286	300	314	329	343	-----	-----
34	-----	-----	-----	-----	-----	163	178	194	210	215	240	256	271	287	303	318	333	348	363	-----	-----
35	-----	-----	-----	-----	-----	-----	-----	205	221	232	254	271	287	303	319	335	351	366	382	-----	-----
36	-----	-----	-----	-----	-----	-----	-----	216	233	250	268	286	303	319	336	353	370	385	401	-----	-----
37	-----	-----	-----	-----	-----	-----	-----	-----	246	264	283	301	319	335	354	371	389	405	421	-----	-----
38	-----	-----	-----	-----	-----	-----	-----	-----	259	278	298	316	336	352	372	390	408	425	442	-----	-----
39	-----	-----	-----	-----	-----	-----	-----	-----	271	291	312	331	351	370	389	408	427	444	462	-----	-----
40	-----	-----	-----	-----	-----	-----	-----	-----	283	304	326	347	367	387	407	427	446	464	483	503	523
41	-----	-----	-----	-----	-----	-----	-----	-----	296	318	341	363	383	403	426	446	465	484	504	526	546
42	-----	-----	-----	-----	-----	-----	-----	-----	310	332	356	379	400	420	445	465	485	505	525	550	570
43	-----	-----	-----	-----	-----	-----	-----	-----	323	349	371	394	417	437	462	482	505	527	547	572	595
44	-----	-----	-----	-----	-----	-----	-----	-----	337	367	387	410	435	455	480	500	525	550	570	595	620
45	-----	-----	-----	-----	-----	-----	-----	-----	350	378	401	425	450	472	497	520	545	570	592	617	642
46	-----	-----	-----	-----	-----	-----	-----	-----	363	390	415	440	465	490	515	540	565	590	615	640	665
47	-----	-----	-----	-----	-----	-----	-----	-----	376	405	430	457	482	507	535	560	585	612	637	665	690
48	-----	-----	-----	-----	-----	-----	-----	-----	390	420	445	475	500	525	550	580	605	635	660	690	715
49	-----	-----	-----	-----	-----	-----	-----	-----	402	432	460	490	517	545	575	600	625	655	682	712	740
50	-----	-----	-----	-----	-----	-----	-----	-----	415	445	475	505	535	565	595	620	645	675	705	735	765
51	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	490	522	552	582	612	640	667	697	727	760	790
52	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	505	540	570	600	630	660	690	720	750	785	815
53	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	522	557	587	617	650	680	712	742	775	810	840
54	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	540	575	605	635	670	700	735	765	800	835	865
55	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	555	590	622	652	690	720	755	787	822	860	890
56	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	570	605	640	670	710	740	775	810	845	885	915
57	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	585	622	657	690	730	762	797	832	870	907	942
58	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	600	640	675	710	750	785	820	855	895	930	970
59	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	615	655	692	725	767	802	837	875	912	955	995
60	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	630	670	710	740	785	820	855	895	930	980	1,020

TABLE 57

Species..... WESTERN HEMLOCK (Tsuga heterophylla)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 2 feet
Top d.i.b. ..... 8 inches
Trim allowance per log. 0.3 feet
Method..... Alinement chart
Number of trees..... 1,526
Location of trees..... Young and old stands in Oregon and Washington
Accuracy..... Aggregate deviation 0.25 percent low
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 49 in U. S. Dept. Agr. Tech. Bul. 544
Year..... 1937

D.b.h. (inches)	Volume in tens of board-feet when number of 16-foot logs is--											
	2	3	4	5	6	7	8	9	10	11	12	13
12----------	10	16	22	--------	--------	--------	--------	--------	--------	--------	--------	----------
14----------	12	19	27	34	--------	--------	--------	--------	--------	--------	--------	----------
16----------	14	22	32	41	50	--------	--------	--------	--------	--------	--------	----------
18----------	15	26	37	49	60	70	--------	--------	--------	--------	--------	----------
20----------	17	30	43	57	71	83	96	--------	--------	--------	--------	----------
22----------	19	34	50	67	83	97	113	129	--------	--------	--------	----------
24----------	21	39	58	77	96	113	132	150	168	184	--------	----------
26----------	24	45	67	88	110	131	152	172	192	212	231	----------
28----------	27	51	76	100	126	150	173	195	219	240	263	----------
30----------	---------	57	85	113	142	169	194	219	247	270	298	325
32----------	---------	64	94	126	158	188	216	244	274	302	333	360
34----------	---------	71	104	140	174	207	239	270	303	334	368	400
36----------	---------	77	115	154	190	226	262	297	332	367	400	435
38----------	---------	85	126	168	207	247	286	325	364	400	440	470
40----------	---------	---------	138	182	226	269	311	354	396	435	475	515
42----------	---------	---------	150	196	246	292	337	384	430	470	510	555
44----------	---------	---------	162	212	266	316	365	410	460	505	550	600
46----------	---------	---------	173	228	286	339	393	440	490	540	590	640
48----------	---------	---------	184	244	306	362	420	470	525	580	630	680
50----------	---------	---------	196	260	326	386	445	500	560	615	670	725
52----------	---------	---------	--------	276	344	408	470	530	590	650	710	765
54----------	---------	---------	--------	290	362	427	490	555	620	680	745	805
56----------	---------	---------	--------	303	380	446	510	580	650	710	780	845
58----------	---------	---------	--------	317	396	465	535	610	675	740	815	885
60----------	---------	---------	--------	330	412	485	560	635	700	770	850	925

TABLE 58

Species..... WESTERN HEMLOCK (Tsuga heterophylla)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... Equivalent to d.b.h.
Top d.i.b. ..... 8 inches
Trim allowance per log. 0.2 feet
Method..... Not given; presumably harmonized curves
Number of trees..... 1,440
Location of trees..... Various elevations in western Washington
Accuracy..... Not given
Author..... E. J. Hanzlik, U. S. Forest Service, Pacific Northwest Region
Source..... File report
Year..... 1912

D.b.h. (inches)	Volume in tens of board-feet when number of 16-foot logs is--									
	2	3	4	5	6	7	8	9	10	11
12	9	16	21	----------	----------	----------	----------	----------	----------	----------
13	10	17	23	28	32	----------	----------	----------	----------	----------
14	----------	18	26	31	37	44	----------	----------	----------	----------
15	----------	19	29	35	42	49	----------	----------	----------	----------
16	----------	21	32	39	47	55	----------	----------	----------	----------
17	----------	23	35	43	52	61	----------	----------	----------	----------
18	----------	26	39	47	58	68	78	----------	----------	----------
19	----------	----------	42	52	64	76	87	----------	----------	----------
20	----------	----------	46	57	71	84	96	----------	----------	----------
21	----------	----------	50	62	77	91	104	----------	----------	----------
22	----------	----------	54	67	84	100	112	140	----------	----------
23	----------	----------	57	73	90	108	122	148	----------	----------
24	----------	----------	----------	80	96	116	130	156	----------	----------
25	----------	----------	----------	86	104	124	139	165	----------	----------
26	----------	----------	----------	92	112	133	148	174	----------	----------
27	----------	----------	----------	100	120	141	158	184	----------	----------
28	----------	----------	----------	106	128	149	167	193	226	----------
29	----------	----------	----------	113	139	158	177	204	237	----------
30	----------	----------	----------	121	147	168	186	214	248	----------
31	----------	----------	----------	----------	156	177	197	226	260	----------
32	----------	----------	----------	----------	165	186	208	238	274	----------
33	----------	----------	----------	----------	173	195	219	250	288	----------
34	----------	----------	----------	----------	181	204	229	263	305	353
35	----------	----------	----------	----------	190	213	242	278	323	376
36	----------	----------	----------	----------	----------	222	253	293	343	404
37	----------	----------	----------	----------	----------	231	266	310	366	436
38	----------	----------	----------	----------	----------	240	280	330	393	477
39	----------	----------	----------	----------	----------	250	294	351	424	519
40	----------	----------	----------	----------	----------	259	308	378	460	561

Species..... WESTERN HEMLOCK (Tsuga heterophylla)
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... Scribner
Scaling length for logs. 32 feet
Stump height..... 2 feet
Top d.i.b..... 12 inches
Trim allowance per log. 0.6 feet
Method..... Alinement chart
Number of trees..... 1,573
Location of trees..... Young and old stands in Oregon and Washington
Accuracy..... Aggregate deviation 0.67 percent high
Author..... W.H.Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 50 in U. S. Dept. Agr. Tech. Bul. 544
Year..... 1937

D.b.h. (inches)	Volume in tens of board-feet when total height of tree in feet is—																				
	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260
14	6	7	8	9	10	11	12	14	16	18	21	24	----	----	----	----	----	----	----	----	----
16	12	13	15	17	19	21	24	27	30	34	38	41	43	45	48	----	----	----	----	----	----
18	19	21	23	26	29	32	36	40	45	50	54	57	61	65	69	----	----	----	----	----	----
20	27	29	32	35	38	43	48	54	60	65	70	75	81	88	94	100	104	----	----	----	----
22	35	38	41	45	49	54	61	68	75	81	88	94	101	108	113	118	123	----	----	----	----
24	44	47	51	55	60	66	74	82	90	98	105	113	120	128	133	142	148	----	----	----	----
26	----	----	62	67	72	78	86	95	106	116	124	133	142	151	158	166	175	----	----	----	----
28	----	----	----	78	85	93	103	115	125	135	145	155	165	175	185	195	205	----	----	----	----
30	----	----	----	----	99	108	119	131	144	156	167	178	190	201	213	224	235	----	----	----	----
32	----	----	----	----	113	122	135	149	163	177	189	202	215	229	242	255	267	279	292	----	----
34	----	----	----	----	126	137	152	167	183	198	211	227	242	257	271	285	300	315	330	----	----
36	----	----	----	----	----	----	169	185	203	221	236	253	269	286	303	320	336	351	367	----	----
38	----	----	----	----	----	----	----	205	225	244	260	280	298	317	335	353	370	390	405	----	----
40	----	----	----	----	----	----	----	225	245	265	285	305	325	345	365	385	405	425	445	465	490
42	----	----	----	----	----	----	----	----	265	290	320	335	355	375	400	420	445	465	485	505	535
44	----	----	----	----	----	----	----	----	286	315	335	360	380	405	430	455	480	500	525	550	575
46	----	----	----	----	----	----	----	----	310	336	360	385	410	440	465	490	505	540	565	590	620
48	----	----	----	----	----	----	----	----	332	362	388	415	440	470	500	530	555	580	610	640	670
50	----	----	----	----	----	----	----	----	355	385	415	445	475	505	540	570	595	625	655	685	715
52	----	----	----	----	----	----	----	----	----	----	445	475	505	540	575	610	640	670	700	730	765
54	----	----	----	----	----	----	----	----	----	----	475	510	545	575	615	650	680	710	745	780	815
56	----	----	----	----	----	----	----	----	----	----	505	540	575	615	650	690	720	755	790	830	865
58	----	----	----	----	----	----	----	----	----	----	540	575	610	650	690	730	770	800	840	880	915
60	----	----	----	----	----	----	----	----	----	----	570	605	645	690	730	770	810	850	890	930	970

TABLE 60

Species..... WESTERN HEMLOCK (Tsuga heterophylla)
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... Scribner
Scaling length for logs. 32 feet
Stump height..... 2 feet
Top d.i.b..... 8 inches
Trim allowance per log. 0.6 feet
Method..... Adjustment of volumes in tables 48 and 50 in U. S. Dept. Agr. Tech. Bul. 544
Number of trees..... 1,461 and 1,573 for base tables
Location of trees..... Young and old stands in Oregon and Washington
Accuracy..... Aggregate deviations for base tables 0.06 percent low and 0.67 percent high
Author..... H. A. Rapraeger, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 2 in Research Note No. 82
Year..... 1952

D.b.h. (inches)	Volume in tens of board-feet when total height of tree in feet is--																				
	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260
12-----	8	9	10	12	13	15	16	18	20	22	24	26	----	----	----	----	----	----	----	----	------
14-----	12	14	16	18	20	22	24	27	30	32	35	38	----	----	----	----	----	----	----	----	------
16-----	16	19	21	24	27	30	33	36	40	44	47	51	54	57	60	----	----	----	----	----	------
18-----	21	24	28	31	34	39	43	48	52	56	61	66	70	74	78	----	----	----	----	----	------
20-----	27	31	34	38	43	48	53	59	65	71	76	83	88	92	97	102	107	----	----	----	------
22-----	35	38	42	47	52	58	64	71	79	86	93	100	107	113	118	124	130	----	----	----	------
24-----	44	47	51	56	62	69	76	85	94	102	110	118	127	134	140	147	154	----	----	----	------
26-----	----	----	62	67	74	81	89	99	109	119	128	137	147	155	164	172	180	----	----	----	------
28-----	----	----	----	78	86	94	104	115	126	137	148	158	169	179	190	200	210	----	----	----	------
30-----	----	----	----	----	99	108	119	131	144	157	169	180	193	204	216	228	240	----	----	----	------
32-----	----	----	----	----	113	122	135	149	163	177	190	203	217	231	244	258	271	284	298	----	------
34-----	----	----	----	----	126	137	152	167	183	198	213	228	243	258	273	288	303	318	333	----	------
36-----	----	----	----	----	----	----	169	185	203	221	236	253	269	286	303	320	336	353	370	----	------
38-----	----	----	----	----	----	----	----	205	225	244	260	280	298	317	335	353	370	389	407	----	------
40-----	----	----	----	----	----	----	----	----	245	265	285	305	325	345	365	385	405	436	446	467	492
42-----	----	----	----	----	----	----	----	----	265	290	310	330	355	375	400	420	445	465	485	506	536
44-----	----	----	----	----	----	----	----	----	286	315	335	360	380	405	430	455	480	500	525	550	575
46-----	----	----	----	----	----	----	----	----	310	336	360	385	410	440	465	490	520	540	565	590	620
48-----	----	----	----	----	----	----	----	----	332	362	388	415	440	470	500	530	555	580	610	640	670
50-----	----	----	----	----	----	----	----	----	355	385	415	445	475	505	540	570	595	625	655	685	715
52-----	----	----	----	----	----	----	----	----	----	----	445	475	505	540	575	610	640	670	700	730	765
54-----	----	----	----	----	----	----	----	----	----	----	475	510	545	575	615	650	680	710	745	780	815
56-----	----	----	----	----	----	----	----	----	----	----	505	540	575	615	650	690	720	755	790	830	865
58-----	----	----	----	----	----	----	----	----	----	----	540	575	610	650	690	730	770	800	840	880	915
60-----	----	----	----	----	----	----	----	----	----	----	570	605	645	690	730	770	810	850	890	930	970

Species..... WESTERN HEMLOCK (Tsuga heterophylla)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 32-foot logs
Log rule..... Scribner
Scaling length for logs. 32 feet
Stump height..... 2 feet
Top d.i.b..... 12 inches
Trim allowance per log. 0.6 feet
Method..... Alinement chart
Number of trees..... 1,293
Location of trees..... Young and old stands in Oregon and Washington
Accuracy..... Aggregate deviation 0.08 percent low
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 51 in U. S. Dept. Agr. Tech. Bul. 544
Year..... 1937

D.b.h. (inches)	Volume in tens of board-feet when number of 32-foot logs is--									
	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6
14	26	39	45	----------	----------	----------	----------	----------	----------	----------
16	29	43	54	65	----------	----------	----------	----------	----------	----------
18	31	47	61	74	88	----------	----------	----------	----------	----------
20	33	51	68	84	99	117	----------	----------	----------	----------
22	36	57	76	95	113	137	154	----------	----------	----------
24	39	63	84	106	130	154	174	200	225	----------
26	41	68	92	117	144	170	191	220	250	285
28	44	74	101	129	158	186	211	244	275	315
30	47	80	110	141	172	203	232	267	300	345
32	----------	86	120	154	187	222	255	290	330	375
34	----------	93	131	168	203	243	278	316	360	410
36	----------	100	142	181	220	264	300	342	390	440
38	----------	108	153	195	238	286	325	370	420	475
40	----------	116	164	210	258	308	351	400	450	510
42	----------	125	176	226	278	332	378	430	485	550
44	----------	133	188	242	298	357	405	460	520	585
46	----------	140	199	258	317	379	430	490	555	625
48	----------	148	211	274	337	400	460	520	590	660
50	----------	157	224	291	356	425	485	550	625	700
52	----------	----------	236	304	375	450	510	580	650	730
54	----------	----------	247	318	390	470	530	605	680	760
56	----------	----------	256	333	405	490	555	630	705	790
58	----------	----------	265	345	420	505	575	650	730	820
60	----------	----------	274	355	440	520	595	670	750	845

TABLE 62

Species..... WESTERN HEMLOCK (Tsuga heterophylla)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 32 feet (top logs in 16-foot lengths)
Stump height..... Not given
Top d.i.b..... 11 to 16 inches
Trim allowance per log. Not given
Method..... D.i.b. at small end of average log equal to (d.b.h. + 8)/2
Number of trees..... Not given
Location of trees..... Oregon and Washington
Accuracy..... Not given
Author..... J. W. Girard, Pacific Northwest Forest and Range Expt. Sta.
Source..... Forest Survey file report
Year..... 1940

D.b.h. (inches)	Volume in tens of board-feet when number of 16-foot logs is--								
	2	3	4	5	6	7	8	9	10
16	17	24	32	----------	----------	----------	----------	----------	----------
18	20	30	40	----------	----------	----------	----------	----------	----------
20	22	33	44	55	----------	----------	----------	----------	----------
22	----------	42	56	64	84	----------	----------	----------	----------
24	----------	48	64	80	96	----------	----------	----------	----------
26	----------	----------	72	90	108	126	----------	----------	----------
28	----------	----------	84	105	126	147	----------	----------	----------
30	----------	----------	----------	120	144	168	192	----------	----------
32	----------	----------	----------	140	168	196	224	----------	----------
34	----------	----------	----------	150	180	210	240	270	----------
36	----------	----------	----------	165	198	231	264	297	----------
38	----------	----------	----------	190	228	266	304	342	----------
40	----------	----------	----------	----------	240	280	320	360	----------
42	----------	----------	----------	----------	276	322	368	414	----------
44	----------	----------	----------	----------	300	350	400	450	----------
46	----------	----------	----------	----------	330	385	440	495	----------
48	----------	----------	----------	----------	348	406	464	522	----------
50	----------	----------	----------	----------	----------	427	488	549	610
54	----------	----------	----------	----------	----------	497	568	639	710
58	----------	----------	----------	----------	----------	546	624	702	780
62	----------	----------	----------	----------	----------	616	704	792	880
66	----------	----------	----------	----------	----------	721	824	927	1,030
70	----------	----------	----------	----------	----------	784	896	1,008	1,120

Species..... WESTERN HEMLOCK (Tsuga heterophylla)
Unit of measure..... Cords
Variables..... D.b.h. and total height
Stump height..... Included
Top d.i.b..... Included
Method..... Conversion factors applied to table 46 of U. S. Dept. Agr. Tech. Bul. 544
Number of trees..... 1,572 for base table
Location of trees..... Young and old stands in Oregon and Washington
Accuracy..... Not given
Author..... J. E. Lodewick, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 52 in U. S. Dept. Agr. Tech. Bul. 544
Year..... 1937
Note..... The cords in this table are in terms of stacked, peeled, and usually split wood. The standard 4- by 4- by 8-inch cord is implied.

D.b.h. (inches)	Volume in cords when total height of tree in feet is--																						
	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260
8	0.03	0.05	0.07	0.08	0.09	0.10	0.12	0.14	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
10	----	.09	.11	.14	.15	.18	.20	.22	0.25	0.27	0.29	----	----	----	----	----	----	----	----	----	----	----	----
12	----	----	.18	.22	.24	.28	.32	.35	.39	.41	.45	0.48	0.51	0.55	----	----	----	----	----	----	----	----	----
14	----	----	.26	.31	.36	.41	.45	.50	.54	.59	.64	.68	.73	.78	----	----	----	----	----	----	----	----	----
16	----	----	.35	.41	.48	.54	.60	.66	.72	.79	.85	.91	.97	1.04	1.10	1.18	1.24	----	----	----	----	----	----
18	----	----	.46	.53	.60	.69	.77	.85	.92	1.01	1.09	1.16	1.24	1.32	1.40	1.47	1.54	----	----	----	----	----	----
20	----	----	----	.65	.75	.85	.95	1.04	1.14	1.25	1.34	1.42	1.51	1.61	1.69	1.78	1.86	1.95	2.03	----	----	----	----
22	----	----	----	----	.89	1.01	1.12	1.24	1.35	1.46	1.57	1.67	1.78	1.88	1.99	2.08	2.18	2.28	2.38	----	----	----	----
24	----	----	----	----	----	1.15	1.30	1.44	1.57	1.70	1.81	1.93	2.04	2.17	2.29	2.40	2.51	2.63	2.73	----	----	----	----
26	----	----	----	----	----	1.29	1.48	1.63	1.77	1.91	2.04	2.16	2.30	2.44	2.58	2.70	2.83	2.97	3.09	----	----	----	----
28	----	----	----	----	----	----	1.68	1.84	2.00	2.15	2.30	2.45	2.60	2.76	2.91	3.05	3.19	3.34	3.48	----	----	----	----
30	----	----	----	----	----	----	1.89	2.07	2.24	2.41	2.58	2.74	2.92	3.10	3.27	3.43	3.58	3.75	3.91	----	----	----	----
32	----	----	----	----	----	----	2.13	2.34	2.51	2.69	2.86	3.0	3.3	3.5	3.6	3.8	4.0	4.2	4.4	4.6	4.8	----	----
34	----	----	----	----	----	----	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2	4.5	4.7	4.9	5.1	5.3	----	----
36	----	----	----	----	----	----	----	----	----	3.3	3.5	3.7	4.0	4.3	4.5	4.7	4.9	5.1	5.4	5.6	5.8	----	----
38	----	----	----	----	----	----	----	----	----	----	3.9	4.1	4.4	4.7	4.9	5.1	5.4	5.6	5.9	6.1	6.4	----	----
40	----	----	----	----	----	----	----	----	----	----	4.2	4.5	4.8	5.1	5.3	5.6	5.8	6.1	6.4	6.7	6.9	7.2	7.4
42	----	----	----	----	----	----	----	----	----	----	4.6	4.9	5.2	5.5	5.8	6.0	6.3	6.7	6.9	7.2	7.5	7.8	8.1
44	----	----	----	----	----	----	----	----	----	----	5.0	5.3	5.6	5.9	6.2	6.5	6.9	7.2	7.5	7.8	8.1	8.4	8.7
46	----	----	----	----	----	----	----	----	----	----	5.3	5.6	6.0	6.4	6.8	7.1	7.4	7.7	8.0	8.3	8.6	9.0	9.3
48	----	----	----	----	----	----	----	----	----	----	5.7	6.0	6.5	6.9	7.3	7.6	7.9	8.2	8.6	8.9	9.3	9.6	10.0
50	----	----	----	----	----	----	----	----	----	----	6.1	6.4	6.9	7.4	7.7	8.1	8.4	8.8	9.2	9.5	9.9	10.3	10.7
52	----	----	----	----	----	----	----	----	----	----	----	----	7.4	7.9	8.3	8.6	9.0	9.4	9.8	10.2	10.6	11.0	11.4
54	----	----	----	----	----	----	----	----	----	----	----	----	7.9	8.4	8.8	9.2	9.5	10.0	10.4	10.8	11.2	11.6	12.0
56	----	----	----	----	----	----	----	----	----	----	----	----	8.3	8.9	9.3	9.7	10.1	10.5	10.9	11.4	11.8	12.2	12.6
58	----	----	----	----	----	----	----	----	----	----	----	----	8.8	9.4	9.8	10.3	10.7	11.1	11.5	12.0	12.4	12.7	13.3
60	----	----	----	----	----	----	----	----	----	----	----	----	9.2	9.8	10.4	10.8	11.2	11.7	12.1	12.5	13.0	13.5	14.0

TABLE 64

Species..... SITKA SPRUCE (Picea sitchensis)
Unit of measure..... Cubic foot
Variables..... Diameter inside bark at 18 feet and total height
Stump height..... Included
Top d.i.b. ..... Included
Method..... Alinement chart
Number of trees..... 590 old growth and 680 young growth
Location of trees..... Oregon, Washington, British Columbia, and Alaska
Accuracy..... Aggregate deviation 0.4 percent low
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 53 in U. S. Dept. Agr. Tech. Bul. 544
Year..... 1937
Note..... For conversion of diameter inside bark at 18 feet to d.b.h. see Appendix

Diameter inside bark at 18 feet (inches)	Cubic-foot volume when total height of tree in feet is--												
	20	40	60	80	100	120	130	160	180	200	220	240	260
2	0.9	1.2	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
4	1.8	3.0	4.2	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
6	3.3	5.9	8.7	11	-------	-------	-------	-------	-------	-------	-------	-------	-------
8	-------	10.9	14	18	22	-------	-------	-------	-------	-------	-------	-------	-------
10	-------	14.5	21	28	34	-------	-------	-------	-------	-------	-------	-------	-------
12	-------	20.0	29	39	47	55	-------	-------	-------	-------	-------	-------	-------
14	-------	-------	39	51	62	73	84	-------	-------	-------	-------	-------	-------
16	-------	-------	49	65	80	95	112	125	-------	-------	-------	-------	-------
18	-------	-------	61	81	101	120	139	155	172	-------	-------	-------	-------
20	-------	-------	74	99	124	144	166	185	202	225	-------	-------	-------
22	-------	-------	89	120	147	170	195	220	246	275	-------	-------	-------
24	-------	-------	108	140	170	198	227	260	291	320	350	-------	-------
26	-------	-------	126	160	195	231	265	302	338	370	410	-------	-------
28	-------	-------	-------	182	223	266	305	348	388	430	470	510	-------
30	-------	-------	-------	203	257	302	350	395	443	490	535	580	-------
32	-------	-------	-------	234	289	340	395	445	500	550	610	660	710
34	-------	-------	-------	-------	323	380	445	500	560	620	685	740	800
36	-------	-------	-------	-------	358	425	495	560	625	700	760	825	900
38	-------	-------	-------	-------	395	475	545	620	700	775	840	920	1,000
40	-------	-------	-------	-------	440	520	600	690	775	860	940	1,020	1,100
42	-------	-------	-------	-------	-------	570	660	760	850	945	1,030	1,120	1,200
44	-------	-------	-------	-------	-------	620	725	830	930	1,030	1,120	1,220	1,310
46	-------	-------	-------	-------	-------	680	790	900	1,010	1,115	1,220	1,320	1,430
48	-------	-------	-------	-------	-------	740	860	980	1,090	1,200	1,320	1,440	1,560
50	-------	-------	-------	-------	-------	800	930	1,060	1,180	1,300	1,430	1,570	1,690
52	-------	-------	-------	-------	-------	-------	1,000	1,130	1,270	1,410	1,550	1,700	1,830
54	-------	-------	-------	-------	-------	-------	1,070	1,210	1,370	1,520	1,680	1,830	1,990
56	-------	-------	-------	-------	-------	-------	1,150	1,300	1,480	1,630	1,810	1,970	2,150
58	-------	-------	-------	-------	-------	-------	1,220	1,400	1,590	1,750	1,940	2,120	2,300
60	-------	-------	-------	-------	-------	-------	1,300	1,500	1,700	1,880	2,080	2,270	2,450
62	-------	-------	-------	-------	-------	-------	-------	1,600	1,800	2,010	2,220	2,420	2,600
64	-------	-------	-------	-------	-------	-------	-------	1,710	1,920	2,140	2,360	2,550	2,750
66	-------	-------	-------	-------	-------	-------	-------	1,810	2,040	2,280	2,500	2,700	2,900
68	-------	-------	-------	-------	-------	-------	-------	1,930	2,170	2,410	2,640	2,850	3,060
70	-------	-------	-------	-------	-------	-------	-------	2,050	2,300	2,540	2,780	3,000	3,220
72	-------	-------	-------	-------	-------	-------	-------	-------	2,430	2,670	2,920	3,150	3,380
74	-------	-------	-------	-------	-------	-------	-------	-------	2,560	2,810	3,060	3,300	3,540
76	-------	-------	-------	-------	-------	-------	-------	-------	2,690	2,950	3,210	3,450	3,700
78	-------	-------	-------	-------	-------	-------	-------	-------	2,830	3,090	3,360	3,600	3,860
80	-------	-------	-------	-------	-------	-------	-------	-------	2,960	3,230	3,510	3,770	4,030

TABLE 65

Species..... SITKA SPRUCE (Picea sitchensis)
Unit of measure..... Cubic foot
Variables..... Diameter inside bark at 18 feet and total height
Stump height..... Equivalent to d.b.h. with a 24-inch maximum
Top d.i.b..... 4 inches
Method..... Adjustment of volumes in table 53 of U. S. Dept. Agr. Tech. Bul. 544
Number of trees..... 590 old growth and 680 young growth
Location of trees..... Oregon, Washington, British Columbia, and Alaska
Accuracy..... Aggregate deviation for base table 0.4 percent low
Author..... J. R. Dilworth, Pacific Northwest Forest and Range Expt. Sta.
Source..... Forest Survey file report
Year..... 1947
Note..... For conversion of diameter inside bark at 18 feet to d.b.h. see Appendix

D.i.b. at 18 feet (inches)	Cubic-foot volume when total height of tree in feet is—												
	20	40	60	80	100	120	140	160	180	200	220	240	260
2	0.0	0.0	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
4	0.8	2.0	3.2	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
6	2.4	5.0	7.8	10.1	--------	--------	--------	--------	--------	--------	--------	--------	--------
8	--------	9.9	13.0	17.0	21.0	--------	--------	--------	--------	--------	--------	--------	--------
10	--------	13.1	19.6	26.6	32.6	--------	--------	--------	--------	--------	--------	--------	--------
12	--------	17.8	27	37	45	53	--------	--------	--------	--------	--------	--------	--------
14	--------	--------	35	47	58	69	80	--------	--------	--------	--------	--------	--------
16	--------	--------	44	60	75	90	107	120	--------	--------	--------	--------	--------
18	--------	--------	54	74	94	113	132	148	165	--------	--------	--------	--------
20	--------	--------	65	90	115	135	157	176	193	216	--------	--------	--------
22	--------	--------	78	109	136	159	184	209	235	264	--------	--------	--------
24	--------	--------	95	127	157	185	214	247	278	307	337	--------	--------
26	--------	--------	111	145	180	216	250	287	323	355	395	--------	--------
28	--------	--------	--------	165	206	249	288	331	371	413	453	493	--------
30	--------	--------	--------	184	238	283	331	376	424	471	516	561	--------
32	--------	--------	--------	212	267	318	373	423	478	528	588	638	688
34	--------	--------	--------	--------	299	356	421	476	536	596	661	716	776
36	--------	--------	--------	--------	332	399	469	534	599	674	734	799	874
38	--------	--------	--------	--------	366	436	516	591	671	746	811	891	971
40	--------	--------	--------	--------	409	489	569	659	744	829	909	989	1,071
42	--------	--------	--------	--------	--------	536	626	726	816	911	996	1,086	1,166
44	--------	--------	--------	--------	--------	584	689	794	894	994	1,084	1,184	1,274
46	--------	--------	--------	--------	--------	641	751	861	971	1,076	1,181	1,281	1,391
48	--------	--------	--------	--------	--------	698	818	939	1,048	1,158	1,278	1,398	1,518
50	--------	--------	--------	--------	--------	756	886	1,016	1,136	1,256	1,386	1,526	1,646
52	--------	--------	--------	--------	--------	--------	953	1,083	1,223	1,363	1,503	1,653	1,783
54	--------	--------	--------	--------	--------	--------	1,020	1,160	1,320	1,470	1,630	1,780	1,940
56	--------	--------	--------	--------	--------	--------	1,098	1,248	1,428	1,578	1,758	1,918	2,098
58	--------	--------	--------	--------	--------	--------	1,166	1,346	1,536	1,696	1,886	2,066	2,246
60	--------	--------	--------	--------	--------	--------	1,243	1,443	1,643	1,823	2,023	2,213	2,393
62	--------	--------	--------	--------	--------	--------	--------	1,540	1,740	1,950	2,160	2,360	2,540
64	--------	--------	--------	--------	--------	--------	--------	1,648	1,858	2,078	2,298	2,488	2,688
66	--------	--------	--------	--------	--------	--------	--------	1,746	1,976	2,216	2,436	2,636	2,836
68	--------	--------	--------	--------	--------	--------	--------	1,864	2,104	2,344	2,574	2,781	2,994
70	--------	--------	--------	--------	--------	--------	--------	1,981	2,231	2,471	2,711	2,931	3,151
72	--------	--------	--------	--------	--------	--------	--------	--------	2,359	2,599	2,849	3,079	3,309
74	--------	--------	--------	--------	--------	--------	--------	--------	2,487	2,737	2,987	3,227	3,467
76	--------	--------	--------	--------	--------	--------	--------	--------	2,616	2,876	3,136	3,376	3,626
78	--------	--------	--------	--------	--------	--------	--------	--------	2,754	3,014	3,284	3,524	3,784
80	--------	--------	--------	--------	--------	--------	--------	--------	2,882	3,152	3,432	3,692	3,952

TABLE 66

Species..... SITKA SPRUCE (Picea sitchensis)
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Equivalent to d.b.h. with a 24-inch maximum
Top d.i.b..... 4 inches
Method..... Conversion of diameter inside bark at 18 feet to d.b.h. through use of table in Appendix, and adjustment of volumes in table 53 of U. S. Dept. Agr. Tech. Bul. 544
Number of trees..... 590 old growth and 680 young growth for base table
Location of trees..... Oregon, Washington, British Columbia, and Alaska
Accuracy..... Aggregate deviation for base table 0.4 percent low
Author..... J. R. Dilworth, Pacific Northwest Forest and Range Expt. Sta.
Source..... Forest Survey file report
Year..... 1947

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--												
	20	40	60	80	100	120	140	160	180	200	220	240	260
6	1.3	2.9	4.6	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
8	--------	6.0	9.1	11.5	--------	--------	--------	--------	--------	--------	--------	--------	--------
10	--------	9.9	13.7	18.0	22.2	--------	--------	--------	--------	--------	--------	--------	--------
12	--------	13.1	19.6	26.6	32.6	--------	--------	--------	--------	--------	--------	--------	--------
14	--------	17	25	34	42	--------	--------	--------	--------	--------	--------	--------	--------
16	--------	--------	30	41	50	60	--------	--------	--------	--------	--------	--------	--------
18	--------	--------	37	50	62	75	--------	--------	--------	--------	--------	--------	--------
20	--------	--------	44	60	75	90	107	120	--------	--------	--------	--------	--------
22	--------	--------	51	70	87	107	125	140	--------	--------	--------	--------	--------
24	--------	--------	59	82	103	124	144	162	179	--------	--------	--------	--------
26	--------	--------	68	95	119	142	164	185	203	230	--------	--------	--------
28	--------	--------	78	108	136	159	184	209	235	264	--------	--------	--------
30	--------	--------	90	121	151	179	207	237	268	296	--------	--------	--------
32	--------	--------	103	134	168	200	232	267	301	331	366	--------	--------
34	--------	--------	--------	147	183	220	255	293	331	364	404	--------	
36	--------	--------	--------	160	200	241	280	322	361	401	441	--------	--------
38	--------	--------	--------	173	219	264	307	352	395	439	481	524	--------
40	--------	--------	--------	187	241	287	335	381	430	476	523	568	--------
42	--------	--------	--------	204	258	308	360	409	462	511	565	612	--------
44	--------	--------	--------	--------	277	329	387	439	495	548	610	661	714
46	--------	--------	--------	--------	294	350	414	468	527	586	650	704	763
48	--------	--------	--------	--------	314	375	443	502	564	631	694	753	820
50	--------	--------	--------	--------	332	399	469	534	599	674	734	799	874
52	--------	--------	--------	--------	370	447	520	600	680	754	823	901	981
54	--------	--------	--------	--------	--------	501	583	676	762	850	931	1,013	1,095
56	--------	--------	--------	--------	--------	520	610	703	791	882	966	1,052	1,133
58	--------	--------	--------	--------	--------	541	632	733	824	919	1,005	1,096	1,177
60	--------	--------	--------	--------	--------	563	664	765	863	961	1,049	1,145	1,231
62	--------	--------	--------	--------	--------	593	698	804	906	1,006	1,099	1,199	1,292
64	--------	--------	--------	--------	--------	630	739	848	956	1,060	1,162	1,262	1,368
66	--------	--------	--------	--------	--------	672	788	904	1,013	1,121	1,234	1,345	1,461
68	--------	--------	--------	--------	--------	721	845	970	1,083	1,197	1,321	1,449	1,569
70	--------	--------	--------	--------	--------	--------	909	1,039	1,166	1,293	1,427	1,570	1,694
72	--------	--------	--------	--------	--------	--------	980	1,114	1,262	1,406	1,554	1,704	1,846
74	--------	--------	--------	--------	--------	--------	1,063	1,209	1,379	1,529	1,700	1,856	2,030
76	--------	--------	--------	--------	--------	--------	1,156	1,331	1,521	1,678	1,867	2,044	2,220
78	--------	--------	--------	--------	--------	--------	--------	1,471	1,671	1,861	2,064	2,260	2,440
80	--------	--------	--------	--------	--------	--------	--------	1,632	1,840	1,959	2,277	2,469	2,670
82	--------	--------	--------	--------	--------	--------	--------	1,827	2,053	2,293	2,519	2,723	2,930
84	--------	--------	--------	--------	--------	--------	--------	--------	2,295	2,535	2,780	3,005	3,230
86	--------	--------	--------	--------	--------	--------	--------	--------	2,571	2,827	3,084	3,324	3,570
88	--------	--------	--------	--------	--------	--------	--------	--------	2,882	3,152	3,432	3,692	3,950

Species..... SITKA SPRUCE (Picea sitchensis)
Unit of measure..... Board-foot
Variables..... Diameter inside bark at 18 feet and total height
Log rule..... International 1/8-inch kerf
Scaling length for logs. 16 feet
Stump height..... 2 feet
Top d.i.b..... 6 inches
Trim allowance per log. 0.3 feet
Method..... Alinement chart
Number of trees..... 505 old growth and 635 young growth
Location of trees..... Oregon, Washington, British Columbia, and Alaska
Accuracy..... Aggregate deviation 0.15 percent high
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 54 in U. S. Dept. Agr. Tech. Bul. 544
Year..... 1937
Note..... For conversion of diameter inside bark at 18 feet to d.b.h. see Appendix.

Diameter inside bark at 18 feet (inches)	Volume in tens of board-feet when Volume height of tree in feet is-										
	40	60	80	100	120	140	160	180	200	220	240
8	4	6	9	----	----	----	----	----	----	----	----
10	7	11	15	19	----	----	----	----	----	----	----
12	10	16	22	28	35	----	----	----	----	----	----
14	14	22	31	40	49	57	----	----	----	----	----
16	17	29	41	53	64	75	87	----	----	----	----
18	22	37	52	66	82	96	112	127	----	----	----
20	----	45	64	82	100	118	136	155	----	----	----
22	----	55	77	98	122	142	163	188	210	----	----
24	----	65	90	118	144	170	195	225	250	----	----
26	----	75	106	138	170	200	230	260	290	315	----
28	----	----	123	160	196	233	270	300	335	365	----
30	----	----	142	183	226	266	305	345	380	420	450
32	----	----	160	210	260	300	345	390	430	470	510
34	----	----	----	236	290	340	385	435	480	530	570
36	----	----	----	265	325	380	430	485	540	590	650
38	----	----	----	294	360	420	475	540	600	660	720
40	----	----	----	325	395	460	525	600	670	740	800
42	----	----	----	----	430	510	580	660	740	810	890
44	----	----	----	----	470	560	640	730	820	890	980
46	----	----	----	----	510	610	700	800	900	980	1,080
48	----	----	----	----	560	670	770	870	980	1,070	1,170
50	----	----	----	----	610	720	830	950	1,060	1,170	1,280
52	----	----	----	----	----	780	910	1,030	1,150	1,270	1,380
54	----	----	----	----	----	850	980	1,110	1,240	1,370	1,500
56	----	----	----	----	----	910	1,040	1,200	1,330	1,470	1,610
58	----	----	----	----	----	980	1,120	1,290	1,430	1,580	1,730
60	----	----	----	----	----	1,040	1,210	1,380	1,530	1,700	1,850

TABLE 68

Species..... SITKA SPRUCE (Picea sitchensis)
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... International 1/4-inch kerf
Scaling length for logs. 16 feet
Stump height..... 2 feet
Top d.i.b..... 6 inches
Trim allowance per log. 0.3 feet
Method..... Conversion of diameter inside bark at 18 feet to d.b.h. through use of table in Appendix, and adjustment of volumes in table 54 of U. S. Dept. Agr. Tech. Bul. 544
Number of trees..... 1,139 for base table
Location of trees..... Oregon, Washington, British Columbia, and Alaska
Accuracy..... Aggregate deviation for base table 0.15 percent high
Author..... E. C. Skinner, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 12 in "Volume Tables for Permanent Sample Plots"
Year..... 1953

D.b.h. (inches)	Volume in tens of board-feet when total height of tree in feet is--																		
	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220
8	2	----	-----	-----	-----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
9	3	----	-----	-----	-----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
10	4	5	6	7	9	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
11	5	7	8	9	11	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
12	6	8	10	11	13	14	17	23	28	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
13	7	9	12	14	15	18	20	25	31	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
14	8	11	14	16	18	21	24	29	34	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
15	10	13	15	18	21	24	27	33	38	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
16	11	14	18	22	24	28	32	37	43	47	52	-----	-----	-----	-----	-----	-----	-----	-----
17	13	16	20	24	28	33	36	42	47	52	56	-----	-----	-----	-----	-----	-----	-----	-----
18	14	18	23	27	31	36	41	47	52	57	62	69	76	-----	-----	-----	-----	-----	-----
19	15	20	25	30	34	40	45	51	57	62	68	75	82	-----	-----	-----	-----	-----	-----
20	16	23	29	33	38	43	50	56	62	69	74	81	89	-----	-----	-----	-----	-----	-----
21	18	25	32	37	43	49	55	62	69	75	81	89	95	-----	-----	-----	-----	-----	-----
22	20	27	34	41	47	53	60	67	74	81	89	96	103	110	119	-----	-----	-----	-----
23	----	----	38	45	52	58	65	72	81	89	97	103	110	119	129	-----	-----	-----	-----
24	----	----	41	49	56	63	71	80	87	96	104	111	119	129	138	-----	-----	-----	-----
25	----	----	43	52	61	69	78	86	94	103	112	119	128	138	149	-----	-----	-----	-----
26	----	----	47	56	65	74	84	93	102	111	120	129	138	148	160	-----	-----	-----	-----
27	----	----	50	60	70	80	90	100	110	119	129	138	147	159	172	182	192	-----	-----
28	----	----	53	63	74	85	97	107	118	128	138	147	157	170	184	194	205	-----	-----
29	----	----	56	68	80	91	103	114	126	136	147	157	167	182	196	206	217	-----	-----
30	----	----	60	72	85	98	110	121	134	145	157	167	178	194	208	219	231	-----	-----
31	----	----	63	78	90	103	116	129	143	155	167	178	190	205	221	233	244	-----	-----
32	----	----	67	81	95	109	123	138	152	165	176	188	201	217	233	246	258	272	285
33	----	----	-----	-----	100	116	130	146	161	174	186	199	213	230	246	259	272	286	300
34	----	----	-----	-----	106	121	138	154	170	183	196	210	224	242	259	272	285	300	314
35	----	----	-----	-----	110	127	144	162	180	194	207	223	238	254	271	285	300	315	329
36	----	----	-----	-----	116	134	151	170	189	203	217	233	250	266	283	299	314	329	345
37	----	----	-----	-----	122	141	159	179	199	214	228	245	262	280	297	313	329	345	360
38	----	----	-----	-----	128	147	167	187	208	224	240	257	275	293	310	328	344	360	376
39	----	----	-----	-----	133	154	174	195	217	233	251	269	287	305	323	340	358	375	392
40	----	----	-----	-----	139	161	182	205	226	244	262	281	300	319	338	355	373	391	408
41	----	----	-----	-----	145	167	190	214	236	255	273	293	312	331	351	370	389	407	425
42	----	----	-----	-----	-----	----	198	222	245	265	285	305	325	346	366	386	405	423	441
43	----	----	-----	-----	-----	----	206	231	255	276	297	317	338	358	379	400	420	439	458
44	----	----	-----	-----	-----	----	214	239	264	286	309	329	350	371	393	414	435	455	475
45	----	----	-----	-----	-----	----	223	248	274	297	320	342	364	386	407	430	452	473	494
46	----	----	-----	-----	-----	----	231	257	284	308	332	355	376	399	422	446	471	492	514
47	----	----	-----	-----	-----	----	240	267	294	319	344	367	389	413	437	463	489	511	534
48	----	----	-----	-----	-----	----	248	276	304	330	357	380	403	428	453	481	509	531	554
49	----	----	-----	-----	-----	----	257	286	315	342	369	393	416	443	471	499	527	551	576
50	----	----	-----	-----	-----	----	266	295	325	353	382	405	430	458	487	516	546	572	597
51	----	----	-----	-----	-----	----	275	306	336	366	395	415	436	471	505	535	565	592	620
52	----	----	-----	-----	-----	----	284	315	346	376	407	433	460	491	523	554	585	614	643
53	----	----	-----	-----	-----	----	293	325	357	389	421	449	476	509	541	574	605	636	667
54	----	----	-----	-----	-----	----	-----	-----	367	401	434	463	492	527	560	594	626	657	688
55	----	----	-----	-----	-----	----	-----	-----	378	413	448	478	509	544	579	614	648	681	712
56	----	----	-----	-----	-----	----	-----	-----	389	425	462	493	525	562	599	634	670	702	736
57	----	----	-----	-----	-----	----	-----	-----	401	438	476	509	542	581	619	655	692	726	759
58	----	----	-----	-----	-----	----	-----	-----	413	452	491	525	560	605	647	682	718	749	782
59	----	----	-----	-----	-----	----	-----	-----	424	465	506	543	579	619	659	700	742	774	805
60	----	----	-----	-----	-----	----	-----	-----	436	480	522	559	595	633	670	722	774	802	929

Species..... SITKA SPRUCE (Picea sitchensis)
Unit of measure..... Board-foot
Variables..... Diameter inside bark at 18 feet and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 2 feet
Top d.i.b..... 8 inches
Trim allowance per log. 0.3 feet
Method..... Alinement chart
Number of trees..... 600 old growth and 628 young growth
Location of trees..... Oregon, Washington, British Columbia, and Alaska
Accuracy..... Aggregate deviation 0.50 percent high
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 56 in U. S. Dept. Agr. Tech. Bul. 544
Year..... 1935
Note..... For conversion of diameter inside bark at 18 feet to d.b.h. see Appendix

Diameter inside bark at 18 feet (inches)	Volume in tens of board-feet when number of 16-foot logs is--													
	2	3	4	5	6	7	8	9	10	11	12	13	14	15
8	7	11	------	------	------	------	------	------	------	------	------	------	------	------
10	9	15	21	26	------	------	------	------	------	------	------	------	------	------
12	11	19	27	34	------	------	------	------	------	------	------	------	------	------
14	13	23	32	42	------	------	------	------	------	------	------	------	------	------
16	16	28	38	50	62	73	------	------	------	------	------	------	------	------
18	18	32	45	60	75	88	100	------	------	------	------	------	------	------
20	21	37	53	71	88	110	120	135	------	------	------	------	------	------
22	24	43	63	84	110	123	145	165	185	200	------	------	------	------
24	27	49	73	97	120	145	170	195	215	240	260	------	------	------
26	30	56	83	112	140	170	195	225	245	280	300	330	350	------
28	33	64	95	126	160	195	220	255	285	320	350	380	410	440
30	37	72	107	143	180	215	250	290	325	360	400	430	465	500
32	------	80	119	160	200	245	280	325	365	405	455	485	520	560
34	------	90	131	180	225	270	315	360	405	450	500	540	585	630
36	------	100	145	198	250	300	345	400	450	500	550	600	650	700
38	------	110	160	217	275	330	380	440	495	550	600	660	710	770
40	------	120	177	236	300	360	420	480	540	600	660	720	780	840
42	------	------	193	258	325	390	460	525	590	660	720	790	850	910
44	------	------	209	280	350	425	500	570	640	720	780	860	920	990
46	------	------	225	302	380	460	540	620	690	780	850	930	1,000	1,080
48	------	------	242	325	415	500	580	670	750	840	920	1,010	1,090	1,180
50	------	------	260	350	445	535	630	720	810	900	990	1,090	1,180	1,270
52	------	------	------	375	480	570	670	770	870	970	1,070	1,170	1,270	1,370
54	------	------	------	405	510	610	720	830	930	1,040	1,150	1,260	1,380	1,490
56	------	------	------	430	545	660	770	890	990	1,120	1,230	1,350	1,480	1,600
58	------	------	------	460	580	700	820	950	1,060	1,200	1,300	1,450	1,580	1,700
60	------	------	------	490	620	750	880	1,010	1,130	1,270	1,400	1,560	1,680	1,800
62	------	------	------	------	660	800	930	1,070	1,210	1,360	1,500	1,660	1,790	1,900
64	------	------	------	------	700	850	980	1,140	1,290	1,460	1,600	1,760	1,890	2,040
66	------	------	------	------	740	900	1,040	1,210	1,370	1,550	1,700	1,860	2,000	2,170
68	------	------	------	------	780	950	1,110	1,290	1,460	1,640	1,800	1,970	2,130	2,300
70	------	------	------	------	820	1,000	1,180	1,370	1,550	1,730	1,900	2,090	2,250	2,430
72	------	------	------	------	------	1,060	1,240	1,450	1,630	1,820	2,000	2,200	2,380	2,580
74	------	------	------	------	------	1,120	1,310	1,540	1,720	1,920	2,120	2,320	2,520	2,720
76	------	------	------	------	------	1,190	1,380	1,620	1,810	2,020	2,230	2,460	2,660	2,850
78	------	------	------	------	------	1,250	1,460	1,700	1,900	2,130	2,350	2,600	2,800	3,000
80	------	------	------	------	------	1,310	1,550	1,780	2,000	2,230	2,490	2,730	2,940	3,180

TABLE 70

Species..... SITKA SPRUCE (Picea sitchensis)
Unit of measure..... Board-foot
Variables..... Diameter inside bark at 18 feet and total height
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 2 feet
Top d.i.b..... 8 inches
Trim allowance per log. 0.3 feet
Method..... Alinement chart
Number of trees..... 599 old growth and 492 young growth
Location of trees..... Oregon, Washington, British Columbia, and Alaska
Accuracy..... Aggregate deviation 0.14 percent high
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 55 in U. S. Dept. Agr. Tech. Bul. 544
Year..... 1935
Note..... For conversion of diameter inside bark at 18 feet to d.b.h. see Appendix

Diameter inside bark at 18 feet (inches)	Volume in tens of board-feet when total height of tree in feet is—											
	40	60	80	100	120	140	160	180	200	220	240	260
10	3	6	9	11	13	—	—	—	—	—	—	—
12	8	13	18	22	25	29	—	—	—	—	—	—
14	12	18	24	30	36	41	47	—	—	—	—	—
16	15	23	32	39	48	58	65	—	—	—	—	—
18	18	29	40	52	64	76	88	100	—	—	—	—
20	—	35	50	66	82	98	112	125	138	—	—	—
22	—	43	63	83	103	120	137	156	172	—	—	—
24	—	52	77	101	124	145	167	187	208	230	—	—
26	—	62	91	118	144	170	195	220	245	270	—	—
28	—	—	106	137	168	197	225	257	290	315	340	—
30	—	—	121	157	190	225	265	300	330	355	385	—
32	—	—	137	178	218	260	300	333	370	405	440	470
34	—	—	—	200	247	295	335	375	415	460	500	540
36	—	—	—	225	278	327	372	420	465	520	560	610
38	—	—	—	250	310	360	410	470	520	580	630	680
40	—	—	—	283	340	400	460	525	590	650	710	770
42	—	—	—	—	370	440	515	585	650	720	790	860
44	—	—	—	—	410	490	570	645	720	800	870	950
46	—	—	—	—	450	540	620	705	790	870	960	1,050
48	—	—	—	—	490	585	670	770	860	950	1,060	1,150
50	—	—	—	—	530	630	730	830	930	1,040	1,160	1,250
52	—	—	—	—	—	685	790	900	1,020	1,140	1,250	1,350
54	—	—	—	—	—	740	860	980	1,120	1,230	1,340	1,450
56	—	—	—	—	—	800	920	1,070	1,210	1,320	1,430	1,550
58	—	—	—	—	—	860	1,000	1,160	1,290	1,410	1,540	1,660
60	—	—	—	—	—	920	1,080	1,240	1,380	1,510	1,640	1,770
62	—	—	—	—	—	—	1,160	1,320	1,470	1,610	1,750	1,890
64	—	—	—	—	—	—	1,240	1,400	1,560	1,710	1,870	2,020
66	—	—	—	—	—	—	1,320	1,490	1,650	1,820	1,980	2,150
68	—	—	—	—	—	—	1,390	1,580	1,750	1,930	2,100	2,290
70	—	—	—	—	—	—	1,470	1,670	1,850	2,050	2,230	2,430
72	—	—	—	—	—	—	—	1,760	1,960	2,170	2,350	2,560
74	—	—	—	—	—	—	—	1,860	2,070	2,290	2,500	2,690
76	—	—	—	—	—	—	—	1,960	2,180	2,400	2,630	2,830
78	—	—	—	—	—	—	—	2,060	2,300	2,540	2,760	3,000
80	—	—	—	—	—	—	—	2,170	2,420	2,670	2,900	3,140

Species..... SITKA SPRUCE (Picea sitchensis)
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 2 feet
Top d.i.b..... 8 inches
Trim allowance per log. 0.3 feet
Method..... Adjustment of volumes in table 55 of U. S. Dept. Agr. Tech. Bul. 544
Number of trees..... 599 old growth and 492 young growth for base table
Location of trees..... Oregon, Washington, British Columbia, and Alaska
Accuracy..... Aggregate deviation for base table 0.14 percent high
Author..... E. C. Skinner, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 16 in "Volume Tables for Permanent Sample Plots"
Year..... 1953

D.b.h. (inches)	Volume in tens of board-feet when total height of tree in feet is--																		
	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220
12------	3	4	6	8	10	11	12	13	14	------	------	------	------	------	------	------	------	------	------
13------	5	7	9	11	13	14	16	17	18	------	------	------	------	------	------	------	------	------	------
14------	7	9	11	14	16	18	20	22	24	26	27	------	------	------	------	------	------	------	------
15------	9	12	14	16	18	21	24	26	28	30	33	------	------	------	------	------	------	------	------
16------	11	14	16	19	22	25	28	31	34	36	39	44	48	------	------	------	------	------	------
17------	13	16	19	22	25	28	32	36	40	43	46	50	54	------	------	------	------	------	------
18------	14	18	22	25	28	32	36	41	46	50	53	56	60	------	------	------	------	------	------
19------	15	20	24	28	32	36	40	46	51	55	59	62	66	------	------	------	------	------	------
20------	16	21	26	30	35	40	44	50	57	62	66	70	73	------	------	------	------	------	------
21------	17	22	28	34	39	44	49	56	63	68	74	77	80	------	------	------	------	------	------
22------	18	24	30	36	42	48	54	62	70	76	81	85	89	94	100	------	------	------	------
23------	------	------	32	39	46	52	59	68	76	82	88	92	97	104	110	------	------	------	------
24------	------	------	35	42	50	57	64	74	83	90	96	101	106	113	120	126	132	------	------
25------	------	------	37	46	55	62	70	80	90	97	104	110	116	124	132	138	145	------	------
26------	------	------	40	50	59	68	76	86	97	104	112	118	125	135	145	152	158	------	------
27------	------	------	43	53	63	72	82	93	104	112	120	128	136	146	157	164	172	------	------
28------	------	------	46	57	68	78	88	100	111	120	129	138	146	158	170	178	186	------	------
29------	------	------	49	61	73	84	95	106	118	128	138	147	156	168	180	190	200	------	------
30------	------	------	53	65	77	89	101	114	126	136	147	158	168	180	192	203	214	222	230
31------	------	------	57	70	82	95	108	120	133	144	156	168	179	192	205	216	228	236	245
32------	------	------	62	74	87	100	114	127	140	152	165	178	190	205	220	232	243	252	260
33------	------	------	------	------	93	107	121	134	148	161	174	188	202	216	230	244	257	266	276
34------	------	------	------	------	98	113	128	142	156	170	184	198	213	228	244	257	270	280	291
35------	------	------	------	------	103	120	136	150	165	179	193	209	225	240	256	270	284	296	307
36------	------	------	------	------	109	126	143	158	173	188	203	220	237	253	269	284	298	310	322
37------	------	------	------	------	114	132	150	166	182	198	213	231	249	265	281	296	311	324	337
38------	------	------	------	------	120	138	157	174	191	208	224	243	262	278	295	310	325	338	352
39------	------	------	------	------	126	145	164	182	200	217	234	254	274	290	307	323	339	354	368
40------	------	------	------	------	132	152	171	190	210	228	246	266	286	303	320	336	353	369	385
41------	------	------	------	------	138	158	178	198	219	238	257	278	298	316	334	350	367	384	402
42------	------	------	------	------	------	------	186	207	228	248	268	290	311	329	347	364	382	401	420
43------	------	------	------	------	------	------	194	216	238	259	280	301	322	341	360	379	398	418	438
44------	------	------	------	------	------	------	201	224	247	269	291	313	335	355	375	395	415	436	457
45------	------	------	------	------	------	------	209	233	257	280	303	324	346	368	390	410	430	452	475
46------	------	------	------	------	------	------	217	242	267	290	314	336	359	382	405	426	447	471	495
47------	------	------	------	------	------	------	226	252	278	302	326	348	371	396	420	442	465	490	515
48------	------	------	------	------	------	------	234	261	288	312	337	360	383	410	436	460	485	511	537
49------	------	------	------	------	------	------	242	270	298	324	349	373	397	426	454	480	506	532	559
50------	------	------	------	------	------	------	250	279	308	334	360	385	410	440	470	499	528	555	582
51------	------	------	------	------	------	------	258	288	318	346	373	399	425	457	489	520	550	578	605
52------	------	------	------	------	------	------	267	298	328	357	386	413	440	472	507	538	570	598	627
53------	------	------	------	------	------	------	276	308	340	370	400	428	456	491	526	558	590	620	650
54------	------	------	------	------	------	------	284	317	350	382	414	443	462	504	545	578	612	643	674
55------	------	------	------	------	------	------	------	------	362	395	428	458	488	526	565	600	634	666	697
56------	------	------	------	------	------	------	------	------	372	408	443	474	505	545	585	620	655	688	722
57------	------	------	------	------	------	------	------	------	384	421	458	490	521	563	605	641	677	712	747
58------	------	------	------	------	------	------	------	------	396	435	474	506	539	582	624	661	698	734	771
59------	------	------	------	------	------	------	------	------	407	448	490	523	556	600	645	682	720	758	795
60------	------	------	------	------	------	------	------	------	419	462	506	540	574	620	665	702	740	780	820

TABLE 72

Species..... SITKA SPRUCE (Picea sitchensis)
Unit of measure..... Board-foot
Variables..... Diameter inside bark at 18 feet and number of 32-foot logs
Log rule..... Scribner
Scaling length for logs. 32 feet
Stump height..... 2 feet
Top d.i.b. ..... 12 inches
Trim allowance per log. 0.6 feet
Method..... Alinement chart
Number of trees..... 592 old growth and 402 young growth
Location of trees..... Oregon, Washington, British Columbia, and Alaska
Accuracy..... Aggregate deviation 0.02 percent low
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 58 in U. S. Dept. Agr. Tech. Bul. 544
Year..... 1935
Note..... For conversion of diameter inside bark at 18 feet to d.b.h. see Appendix

Diameter inside bark at 18 feet (inches)	Volume in tens of board-feet when number of 32-foot logs is--												
	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6	6 1/2	7
10	16	27	37	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
12	16	29	40	55	--------	--------	--------	--------	--------	--------	--------	--------	--------
14	16	31	43	55	--------	--------	--------	--------	--------	--------	--------	--------	--------
16	16	33	47	61	76	92	--------	--------	--------	--------	--------	--------	--------
18	--------	35	52	70	87	105	122	--------	--------	--------	--------	--------	--------
20	--------	38	58	79	100	120	140	160	--------	--------	--------	--------	--------
22	--------	41	64	90	113	136	160	185	215	--------	--------	--------	--------
24	--------	44	72	100	126	153	185	215	250	275	--------	--------	--------
26	--------	47	80	110	139	170	207	240	280	310	350	--------	--------
28	--------	49	87	120	153	190	230	270	310	345	390	430	--------
30	--------	52	95	130	176	210	253	295	340	380	430	475	515
32	--------	55	103	142	186	235	280	325	380	420	470	520	565
34	--------	59	111	155	206	265	310	360	415	460	510	570	620
36	--------	63	119	169	226	280	340	390	450	500	560	620	680
38	--------	66	128	185	246	305	370	425	490	550	610	670	740
40	--------	70	136	200	267	330	400	460	530	600	660	725	800
42	--------	--------	146	220	290	360	435	500	580	650	720	790	870
44	--------	--------	158	240	315	390	470	545	630	700	780	860	940
46	--------	--------	170	260	340	425	510	590	680	760	850	940	1,020
48	--------	--------	184	280	370	460	550	640	730	820	920	1,010	1,100
50	--------	--------	199	300	400	495	595	690	790	890	990	1,090	1,190
52	--------	--------	--------	322	425	530	640	740	850	950	1,060	1,170	1,270
54	--------	--------	--------	343	450	570	685	790	910	1,020	1,130	1,250	1,360
56	--------	--------	--------	364	480	600	725	840	970	1,080	1,200	1,330	1,450
58	--------	--------	--------	385	510	640	770	900	1,030	1,150	1,280	1,410	1,550
60	--------	--------	--------	405	540	675	815	950	1,080	1,220	1,350	1,500	1,660
62	--------	--------	--------	--------	570	715	860	1,000	1,140	1,280	1,420	1,600	1,770
64	--------	--------	--------	--------	600	750	910	1,050	1,210	1,350	1,510	1,700	1,870
66	--------	--------	--------	--------	630	790	960	1,110	1,270	1,430	1,620	1,810	1,980
68	--------	--------	--------	--------	665	840	1,010	1,170	1,340	1,520	1,720	1,920	2,100
70	--------	--------	--------	--------	730	890	1,060	1,240	1,410	1,610	1,820	2,030	2,230
72	--------	--------	--------	--------	--------	930	1,120	1,300	1,490	1,710	1,930	2,140	2,360
74	--------	--------	--------	--------	--------	970	1,180	1,360	1,580	1,810	2,030	2,260	2,490
76	--------	--------	--------	--------	--------	1,020	1,230	1,430	1,680	1,900	2,140	2,380	2,630
78	--------	--------	--------	--------	--------	1,070	1,280	1,500	1,770	2,000	2,240	2,510	2,760
80	--------	--------	--------	--------	--------	1,110	1,330	1,570	1,850	2,080	2,350	2,630	2,880

Species..... SITKA SPRUCE (Picea sitchensis)
Unit of measure..... Board-foot
Variables..... Diameter inside bark at 18 feet and number of 32-foot logs
Log rule..... Scribner
Scaling length for logs. 32 feet
Stump height..... 2 feet
Top d.i.b..... One-half diameter inside bark at 18 feet
Trim allowance per log. 0.6 feet
Method..... Adjustment of volumes in table 58 of U. S. Dept. Agr. Tech. Bul. 544
Number of trees..... For base table 592 old growth and 402 young growth
Location of trees..... Oregon, Washington, British Columbia, and Alaska
Accuracy..... Aggregate deviation for base table 0.02 percent low
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 59 in U. S. Dept. Agr. Tech. Bul. 544
Year..... 1935
Note..... For conversion of diameter inside bark at 18 feet to d.b.h. see Appendix

Diameter inside bark at 18 feet (inches)	Volume in tens of board-feet when number of 32-foot logs is--											
	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6	6 1/2
10	4	9	14	--------	--------	--------	--------	--------	--------	--------	--------	--------
12	5	12	18	27	--------	--------	--------	--------	--------	--------	--------	--------
14	6	15	23	35	47	--------	--------	--------	--------	--------	--------	--------
16	7	19	29	43	58	75	93	--------	--------	--------	--------	--------
18	8	23	37	54	72	92	103	124	--------	--------	--------	--------
20	12	28	46	67	88	107	128	152	177	--------	--------	--------
22	14	35	58	82	107	128	153	182	212	240	--------	--------
24	16	44	72	100	126	153	183	215	250	280	310	--------
26	--------	55	87	114	146	180	214	250	290	325	363	--------
28	--------	--------	103	129	168	208	247	290	343	388	430	475
30	--------	--------	--------	145	193	239	283	330	375	425	475	525
32	--------	--------	--------	163	217	270	320	375	425	480	535	590
34	--------	--------	--------	183	245	305	360	420	480	545	605	665
36	--------	--------	--------	--------	275	340	405	470	540	605	675	740
38	--------	--------	--------	--------	305	380	455	505	600	675	750	825
40	--------	--------	--------	--------	340	425	505	580	665	745	830	910
42	--------	--------	--------	--------	375	470	555	640	730	820	910	1,000
44	--------	--------	--------	--------	--------	515	610	705	805	905	1,000	1,120
46	--------	--------	--------	--------	--------	560	670	775	880	985	1,110	1,240
48	--------	--------	--------	--------	--------	610	730	850	970	1,090	1,220	1,370
50	--------	--------	--------	--------	--------	665	695	925	1,060	1,190	1,330	1,510
52	--------	--------	--------	--------	--------	720	865	1,010	1,150	1,300	1,450	1,650
54	--------	--------	--------	--------	--------	780	930	1,100	1,250	1,410	1,590	1,800
56	--------	--------	--------	--------	--------	840	1,010	1,190	1,350	1,520	1,740	1,960
58	--------	--------	--------	--------	--------	900	1,090	1,290	1,460	1,650	1,880	2,120
60	--------	--------	--------	--------	--------	960	1,180	1,390	1,580	1,780	2,030	2,280
62	--------	--------	--------	--------	--------	1,030	1,260	1,500	1,710	1,930	2,190	2,460
64	--------	--------	--------	--------	--------	1,100	1,350	1,610	1,840	2,080	2,350	2,650
66	--------	--------	--------	--------	--------	1,180	1,440	1,730	1,980	2,230	2,520	2,830
68	--------	--------	--------	--------	--------	1,260	1,540	1,860	2,130	2,400	2,700	3,030
70	--------	--------	--------	--------	--------	1,350	1,650	1,980	2,270	2,560	2,900	3,250
72	--------	--------	--------	--------	--------	--------	1,750	2,100	2,430	2,730	3,100	3,470
74	--------	--------	--------	--------	--------	--------	1,850	2,230	2,580	2,900	3,300	3,720
76	--------	--------	--------	--------	--------	--------	1,960	2,360	2,740	3,090	3,500	3,940
78	--------	--------	--------	--------	--------	--------	2,070	2,500	2,910	3,290	3,700	4,170
80	--------	--------	--------	--------	--------	--------	2,180	2,730	3,080	3,480	3,900	4,400

TABLE 74

Species..... SITKA SPRUCE (Picea sitchensis)
Unit of measure..... Board-foot
Variables..... Diameter inside bark at 18 feet and total height
Log rule..... Scribner
Scaling length for logs. 32 feet
Stump height..... 2 feet
Top d.i.b..... 12 inches
Trim allowance per log. 0.6 feet
Method..... Alinement chart
Number of trees..... 593 old growth and 410 young growth
Location of trees..... Oregon, Washington, British Columbia, and Alaska
Accuracy..... Aggregate deviation 0.04 percent low
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 57 in U. S. Dept. Agr. Tech. Bul. 544
Year..... 1935
Note..... For conversion of diameter inside bark at 18 feet to d.b.h. see Appendix

Diameter inside bark at 18 feet (inches)	Volume in tens of board-feet when total height of tree in feet is--										
	60	80	100	120	140	160	180	200	220	240	260
12	9	10	11	----	----	----	----	----	----	----	----
14	13	16	19	22	25	----	----	----	----	----	----
16	18	23	28	35	42	48	----	----	----	----	----
18	23	31	41	50	59	68	77	----	----	----	----
20	29	40	52	65	78	90	102	115	----	----	----
22	36	50	65	81	97	112	127	143	----	----	----
24	44	60	79	99	117	136	155	175	194	----	----
26	52	73	95	119	142	164	186	212	235	----	----
28	----	86	113	141	168	194	222	250	276	300	----
30	----	100	131	163	196	227	259	292	320	350	----
32	----	115	150	178	226	260	296	335	370	405	445
34	----	----	170	213	255	292	336	380	420	460	500
36	----	----	190	240	285	330	375	425	470	510	560
38	----	----	212	265	315	367	420	470	525	575	630
40	----	----	234	295	350	405	465	520	580	640	700
42	----	----	----	322	390	450	510	580	645	705	780
44	----	----	----	356	430	495	570	640	710	780	860
46	----	----	----	390	470	540	620	700	780	860	940
48	----	----	----	426	510	595	680	765	850	940	1,030
50	----	----	----	462	555	645	730	835	930	1,030	1,130
52	----	----	----	----	605	700	790	905	1,010	1,120	1,230
54	----	----	----	----	650	750	860	980	1,100	1,210	1,320
56	----	----	----	----	700	810	930	1,060	1,180	1,300	1,420
58	----	----	----	----	745	865	1,000	1,140	1,270	1,390	1,520
60	----	----	----	----	795	920	1,070	1,220	1,350	1,480	1,620
62	----	----	----	----	----	980	1,130	1,290	1,430	1,570	1,720
64	----	----	----	----	----	1,050	1,200	1,370	1,510	1,660	1,820
66	----	----	----	----	----	1,120	1,270	1,450	1,600	1,760	1,930
68	----	----	----	----	----	1,180	1,340	1,530	1,700	1,860	2,050
70	----	----	----	----	----	1,240	1,410	1,600	1,800	1,960	2,160
72	----	----	----	----	----	----	1,490	1,700	1,900	2,080	2,280
74	----	----	----	----	----	----	1,580	1,800	2,000	2,200	2,410
76	----	----	----	----	----	----	1,670	1,900	2,110	2,320	2,540
78	----	----	----	----	----	----	1,760	2,000	2,220	2,440	2,690
80	----	----	----	----	----	----	1,850	2,100	2,340	2,570	2,850

Species..... SITKA SPRUCE (Picea sitchensis)
Unit of Measure..... Board-foot
Variables..... Diameter inside bark at 18 feet and total height
Log rule..... Scribner
Scaling length for logs. 32 feet
Stump height..... 2 feet
Top d.i.b..... 8 inches
Trim allowance per log. 0.6 feet
Method..... Adjustment of volumes in tables 55 and 57 of U. S. Dept. Agr. Tech. Bul. 544
Number of trees..... 1,091 and 1,003 for base tables
Location of trees..... Oregon, Washington, British Columbia, and Alaska
Accuracy..... Aggregate deviations for base tables 0.14 percent high and 0.04 percent low
Author..... H. A. Rapraeger, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 3 in Research Note No. 82
Year..... 1952
Note..... For conversion of diameter inside bark at 18 feet to d.b.h. see Appendix

Diameter inside bark at 18 feet (inches)	Volume in tens of board-feet when total height of tree in feet is—																				
	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260
10	5	6	7	9	10	11	13	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12	10	11	12	14	16	18	21	23	26	—	—	—	—	—	—	—	—	—	—	—	—
14	14	16	18	21	24	27	31	34	38	41	45	—	—	—	—	—	—	—	—	—	—
16	19	22	25	29	33	37	42	46	51	55	60	—	—	—	—	—	—	—	—	—	—
18	24	28	33	38	43	48	54	60	66	71	77	83	88	—	—	—	—	—	—	—	—
20	30	36	42	48	54	61	68	75	83	90	97	104	111	118	125	—	—	—	—	—	—
22	—	—	51	58	66	74	83	91	100	109	117	125	134	143	152	—	—	—	—	—	—
24	—	—	60	70	80	90	100	110	121	131	141	151	161	171	182	192	203	—	—	—	—
26	—	—	73	84	95	107	119	131	143	155	167	178	190	202	215	228	241	—	—	—	—
28	—	—	86	99	113	127	141	155	169	183	197	211	225	239	253	267	281	295	309	—	—
30	—	—	100	115	131	147	163	179	196	212	228	244	260	276	292	308	324	340	356	—	—
32	—	—	115	132	150	168	187	206	226	243	261	279	298	317	336	354	372	390	408	427	447
34	—	—	—	—	170	191	213	234	255	275	295	315	336	358	380	401	422	442	462	482	502
36	—	—	—	—	190	214	240	262	285	307	330	353	378	402	426	448	472	492	512	537	562
38	—	—	—	—	212	238	265	291	315	341	367	393	420	445	471	498	526	550	576	603	631
40	—	—	—	—	234	263	295	322	350	378	405	435	465	492	520	550	580	610	640	670	701
42	—	—	—	—	—	288	322	356	390	420	450	480	510	545	580	610	645	675	705	743	781
44	—	—	—	—	—	—	356	393	430	462	495	530	570	605	640	675	710	745	780	820	860
46	—	—	—	—	—	—	390	430	470	505	540	580	620	660	700	740	780	820	860	900	940
48	—	—	—	—	—	—	426	468	510	550	595	635	680	720	765	805	850	895	940	985	1,030
50	—	—	—	—	—	—	462	508	555	600	645	685	730	780	835	880	930	975	1,030	1,080	1,130
52	—	—	—	—	—	—	—	550	605	650	700	745	790	845	905	955	1,010	1,060	1,120	1,175	1,230
54	—	—	—	—	—	—	—	595	650	700	750	805	860	920	980	1,040	1,100	1,150	1,210	1,265	1,320
56	—	—	—	—	—	—	—	—	700	750	810	865	930	990	1,060	1,120	1,180	1,240	1,300	1,360	1,420
58	—	—	—	—	—	—	—	—	745	800	865	925	1,000	1,070	1,140	1,200	1,270	1,330	1,390	1,450	1,520
60	—	—	—	—	—	—	—	—	795	855	920	990	1,070	1,140	1,220	1,280	1,350	1,410	1,480	1,550	1,620
62	—	—	—	—	—	—	—	—	—	—	980	1,050	1,130	1,210	1,290	1,360	1,430	1,500	1,570	1,640	1,720
64	—	—	—	—	—	—	—	—	—	—	1,050	1,120	1,200	1,285	1,370	1,440	1,510	1,590	1,660	1,740	1,820
66	—	—	—	—	—	—	—	—	—	—	1,120	1,190	1,270	1,360	1,450	1,520	1,600	1,680	1,760	1,840	1,930
68	—	—	—	—	—	—	—	—	—	—	1,180	1,260	1,340	1,430	1,530	1,610	1,700	1,780	1,860	1,950	2,050
70	—	—	—	—	—	—	—	—	—	—	1,240	1,320	1,410	1,510	1,600	1,700	1,800	1,880	1,960	2,060	2,160
72	—	—	—	—	—	—	—	—	—	—	—	—	1,490	1,590	1,700	1,800	1,900	1,990	2,080	2,180	2,280
74	—	—	—	—	—	—	—	—	—	—	—	—	1,580	1,690	1,800	1,900	2,000	2,100	2,200	2,300	2,410
76	—	—	—	—	—	—	—	—	—	—	—	—	1,670	1,780	1,900	2,000	2,110	2,210	2,320	2,430	2,540
78	—	—	—	—	—	—	—	—	—	—	—	—	1,760	1,880	2,000	2,110	2,220	2,330	2,440	2,560	2,690
80	—	—	—	—	—	—	—	—	—	—	—	—	1,850	1,970	2,100	2,220	2,340	2,450	2,570	2,710	2,850

TABLE 76

Species..... SITKA SPRUCE (Picea sitchensis)
Unit of measure..... Board-foot
Variables..... Diameter outside bark above butt swell, number of 32-foot logs, and total height
Log rule..... Scribner
Scaling length for logs. 32 feet
Stump height..... As cut
Top d.i.b..... 10 inches
Trim allowance per log. 0.4 feet
Method..... Frustum form factor
Number of trees..... 450
Location of trees..... Southern Oregon to northern Washington
Accuracy..... Not given
Author..... N. L. Cary, U. S. Forest Service, Pacific Northwest Region
Source..... Table 11 in U. S. Dept. Agr. Bul. 1060
Year..... 1922

Diameter above swell (inches)	Average volume[1]	Volume in tens of board-feet when number of 32-foot logs is--												Basis, trees
		2	2-1/2	3	3-1/2	4	4-1/2	5	5-1/2	6	6-1/2	7	7-1/2	
		or total height in feet is--												
		112	128	142	158	173	188	202	217	231	241			
12----------	5	26	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
14----------	12	28	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
16----------	19	30	41	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
18----------	26	34	46	59	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
20----------	40	39	53	69	83	-------	-------	-------	-------	-------	-------	-------	-------	3
22----------	58	45	60	79	96	111	-------	-------	-------	-------	-------	-------	-------	14
24----------	83	51	69	90	109	128	-------	-------	-------	-------	-------	-------	-------	14
26----------	108	56	78	102	123	147	178	203	-------	-------	-------	-------	-------	24
28----------	140	-------	88	115	139	167	195	226	255	-------	-------	-------	-------	23
30----------	178	-------	98	130	158	188	220	254	287	-------	-------	-------	-------	27
32----------	219	-------	110	144	175	210	246	283	321	358	-------	-------	-------	31
34----------	269	-------	123	158	195	234	273	314	355	406	-------	-------	-------	24
36----------	317	-------	-------	174	215	258	302	346	382	437	-------	-------	-------	30
38----------	374	-------	-------	191	237	283	330	379	430	479	-------	-------	-------	25
40----------	431	-------	-------	208	259	310	362	415	469	523	-------	-------	-------	31
42----------	493	-------	-------	224	283	338	394	452	511	570	-------	-------	-------	25
44----------	558	-------	-------	239	309	369	429	491	554	619	686	-------	-------	13
46----------	622	-------	-------	255	335	400	464	532	601	671	742	-------	-------	26
48----------	692	-------	-------	-------	364	433	502	576	650	726	802	881	-------	20
50----------	768	-------	-------	-------	395	466	542	622	702	783	866	951	-------	19
52----------	842	-------	-------	-------	-------	503	584	668	755	842	932	1,022	-------	18
54----------	916	-------	-------	-------	-------	538	626	718	810	904	999	1,096	-------	13
56----------	998	-------	-------	-------	-------	-------	673	769	868	968	1,069	1,173	1,278	10
58----------	1,081	-------	-------	-------	-------	-------	718	821	926	1,034	1,147	1,253	1,366	8
60----------	1,169	-------	-------	-------	-------	-------	764	875	988	1,102	1,220	1,334	1,455	5
62----------	1,250	-------	-------	-------	-------	-------	811	930	1,051	1,172	1,295	1,418	1,545	7
64----------	1,334	-------	-------	-------	-------	-------	860	987	1,115	1,246	1,373	1,505	1,638	4
66----------	1,423	-------	-------	-------	-------	-------	911	1,045	1,182	1,320	1,454	1,597	1,734	7
68----------	1,514	-------	-------	-------	-------	-------	-------	1,107	1,252	1,397	1,539	1,690	1,833	10
70----------	1,609	-------	-------	-------	-------	-------	-------	1,168	1,323	1,474	1,630	1,786	1,933	4
75----------	1,862	-------	-------	-------	-------	-------	-------	-------	1,509	1,680	1,862	2,037	2,199	7
80----------	2,126	-------	-------	-------	-------	-------	-------	-------	1,707	1,904	2,102	2,301	2,495	4
85----------	2,412	-------	-------	-------	-------	-------	-------	-------	-------	2,148	2,374	2,586	2,814	2
90----------	2,714	-------	-------	-------	-------	-------	-------	-------	-------	2,424	2,656	2,891	3,139	2
														450

[1] When trees are not tallied by number of logs, use this column.

Species..... SITKA SPRUCE (Picea sitchensis)
Unit of measure..... Board-foot
Variables..... D.b.h. and merchantable length in feet
Log rule..... Scribner
Scaling length for logs. 40 feet
Stump height..... As cut
Top d.i.b..... See table
Trim allowance per log. Not given
Method..... Not given
Number of trees..... 2,716
Location of trees..... Quinault Indian Reservation
Accuracy..... Aggregate deviation 0.4 percent low
Author..... H. B. Steer and V. A. Clements, U. S. Forest Service
Source..... The Timberman, October 1930
Year..... 1930

D.b.h. (inches)	Volume in tens of board-feet when merchantable length of log in feet is--											Top diameter limit	Basis, trees
	40	60	80	100	120	140	160	180	200	220	240		
16	17	28	37	46	--------	--------	--------	--------	--------	--------	--------	11	6
18	19	32	43	54	67	--------	--------	--------	--------	--------	--------	11	26
20	22	37	50	64	79	92	--------	--------	--------	--------	--------	11	43
22	25	42	58	76	92	109	--------	--------	--------	--------	--------	11	88
24	28	48	68	87	107	129	150	--------	--------	--------	--------	11	121
26	--------	54	77	100	124	149	174	--------	--------	--------	--------	11	119
28	--------	62	87	113	141	170	199	228	--------	--------	--------	11	165
30	--------	68	98	130	161	194	228	261	--------	--------	--------	11	191
32	--------	--------	108	144	180	217	253	290	329	--------	--------	11	176
34	--------	--------	120	160	200	240	280	322	365	--------	--------	12	199
36	--------	--------	134	179	222	268	314	360	408	451	--------	12	195
38	--------	--------	148	197	245	295	345	400	450	499	--------	12	196
40	--------	--------	--------	216	270	324	380	437	490	534	--------	12	218
42	--------	--------	--------	236	295	355	417	478	535	594	655	12	142
44	--------	--------	--------	259	324	390	457	520	585	650	717	12	139
46	--------	--------	--------	281	351	425	495	564	640	705	780	12	115
48	--------	--------	--------	308	383	460	535	610	688	762	840	12	99
50	--------	--------	--------	332	414	495	575	660	743	825	915	12	108
52	--------	--------	--------	--------	450	532	621	710	800	880	980	12	73
54	--------	--------	--------	--------	477	567	662	757	860	950	1,040	13	59
56	--------	--------	--------	--------	510	608	710	815	910	1,020	1,115	13	33
58	--------	--------	--------	--------	545	650	769	870	980	1,080	1,180	13	29
60	--------	--------	--------	--------	580	690	810	925	1,040	1,150	1,255	13	39
62	--------	--------	--------	--------	620	735	860	980	1,105	1,210	1,330	13	26
64	--------	--------	--------	--------	655	780	910	1,040	1,170	1,280	1,410	13	16
66	--------	--------	--------	--------	--------	825	970	1,100	1,220	1,355	1,480	13	14
68	--------	--------	--------	--------	--------	875	1,020	1,160	1,290	1,440	1,570	13	18
70	--------	--------	--------	--------	--------	925	1,080	1,210	1,360	1,500	1,650	13	15
72	--------	--------	--------	--------	--------	970	1,130	1,270	1,430	1,580	1,740	13	16
74	--------	--------	--------	--------	--------	1,020	1,180	1,340	1,500	1,670	1,830	13	10
76	--------	--------	--------	--------	--------	1,080	1,240	1,400	1,570	1,750	1,910	14	6
78	--------	--------	--------	--------	--------	--------	1,300	1,470	1,650	1,830	1,990	14	6
80	--------	--------	--------	--------	--------	--------	1,360	1,540	1,720	1,900	2,100	14	1
82	--------	--------	--------	--------	--------	--------	1,420	1,610	1,800	1,990	2,190	14	3
84	--------	--------	--------	--------	--------	--------	1,490	1,690	1,890	2,090	2,290	14	--------
86	--------	--------	--------	--------	--------	--------	1,540	1,760	1,960	2,180	2,390	14	1
88	--------	--------	--------	--------	--------	--------	1,610	1,820	2,030	2,270	2,480	14	2
90	--------	--------	--------	--------	--------	--------	1,680	1,900	2,130	2,360	2,580	14	2
92	--------	--------	--------	--------	--------	--------	1,760	1,980	2,220	2,450	2,700	14	1
Basis, trees	16	27	167	144	537	274	737	253	489	25	47	--------	2,716

TABLE 78

Species..... PACIFIC SILVER FIR (Abies amabilis)
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Included
Top d.i.b..... Included
Method..... Alinement chart
Number of trees..... 462
Location of trees..... Oregon and Washington
Accuracy..... Aggregate deviation 0.73 percent low
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 1 in "Volume Tables for Silver Fir"
Year..... 1935

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is—																		
	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
3	1.4	2.1	2.8	3.6	4.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4	1.8	2.7	3.6	4.5	5.4	6.4	—	—	—	—	—	—	—	—	—	—	—	—	—
5	2.4	3.4	4.6	5.5	6.7	7.9	—	—	—	—	—	—	—	—	—	—	—	—	—
6	—	4.4	5.7	6.8	8.4	10	11	—	—	—	—	—	—	—	—	—	—	—	—
7	—	5.5	7.1	8.4	10	12	13	15	18	—	—	—	—	—	—	—	—	—	—
8	—	—	8.8	10	12	14	16	18	21	23	—	—	—	—	—	—	—	—	—
9	—	—	11	13	15	17	20	22	25	27	—	—	—	—	—	—	—	—	—
10	—	—	13	16	18	21	23	26	29	32	36	—	—	—	—	—	—	—	—
11	—	—	16	18	22	25	28	31	34	37	41	44	—	—	—	—	—	—	—
12	—	—	18	21	25	29	32	36	40	43	47	50	53	—	—	—	—	—	—
13	—	—	20	24	29	33	37	42	46	49	53	57	62	—	—	—	—	—	—
14	—	—	—	28	33	37	43	47	52	56	61	65	69	73	—	—	—	—	—
15	—	—	—	32	38	42	48	53	59	64	69	74	78	82	—	—	—	—	—
16	—	—	—	—	42	48	54	60	66	72	77	83	88	93	99	—	—	—	—
17	—	—	—	—	46	53	60	67	73	80	86	92	98	105	111	—	—	—	—
18	—	—	—	—	51	59	67	74	81	88	95	102	110	117	124	—	—	—	—
19	—	—	—	—	—	65	74	82	90	98	106	114	122	130	139	—	—	—	—
20	—	—	—	—	—	70	81	89	99	108	117	125	134	142	151	160	—	—	—
21	—	—	—	—	—	—	88	97	109	118	128	137	147	155	165	175	—	—	—
22	—	—	—	—	—	—	95	106	118	128	139	149	159	168	180	190	—	—	—
23	—	—	—	—	—	—	103	116	128	139	150	161	171	182	193	205	—	—	—
24	—	—	—	—	—	—	111	125	138	150	161	173	184	196	205	220	—	—	—
25	—	—	—	—	—	—	120	134	149	161	173	185	197	210	220	235	250	—	—
26	—	—	—	—	—	—	—	144	159	172	186	198	210	224	240	250	270	—	—
27	—	—	—	—	—	—	—	154	170	183	198	211	225	240	260	270	285	—	—
28	—	—	—	—	—	—	—	164	182	195	211	225	240	260	275	290	305	—	—
29	—	—	—	—	—	—	—	175	193	208	225	241	265	276	290	310	325	—	—
30	—	—	—	—	—	—	—	186	204	221	240	257	280	292	310	330	345	360	—
31	—	—	—	—	—	—	—	197	216	235	255	273	295	310	330	350	365	375	—
32	—	—	—	—	—	—	—	—	228	250	270	289	310	330	350	370	385	395	—
33	—	—	—	—	—	—	—	—	242	264	285	305	325	345	370	390	405	420	—
34	—	—	—	—	—	—	—	—	256	279	300	322	340	360	385	405	425	440	—
35	—	—	—	—	—	—	—	—	270	293	315	339	355	380	405	420	440	460	480
36	—	—	—	—	—	—	—	—	—	307	330	356	370	400	420	440	460	480	500
37	—	—	—	—	—	—	—	—	—	322	345	373	385	415	440	460	480	500	525
38	—	—	—	—	—	—	—	—	—	340	360	390	405	430	460	480	505	525	550
39	—	—	—	—	—	—	—	—	—	355	380	410	425	450	480	500	530	550	575
40	—	—	—	—	—	—	—	—	—	370	400	430	445	470	500	525	555	575	600
41	—	—	—	—	—	—	—	—	—	—	415	445	465	490	520	550	575	600	625
42	—	—	—	—	—	—	—	—	—	—	430	460	485	510	540	570	595	625	650
43	—	—	—	—	—	—	—	—	—	—	450	480	505	530	560	590	620	650	675
44	—	—	—	—	—	—	—	—	—	—	—	500	530	550	580	615	645	675	700
45	—	—	—	—	—	—	—	—	—	—	—	520	550	570	605	640	670	700	725
46	—	—	—	—	—	—	—	—	—	—	—	—	570	595	630	665	695	725	750
47	—	—	—	—	—	—	—	—	—	—	—	—	590	620	655	690	720	750	780
48	—	—	—	—	—	—	—	—	—	—	—	—	610	645	680	715	745	775	810
49	—	—	—	—	—	—	—	—	—	—	—	—	630	665	700	735	770	800	840
50	—	—	—	—	—	—	—	—	—	—	—	—	650	685	720	755	795	830	870

Species..... PACIFIC SILVER FIR (Abies amabilis)
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Equivalent to d.b.h. with a 24-inch maximum
Top d.i.b..... 4 inches
Method..... Adjustment of volumes in table 1 of "Volume Tables for Silver Fir"
Number of trees..... 462 for base table
Location of trees..... Oregon and Washington
Accuracy..... Aggregate deviation for base table 0.73 percent low
Author..... J. R. Dilworth, Pacific Northwest Forest and Range Expt. Sta.
Source..... Forest Survey file report
Year..... 1947

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--																		
	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
5	2.0	3.0	4.2	5.1	6.3	7.5	----	----	----	----	----	----	----	----	----	----	----	----	----
6	----	4.0	5.3	6.4	8.0	9.6	11	----	----	----	----	----	----	----	----	----	----	----	----
7	----	5.0	6.6	7.9	9.5	11	12	14	17	----	----	----	----	----	----	----	----	----	----
8	----	----	8.2	9.4	11	13	15	17	20	22	----	----	----	----	----	----	----	----	----
9	----	----	10	12	14	16	19	21	24	26	----	----	----	----	----	----	----	----	----
10	----	----	12	15	17	20	22	25	28	31	35	----	----	----	----	----	----	----	----
11	----	----	15	17	21	24	27	30	33	36	40	43	----	----	----	----	----	----	----
12	----	----	17	20	24	28	31	35	39	42	46	49	52	----	----	----	----	----	----
13	----	----	19	23	28	32	36	41	45	48	52	56	61	----	----	----	----	----	----
14	----	----	----	26	31	35	41	45	50	54	59	63	67	71	----	----	----	----	----
15	----	----	----	30	36	40	46	51	57	62	67	72	76	80	----	----	----	----	----
16	----	----	----	----	40	46	52	58	64	70	75	81	86	91	97	----	----	----	----
17	----	----	----	----	43	50	57	64	70	77	83	89	95	102	108	----	----	----	----
18	----	----	----	----	48	56	64	71	78	85	92	99	107	114	121	----	----	----	----
19	----	----	----	----	----	61	70	78	86	94	102	110	118	126	135	----	----	----	----
20	----	----	----	----	----	66	77	85	95	104	113	121	130	138	147	156	----	----	----
21	----	----	----	----	----	----	83	92	104	113	123	132	142	150	160	170	----	----	----
22	----	----	----	----	----	----	90	101	113	123	134	144	154	163	175	185	----	----	----
23	----	----	----	----	----	----	97	110	122	133	144	155	165	176	187	199	----	----	----
24	----	----	----	----	----	----	104	118	131	143	154	166	177	189	198	213	----	----	----
25	----	----	----	----	----	----	112	126	141	153	165	177	189	202	212	227	242	----	----
26	----	----	----	----	----	----	----	136	151	164	178	190	202	216	232	242	262	----	----
27	----	----	----	----	----	----	----	145	161	174	189	202	216	231	251	261	276	----	----
28	----	----	----	----	----	----	----	155	173	186	202	216	231	251	266	281	296	----	----
29	----	----	----	----	----	----	----	165	183	198	215	231	255	266	280	300	315	----	----
30	----	----	----	----	----	----	----	175	193	210	229	246	269	281	299	319	334	349	----
31	----	----	----	----	----	----	----	186	205	224	244	262	284	299	319	339	354	364	----
32	----	----	----	----	----	----	----	----	216	238	258	277	298	318	338	358	373	383	----
33	----	----	----	----	----	----	----	----	229	251	272	292	312	332	357	377	392	407	----
34	----	----	----	----	----	----	----	----	242	265	286	308	326	346	371	391	411	426	----
35	----	----	----	----	----	----	----	----	255	278	300	324	340	365	390	405	425	445	465
36	----	----	----	----	----	----	----	----	----	292	315	341	355	385	405	425	445	465	485
37	----	----	----	----	----	----	----	----	----	306	329	357	369	399	424	444	464	484	509
38	----	----	----	----	----	----	----	----	----	323	343	373	388	413	443	463	488	508	533
39	----	----	----	----	----	----	----	----	----	337	362	392	407	432	462	482	512	532	557
40	----	----	----	----	----	----	----	----	----	351	381	411	426	451	481	506	536	556	581
41	----	----	----	----	----	----	----	----	----	----	395	425	445	470	500	530	555	580	605
42	----	----	----	----	----	----	----	----	----	----	419	439	464	489	519	549	574	604	629
43	----	----	----	----	----	----	----	----	----	----	438	458	483	508	538	568	598	628	654
44	----	----	----	----	----	----	----	----	----	----	----	477	507	527	557	592	622	652	677
45	----	----	----	----	----	----	----	----	----	----	----	496	526	546	581	616	646	676	701
46	----	----	----	----	----	----	----	----	----	----	----	----	546	571	606	641	671	701	736
47	----	----	----	----	----	----	----	----	----	----	----	----	565	595	630	665	695	725	755
48	----	----	----	----	----	----	----	----	----	----	----	----	584	619	654	689	719	749	784
49	----	----	----	----	----	----	----	----	----	----	----	----	602	637	672	707	742	772	812
50	----	----	----	----	----	----	----	----	----	----	----	----	621	656	691	726	766	801	841

TABLE 80

Species..... PACIFIC SILVER FIR (Abies amabilis)
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... International 1/8-inch kerf
Scaling length for logs. 16 feet
Stump height..... 2 feet
Top d.i.b..... 6 inches
Trim allowance per log. 0.3 feet
Method..... Alinement chart
Number of trees..... 426
Location of trees..... Oregon and Washington
Accuracy..... Aggregate deviation 0.58 percent low
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 2 in "Volume Tables for Silver Fir"
Year..... 1935

D.b.h. (inches)	Volume in tens of board-feet when total height of tree in feet is--																
	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
7	4	5	6	7	8	9	10	----	------	-----	------	-----	-----	----	----	-----	------
8	5	6	7	8	9	10	11	12	------	-----	------	-----	-----	----	----	-----	------
9	6	7	8	10	12	13	14	15	------	-----	------	-----	-----	----	----	-----	------
10	7	8	10	12	14	15	17	18	20	-----	------	-----	-----	----	----	-----	------
11	8	10	12	14	16	18	20	22	24	26	------	-----	-----	----	----	-----	------
12	10	12	14	17	20	22	24	27	29	31	34	-----	-----	----	----	-----	------
13	12	14	16	20	23	26	28	32	34	36	39	-----	-----	----	----	-----	------
14	-----	16	19	23	26	30	33	36	39	42	45	48	-----	----	----	-----	------
15	-----	18	22	26	30	34	38	41	45	48	52	55	-----	----	----	-----	------
16	-----	-----	24	29	33	38	43	46	51	55	59	63	67	----	----	-----	------
17	-----	-----	27	32	37	42	48	52	57	62	67	72	76	----	----	-----	------
18	-----	-----	30	36	42	47	53	58	64	70	75	81	87	----	----	-----	------
19	-----	-----	-----	40	47	52	59	66	72	78	85	91	98	----	----	-----	------
20	-----	-----	-----	44	52	58	66	73	80	87	95	101	109	115	----	-----	------
21	-----	-----	-----	-----	57	64	72	80	89	96	105	111	120	125	----	-----	------
22	-----	-----	-----	-----	62	70	79	88	98	106	115	122	131	140	----	-----	------
23	-----	-----	-----	-----	67	77	87	96	107	116	125	133	142	150	----	-----	------
24	-----	-----	-----	-----	73	84	97	105	116	126	135	144	154	165	----	-----	------
25	-----	-----	-----	-----	79	92	104	114	125	136	146	157	167	180	190	-----	------
26	-----	-----	-----	-----	-----	100	112	125	134	146	158	170	180	190	200	-----	------
27	-----	-----	-----	-----	-----	108	120	135	144	157	170	183	193	205	215	-----	------
28	-----	-----	-----	-----	-----	115	128	145	154	169	182	196	207	220	230	-----	------
29	-----	-----	-----	-----	-----	122	136	155	166	181	194	209	222	235	245	-----	------
30	-----	-----	-----	-----	-----	130	145	165	177	192	207	222	237	250	265	280	------
31	-----	-----	-----	-----	-----	138	154	175	188	204	220	235	251	265	280	295	------
32	-----	-----	-----	-----	-----	-----	163	185	199	216	233	248	265	280	295	310	------
33	-----	-----	-----	-----	-----	-----	174	195	210	229	247	262	280	295	315	330	------
34	-----	-----	-----	-----	-----	-----	186	205	222	242	260	277	296	315	330	345	------
35	-----	-----	-----	-----	-----	-----	198	217	234	255	274	292	310	330	350	365	380
36	-----	-----	-----	-----	-----	-----	-----	229	246	268	288	305	330	345	370	385	400
37	-----	-----	-----	-----	-----	-----	-----	241	259	282	300	320	345	365	385	400	420
38	-----	-----	-----	-----	-----	-----	-----	252	272	295	315	335	360	380	405	420	440
39	-----	-----	-----	-----	-----	-----	-----	264	286	310	330	355	380	400	420	440	460
40	-----	-----	-----	-----	-----	-----	-----	278	300	325	345	370	395	420	440	460	485
41	-----	-----	-----	-----	-----	-----	-----	----	315	340	360	390	415	435	460	480	505
42	-----	-----	-----	-----	-----	-----	-----	----	330	355	380	405	430	455	480	505	525
43	-----	-----	-----	-----	-----	-----	-----	----	345	370	395	425	450	475	500	525	550
44	-----	-----	-----	-----	-----	-----	-----	----	------	385	410	440	470	495	520	550	575
45	-----	-----	-----	-----	-----	-----	-----	----	------	400	425	460	490	515	540	570	600
46	-----	-----	-----	-----	-----	-----	-----	----	------	-----	440	480	510	535	565	595	620
47	-----	-----	-----	-----	-----	-----	-----	----	------	-----	460	500	530	560	585	615	645
48	-----	-----	-----	-----	-----	-----	-----	----	------	-----	480	520	550	580	605	635	670
49	-----	-----	-----	-----	-----	-----	-----	----	------	-----	------	540	570	600	630	660	695
50	-----	-----	-----	-----	-----	-----	-----	----	------	-----	------	560	590	622	650	680	720

Species..... PACIFIC SILVER FIR (Abies amabilis)
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... International 1/4-inch kerf
Scaling length for logs. 16 feet
Stump height..... 2 feet
Top d.i.b..... 6 inches
Trim allowance per log. 0.3 feet
Method..... Adjustment of volumes in table 2 of "Volume Tables for Silver Fir"
Number of trees..... 426 for base table
Location of trees..... Oregon and Washington
Accuracy..... Aggregate deviation for base table 0.58 percent low
Author..... E. C. Skinner, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 13 in "Volume Tables for Permanent Sample Plots"
Year..... 1953

D.b.h. (inches)	Volume in tens of board-feet when total height of tree in feet is--																
	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
8	5	5	6	7	8	9	10	11	-----	-----	-----	-----	-----	-----	-----	-----	-----
9	5	6	7	9	11	12	13	14	-----	-----	-----	-----	-----	-----	-----	-----	-----
10	6	7	9	11	13	14	15	16	18	-----	-----	-----	-----	-----	-----	-----	-----
11	7	9	11	13	14	16	18	20	22	24	-----	-----	-----	-----	-----	-----	-----
12	9	11	13	15	18	20	22	24	26	28	31	-----	-----	-----	-----	-----	-----
13	11	13	14	18	21	24	25	29	31	33	35	-----	-----	-----	-----	-----	-----
14	-----	14	17	21	24	27	30	33	35	38	41	43	-----	-----	-----	-----	-----
15	-----	16	20	24	27	31	34	37	41	43	47	50	-----	-----	-----	-----	-----
16	-----	-----	22	26	30	34	39	42	46	50	53	57	61	-----	-----	-----	-----
17	-----	-----	24	29	33	38	43	47	52	56	61	65	69	-----	-----	-----	-----
18	-----	-----	27	33	38	43	48	52	58	63	68	73	79	-----	-----	-----	-----
19	-----	-----	-----	36	43	47	53	60	65	71	77	82	89	-----	-----	-----	-----
20	-----	-----	-----	40	47	52	60	66	72	79	86	91	99	-----	-----	-----	-----
21	-----	-----	-----	-----	52	58	65	72	81	87	95	100	109	113	-----	-----	-----
22	-----	-----	-----	-----	56	63	71	80	89	96	104	110	119	127	-----	-----	-----
23	-----	-----	-----	-----	61	70	79	87	97	105	113	120	129	136	-----	-----	-----
24	-----	-----	-----	-----	66	76	88	95	105	114	122	130	139	149	-----	-----	-----
25	-----	-----	-----	-----	71	83	94	103	113	123	132	142	151	163	172	-----	-----
26	-----	-----	-----	-----	-----	90	101	113	121	132	143	154	163	172	181	-----	-----
27	-----	-----	-----	-----	-----	98	109	122	130	142	154	166	175	186	195	-----	-----
28	-----	-----	-----	-----	-----	104	116	131	139	153	165	177	187	199	208	-----	-----
29	-----	-----	-----	-----	-----	110	123	140	150	164	176	189	201	213	222	-----	-----
30	-----	-----	-----	-----	-----	118	131	149	160	174	187	201	214	226	240	253	-----
31	-----	-----	-----	-----	-----	125	139	158	170	185	199	213	227	240	253	267	-----
32	-----	-----	-----	-----	-----	-----	148	167	180	195	211	224	240	253	267	281	-----
33	-----	-----	-----	-----	-----	-----	157	176	190	207	224	237	253	267	285	299	-----
34	-----	-----	-----	-----	-----	-----	168	186	201	219	235	251	268	285	299	312	-----
35	-----	-----	-----	-----	-----	-----	179	196	212	231	248	264	281	299	317	330	344
36	-----	-----	-----	-----	-----	-----	-----	207	223	243	261	276	299	312	335	348	362
37	-----	-----	-----	-----	-----	-----	-----	218	234	255	272	290	312	330	348	362	380
38	-----	-----	-----	-----	-----	-----	-----	228	246	267	285	303	326	344	367	380	398
39	-----	-----	-----	-----	-----	-----	-----	239	259	281	299	321	344	362	380	398	416
40	-----	-----	-----	-----	-----	-----	-----	252	272	294	312	335	357	380	398	416	439
41	-----	-----	-----	-----	-----	-----	-----	-----	285	308	326	353	376	394	416	434	457
42	-----	-----	-----	-----	-----	-----	-----	-----	299	321	344	367	389	412	434	457	475
43	-----	-----	-----	-----	-----	-----	-----	-----	312	335	357	385	407	430	452	475	498
44	-----	-----	-----	-----	-----	-----	-----	-----	-----	348	371	398	425	448	471	498	520
45	-----	-----	-----	-----	-----	-----	-----	-----	-----	362	385	416	443	466	489	516	543
46	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	398	434	462	484	511	538	561
47	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	416	452	480	507	529	557	584
48	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	434	471	498	525	548	575	606
49	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	489	516	543	570	597	629
50	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	507	534	563	588	615	652

TABLE 82

Species..... PACIFIC SILVER FIR (Abies amabilis)
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 2 feet
Top d.i.b..... 8 inches
Trim allowance per log. 0.3 feet
Method..... Alinement chart
Number of trees..... 426
Location of trees..... Oregon and Washington
Accuracy..... Aggregate deviation 0.22 percent high
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 3 in "Volume Tables for Silver Fir"
Year..... 1935

D.b.h. (inches)	Volume in tens of board-feet when total height of tree in feet is--																
	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
12	2	5	8	10	12	14	16	18	19	21	22	----	----	----	----	----	----
13	4	7	10	13	15	17	20	22	24	26	28	----	----	----	----	----	----
14	----	10	13	16	18	21	24	26	29	32	34	37	----	----	----	----	----
15	----	12	15	18	22	25	28	32	34	37	40	43	----	----	----	----	----
16	----	----	17	21	25	28	32	36	39	42	46	49	52	----	----	----	----
17	----	----	20	24	28	32	36	40	44	48	52	55	58	----	----	----	----
18	----	----	23	28	32	37	42	46	50	55	60	63	66	----	----	----	----
19	----	----	----	31	36	42	47	52	57	62	68	71	75	80	----	----	----
20	----	----	----	34	40	46	52	58	64	69	76	80	84	90	----	----	----
21	----	----	----	----	45	51	58	64	70	76	84	89	93	100	----	----	----
22	----	----	----	----	50	56	64	71	77	84	92	98	103	110	----	----	----
23	----	----	----	----	55	62	70	78	84	92	100	107	113	120	----	----	----
24	----	----	----	----	60	68	76	85	92	100	109	117	123	130	135	----	----
25	----	----	----	----	----	74	83	92	100	109	118	127	134	142	150	----	----
26	----	----	----	----	----	80	90	100	108	118	128	138	146	155	165	----	----
27	----	----	----	----	----	86	96	108	116	127	138	149	158	168	180	----	----
28	----	----	----	----	----	92	103	115	124	136	149	160	170	181	195	----	----
29	----	----	----	----	----	98	110	123	133	147	159	171	183	195	210	----	----
30	----	----	----	----	----	104	117	131	143	158	170	182	196	210	225	240	----
31	----	----	----	----	----	111	124	140	153	169	181	194	210	225	240	250	----
32	----	----	----	----	----	----	132	150	163	180	193	208	224	240	255	270	----
33	----	----	----	----	----	----	141	160	174	191	207	223	238	255	270	285	----
34	----	----	----	----	----	----	150	170	186	203	221	238	252	270	285	300	----
35	----	----	----	----	----	----	160	180	198	216	235	253	267	285	300	315	330
36	----	----	----	----	----	----	----	190	210	229	249	268	282	300	315	330	345
37	----	----	----	----	----	----	----	200	222	242	263	282	297	315	330	350	365
38	----	----	----	----	----	----	----	211	234	255	277	296	310	330	345	365	380
39	----	----	----	----	----	----	----	223	246	268	291	310	325	345	360	380	400
40	----	----	----	----	----	----	----	235	258	281	305	325	340	360	380	400	420
41	----	----	----	----	----	----	----	----	271	294	315	340	355	380	400	420	440
42	----	----	----	----	----	----	----	----	284	305	330	350	370	395	415	440	455
43	----	----	----	----	----	----	----	----	----	320	345	365	385	415	430	455	475
44	----	----	----	----	----	----	----	----	----	335	360	380	400	430	450	475	495
45	----	----	----	----	----	----	----	----	----	350	375	395	420	445	470	490	515
46	----	----	----	----	----	----	----	----	----	----	385	410	435	460	485	510	540
47	----	----	----	----	----	----	----	----	----	----	400	425	450	480	500	530	560
48	----	----	----	----	----	----	----	----	----	----	415	445	465	495	520	550	580
49	----	----	----	----	----	----	----	----	----	----	430	460	480	510	540	570	600
50	----	----	----	----	----	----	----	----	----	----	445	475	500	525	560	590	620

Species..... PACIFIC SILVER FIR (Abies amabilis)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 2 feet
Top d.i.b. ..... 8 inches
Trim allowance per log. 0.3 feet
Method..... Alinement chart
Number of trees..... 426
Location of trees..... Oregon and Washington
Accuracy..... Aggregate deviation 0.61 percent low
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 4 in "Volume Tables for Silver Fir"
Year..... 1935

D.b.h. (inches)	Volume in tens of board-feet when number of 16-foot logs is--								
	2	3	4	5	6	7	8	9	10
10	5	12	17	----	----	----	----	----	----
11	6	14	19	----	----	----	----	----	----
12	6	15	21	29	----	----	----	----	----
13	7	17	23	32	----	----	----	----	----
14	8	19	26	35	43	----	----	----	----
15	9	21	29	38	48	----	----	----	----
16	10	23	32	42	53	66	----	----	----
17	11	25	35	46	58	72	----	----	----
18	12	28	38	50	63	78	94	----	----
19	13	30	41	54	69	85	100	115	----
20	14	32	44	58	75	92	107	123	138
21	15	35	48	63	81	99	116	132	150
22	16	38	52	68	88	106	124	142	162
23	17	41	56	74	95	113	133	153	174
24	18	44	60	79	101	120	142	164	186
25	19	47	64	85	107	128	152	175	198
26	20	50	68	91	113	136	163	187	210
27	----	53	73	97	120	145	174	199	222
28	----	56	78	102	127	155	184	211	236
29	----	59	83	108	135	165	195	224	250
30	----	62	88	114	143	175	206	237	264
31	----	----	93	120	151	185	217	250	278
32	----	----	98	126	159	195	228	263	292
33	----	----	103	133	168	205	240	276	306
34	----	----	108	140	177	215	252	289	320
35	----	----	113	147	187	226	265	303	336
36	----	----	----	155	197	237	278	317	352
37	----	----	----	163	206	248	290	331	368
38	----	----	----	171	215	259	302	345	384
39	----	----	----	179	224	270	314	360	400
40	----	----	----	187	233	281	327	375	416
41	----	----	----	----	243	292	340	390	432
42	----	----	----	----	253	303	354	405	448
43	----	----	----	----	264	314	369	420	465
44	----	----	----	----	275	327	384	436	484
45	----	----	----	----	286	341	400	452	503
46	----	----	----	----	----	356	415	470	523
47	----	----	----	----	----	371	430	490	544
48	----	----	----	----	----	387	446	510	566
49	----	----	----	----	----	402	463	530	590
50	----	----	----	----	----	417	480	550	615

TABLE 84

Species..... PACIFIC SILVER FIR (Abies amabilis)
Unit of measure..... Board-foot
Variables..... D.b.h., number of 32-foot logs, and total height
Log rule..... Scribner
Scaling length for logs. 32 feet
Stump height..... 2 to 3 feet
Top d.i.b..... 10 inches
Trim allowance per log. 0.5 feet
Method..... Frustum form factor
Number of trees..... 372
Location of trees..... West side of Cascades, 2,500- to 3,500-foot elevation
Accuracy..... Not given
Author..... R. H. Weidman, U. S. Forest Service, Pacific Northwest Region
Source..... Table 79 in "Volume Tables for the Important Timber Trees of the United States"
Year..... 1916

D.b.h. (inches)	Board-foot volume when number of 32-foot logs is--									
	1	1-1/2	2	2-1/2	3	3-1/2	4	4-1/2	5	5-1/2
	or total height of tree in feet is--									
	81	94	107	120	134	147	159	171	183	195
12	111	189	255	----------	----------	----------	----------	----------	----------	----------
13	111	200	271	----------	----------	----------	----------	----------	----------	----------
14	111	210	286	----------	----------	----------	----------	----------	----------	----------
15	----------	221	306	415	----------	----------	----------	----------	----------	----------
16	----------	231	326	444	----------	----------	----------	----------	----------	----------
17	----------	244	345	477	594	----------	----------	----------	----------	----------
18	----------	257	364	522	640	----------	----------	----------	----------	----------
19	----------	268	392	550	673	826	----------	----------	----------	----------
20	----------	----------	422	579	724	895	----------	----------	----------	----------
21	----------	----------	441	620	775	970	----------	----------	----------	----------
22	----------	----------	456	657	822	1,031	1,190	----------	----------	----------
23	----------	----------	484	702	882	1,101	1,293	----------	----------	----------
24	----------	----------	508	739	942	1,173	1,366	----------	----------	----------
25	----------	----------	538	782	1,019	1,239	1,447	----------	----------	----------
26	----------	----------	563	833	1,056	1,299	1,521	1,794	----------	----------
27	----------	----------	----------	877	1,097	1,366	1,619	1,900	----------	----------
28	----------	----------	----------	914	1,151	1,463	1,714	2,008	----------	----------
29	----------	----------	----------	948	1,219	1,525	1,811	2,129	----------	----------
30	----------	----------	----------	993	1,286	1,612	1,955	2,254	----------	----------
31	----------	----------	----------	1,049	1,329	1,708	2,034	2,361	----------	----------
32	----------	----------	----------	1,097	1,411	1,791	2,119	2,475	2,803	----------
33	----------	----------	----------	1,142	1,496	1,898	2,225	2,602	2,925	----------
34	----------	----------	----------	----------	1,556	1,977	2,295	2,683	3,050	----------
35	----------	----------	----------	----------	1,624	2,032	2,369	2,770	3,208	----------
36	----------	----------	----------	----------	1,698	2,101	2,489	2,925	3,369	----------
37	----------	----------	----------	----------	1,744	2,161	2,578	3,062	3,466	----------
38	----------	----------	----------	----------	1,807	2,260	2,698	3,178	3,611	----------
39	----------	----------	----------	----------	1,864	2,356	2,778	3,288	3,714	----------
40	----------	----------	----------	----------	----------	2,453	2,907	3,423	3,811	4,323

Species..... PACIFIC SILVER FIR (Abies amabilis)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 32 feet
Stump height..... 2 to 3 feet
Top d.i.b. ..... 12 inches
Trim allowance per log. 0.5 feet
Method..... Adjustment of volumes in table 79 of "Volume Tables for the Important Timber Trees of the United States"
Number of trees..... 372 for base table
Location of trees..... West of Cascades, 2,500- to 3,500-foot elevation
Accuracy..... Not given
Author..... W. H. Meyer and J. W. Girard, Pacific Northwest Forest and Range Expt. Sta.
Source..... Forest Survey file report
Year..... 1931

D.b.h. (inches)	Volume in tens of board-feet when number of 16-foot logs is—										
	2	3	4	5	6	7	8	9	10	11	12
16	18	29	40	----	----	----	----	----	----	----	----
18	20	34	47	----	----	----	----	----	----	----	----
20	----	36	52	66	----	----	----	----	----	----	----
22	----	38	57	76	94	----	----	----	----	----	----
24	----	----	63	83	105	128	----	----	----	----	----
26	----	----	----	94	117	143	166	----	----	----	----
28	----	----	----	105	131	160	186	----	----	----	----
30	----	----	----	115	145	178	209	241	----	----	----
32	----	----	----	----	158	193	226	262	----	----	----
34	----	----	----	----	173	210	246	284	320	----	----
36	----	----	----	----	187	229	268	309	349	----	----
38	----	----	----	----	----	247	289	337	379	418	----
40	----	----	----	----	----	268	312	368	410	452	----
42	----	----	----	----	----	290	338	394	444	490	----
44	----	----	----	----	----	310	365	423	478	523	----
46	----	----	----	----	----	330	388	452	510	560	----
48	----	----	----	----	----	356	415	485	543	600	----
50	----	----	----	----	----	----	445	520	580	640	----
54	----	----	----	----	----	----	503	587	660	730	----
58	----	----	----	----	----	----	570	660	740	820	900
62	----	----	----	----	----	----	635	740	830	915	1,010
66	----	----	----	----	----	----	710	820	920	1,020	1,120
70	----	----	----	----	----	----	----	905	1,010	1,115	1,220

TABLE 86

Species..... LODGEPOLE PINE (Pinus contorta)
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... 1 foot
Top d.i.b..... 4 inches
Method..... Derived from "Volume Tables for Lodgepole Pine" using average form
Number of trees..... 180
Location of trees..... Ochoco and Chelan National Forests and Colville Indian Reservation
Accuracy..... Not given
Author..... F. A. Johnson, Pacific Northwest Forest and Range Expt. Sta.
Source..... Miscellaneous paper, "Volume Tables for Lodgepole Pine"
Year..... 1952
Note..... Volumes in table are for trees of average form

D.b.h. (inches)	Cubic-foot volume when total height of trees in feet is--								
	30	40	50	60	70	80	90	100	110
6	2.1	2.9	3.5	4.1	4.8	5.4	----------	----------	----------
7	3.5	4.6	5.7	6.8	7.8	8.9	----------	----------	----------
8	4.8	6.3	7.9	9.3	10.8	12.3	----------	----------	----------
9	6.3	8.3	10.4	12.4	14.3	16.2	18.1	----------	----------
10	7.6	10.1	12.6	15.0	17.3	19.7	22.0	----------	----------
11	----------	12.2	15.2	18.2	21.1	23.9	26.8	29.6	32.3
12	----------	13.9	17.4	20.8	24.1	27.3	30.6	33.7	36.9
13	----------	15.6	19.4	23.2	26.9	30.6	34.2	37.8	41.3
14	----------	17.8	22.2	26.5	30.8	35.0	39.1	43.2	47.2
15	----------	19.4	24.2	28.9	33.5	38.1	42.6	47.0	51.4
16	----------	21.6	27.0	32.2	37.4	42.5	47.6	52.5	57.5
17	----------	----------	28.8	34.4	39.9	45.5	50.7	56.0	61.3
18	----------	----------	31.6	37.8	43.9	49.9	55.8	61.6	67.4
19	----------	----------	33.3	39.8	46.1	52.4	58.7	64.8	70.9
20	----------	----------	36.1	43.2	50.1	56.9	63.7	70.4	77.0

TABLE 87

Species..... LODGEPOLE PINE (Pinus contorta)
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... International 1/4-inch kerf
Scaling length for logs. 8 feet
Stump height..... 1 foot
Top d.i.b..... 5 inches
Trim allowance per log. 0.15 feet
Method..... Derived from "Volume Tables for Lodgepole Pine" using average form
Number of trees..... 180
Location of trees..... Ochoco and Chelan National Forests and Colville Indian Reservation
Accuracy..... Not given
Author..... F. A. Johnson, Pacific Northwest Forest and Range Expt. Sta.
Source..... Miscellaneous paper, "Volume Tables for Lodgepole Pine"
Year..... 1952
Note..... Volumes in table are for trees of average form

D.b.h. (inches)	Board-foot volume when total height of tree in feet is--								
	30	40	50	60	70	80	90	100	110
6	6	7	9	10	----------	----------	----------	----------	----------
7	10	13	18	22	27	----------	----------	----------	----------
8	14	20	27	35	43	52	----------	----------	----------
9	----------	28	39	51	64	78	92	----------	----------
10	----------	36	50	66	82	100	118	----------	----------
11	----------	46	64	85	106	130	154	179	----------
12	----------	----------	75	99	124	151	180	209	240
13	----------	----------	85	112	141	172	204	238	273
14	----------	----------	----------	133	167	204	242	283	324
15	----------	----------	----------	145	183	223	265	309	354
16	----------	----------	----------	166	210	256	304	354	407
17	----------	----------	----------	176	223	272	324	377	433
18	----------	----------	----------	----------	250	306	364	424	487
19	----------	----------	----------	----------	261	319	379	442	508
20	----------	----------	----------	----------	289	352	420	490	562

TABLE 88

Species..... LODGEPOLE PINE (Pinus contorta)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 8-foot logs
Log rule..... International 1/4-inch kerf
Scaling length for logs. 8 feet
Stump height..... 1 foot
Top d.i.b..... 5 inches
Trim allowance per log. 0.15 feet
Method..... Derived from "Volume Tables for Lodgepole Pine" using average form
Number of trees..... 180
Location of trees..... Ochoco and Chelan National Forests and Colville Indian Reservation
Accuracy..... Not given
Author..... F. A. Johnson, Pacific Northwest Forest and Range Expt. Sta.
Source..... Miscellaneous paper, "Volume Tables for Lodgepole Pine"
Year..... 1952
Note..... Volumes in table are for trees of average form

D.b.h. (inches)	Board-foot volume when number of 8-foot logs is--									
	1	2	3	4	5	6	7	8	9	10
6	5	9	14	18	----	----	----	----	----	----
7	7	13	20	26	----	----	----	----	----	----
8	9	17	25	34	42	----	----	----	----	----
9	----	22	33	43	54	64	----	----	----	----
10	----	27	40	53	66	78	91	----	----	----
11	----	----	49	65	81	96	112	----	----	----
12	----	----	58	77	95	113	132	150	----	----
13	----	----	----	89	110	131	152	174	----	----
14	----	----	----	104	129	154	179	204	228	----
15	----	----	----	----	146	174	203	230	258	----
16	----	----	----	----	----	201	233	265	297	329
17	----	----	----	----	----	223	259	294	330	365
18	----	----	----	----	----	----	293	333	374	414
19	----	----	----	----	----	----	321	365	409	453
20	----	----	----	----	----	----	358	408	457	506

TABLE 89

Species..... LODGEPOLE PINE (Pinus contorta)
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... Scribner
Scaling length for logs. 8 feet
Stump height..... 1 foot
Top d.i.b. ..... 5 inches
Trim allowance per log. 0.15 feet
Method..... Derived from "Volume Tables for Lodgepole Pine" using average form
Number of trees..... 180 for base tables
Location of trees..... Ochoco and Chelan National Forests and Colville Indian Reservation
Accuracy..... Not given
Author..... F. A. Johnson, Pacific Northwest Forest and Range Expt. Sta.
Source..... Miscellaneous paper, "Volume Tables for Lodgepole Pine"
Year..... 1952
Note..... Volumes in table are for trees of average form

D.b.h. (inches)	Board-foot volume when total height of tree in feet is--								
	30	40	50	60	70	80	90	100	110
6	4	5	7	8	----	----	----	----	----
7	8	9	13	17	22	----	----	----	----
8	10	15	22	29	37	45	----	----	----
9	----	22	33	44	57	70	84	----	----
10	----	30	43	59	74	92	110	----	----
11	----	39	57	78	98	122	145	170	----
12	----	----	68	91	116	142	171	200	230
13	----	----	77	104	132	163	195	228	263
14	----	----	----	125	158	195	232	273	314
15	----	----	----	136	174	214	255	299	344
16	----	----	----	157	201	246	294	344	396
17	----	----	----	167	214	262	314	366	422
18	----	----	----	----	240	296	353	413	476
19	----	----	----	----	251	309	368	431	497
20	----	----	----	----	279	342	409	479	550

TABLE 90

Species..... LODGEPOLE PINE (Pinus contorta)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 8-foot logs
Log rule..... Scribner
Scaling length for logs. 8 feet
Stump height..... 1 foot
Top d.i.b..... 5 inches
Trim allowance per log. 0.15 feet
Method..... Derived from "Volume Tables for Lodgepole Pine" using average form
Number of trees..... 180 for base table
Location of trees..... Ochoco and Chelan National Forests and Colville Indian Reservation
Accuracy..... Not given
Author..... F. A. Johnson, Pacific Northwest Forest and Range Expt. Sta.
Source..... Miscellaneous paper, "Volume Tables for Lodgepole Pine"
Year..... 1952
Note..... Volumes in tables are for trees of average form

D.b.h. (inches)	Board-foot volume when number of 8-foot logs is--									
	1	2	3	4	5	6	7	8	9	10
6	4	7	10	14	----	----	----	----	----	----
7	5	9	15	21	----	----	----	----	----	----
8	7	13	20	28	36	----	----	----	----	----
9	----	17	27	37	47	57	----	----	----	----
10	----	22	34	46	59	70	83	----	----	----
11	----	----	42	58	73	88	104	----	----	----
12	----	----	51	69	87	105	124	141	----	----
13	----	----	----	81	102	123	143	165	----	----
14	----	----	----	96	121	145	170	195	219	----
15	----	----	----	----	137	165	194	221	248	----
16	----	----	----	----	----	192	224	255	287	319
17	----	----	----	----	----	214	249	284	320	355
18	----	----	----	----	----	----	283	323	363	403
19	----	----	----	----	----	----	311	355	398	442
20	----	----	----	----	----	----	348	397	446	495

TABLE 91

Species..... LODGEPOLE PINE (Pinus contorta)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 8-foot logs
Log rule.....Scribner
Scaling length for logs. 8 feet
Stump height..... 1 foot
Top d.i.b. ..... 5.5 inches
Trim allowance per log. Not given
Method..... Harmonized curves
Number of trees..... 277
Location of trees..... Deschutes River Basin
Accuracy..... Aggregate deviation 0.86 percent low
Author..... R. L. Quintus, Oregon State Board of Forestry
Source..... Research publication
Year..... 1951

D.b.h. (inches)	Volume in tens of board-feet when number of 8-foot logs is--								Basis, trees
	1	2	3	4	5	6	7	8	
6	0.5	1.4	2.1	3.2	4.5	----	----	----	14
7	0.5	1.8	2.7	3.8	5.4	----	----	----	25
8	0.5	2.0	3.3	4.4	6.3	----	----	----	24
9	0.5	2.4	3.7	5.0	7.1	8.8	----	----	23
10	----	2.7	4.1	5.7	8.0	10.0	----	----	17
11	----	2.9	4.5	6.4	8.8	11.2	14.0	16.8	15
12	----	3.2	4.9	7.2	9.7	12.5	15.7	18.4	36
13	----	3.5	5.3	7.9	10.6	13.8	17.1	20.3	27
14	----	----	5.7	8.6	11.5	15.1	18.9	22.2	38
15	----	----	6.0	9.4	12.5	16.5	20.6	24.5	17
16	----	----	----	10.1	13.4	17.9	22.6	27.0	13
17	----	----	----	10.8	14.4	19.3	24.4	29.9	13
18	----	----	----	----	15.4	20.7	26.4	33.0	5
19	----	----	----	----	16.3	22.1	28.6	36.8	1
20	----	----	----	----	17.3	23.6	30.8	41.9	7
21	----	----	----	----	18.2	25.0	32.0	48.0	2
22	----	----	----	----	----	26.4	35.6	54.4	0
Basis, trees	14	27	28	39	52	71	34	12	277

TABLE 92

Species..... LODGEPOLE PINE (Pinus contorta)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 16-feet
Stump height..... Not given
Top d.i.b..... 6 inches
Trim allowance per log. 2 inches
Method..... Curves
Number of trees..... 549
Location of trees..... Blue Mountains of eastern Oregon, around 5,000-foot elevation
Accuracy..... Not given
Author..... E. J. Hanzlik, U. S. Forest Service, Pacific Northwest Region
Source..... File report
Year..... 1913

D.b.h. (inches)	Board-foot volume when number of 16-foot logs is—									Average volume[1]	Basis, trees
	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2		
7	7	18	27	41	—	—	—	—	—	25	19
8	10	20	32	45	58	—	—	—	—	36	58
9	—	23	36	49	63	76	—	—	—	48	89
10	—	27	38	51	66	83	102	—	—	63	95
11	—	—	40	55	72	93	116	—	—	82	98
12	—	—	45	63	83	105	130	158	—	106	65
13	—	—	—	75	97	121	146	174	—	131	44
14	—	—	—	89	113	138	164	191	222	159	28
15	—	—	—	—	135	158	182	211	245	188	23
16	—	—	—	—	—	178	203	233	270	219	11
17	—	—	—	—	—	196	226	258	299	252	6
18	—	—	—	—	—	—	250	285	329	288	6
19	—	—	—	—	—	—	277	315	359	326	2
20	—	—	—	—	—	—	307	346	391	364	2
21	—	—	—	—	—	—	339	378	427	401	2
22	—	—	—	—	—	—	—	414	473	439	1

[1] When trees are not tallied by number of logs, use this column.

TABLE 93

Species..... RED ALDER (Alnus rubra)
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... As cut
Top d.i.b..... 4 inches
Method..... Multiple regression using logarithms
Number of trees..... 372
Location of trees..... Oregon, Washington, and British Columbia
Accuracy..... Standard error of single tree volume 9.7 percent
Author..... F. A. Johnson, Pacific Northwest Forest and Range Expt. Sta.; R. M. Kallander, Oregon State Board of Forestry; P. G. Lauterbach, Weyerhaeuser Timber Company
Source..... Table 4 in Research Note No. 55
Year..... 1949

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is—									Basis, trees
	40	50	60	70	80	90	100	110	120	
6	3.5	4.4	5.2	6.1	7.0	—	—	—	—	
7	4.7	5.9	7.0	8.1	9.2	—	—	—	—	0
8	6.0	7.5	9.0	10.4	11.9	13.3	14.8	—	—	
9	7.5	9.3	11.2	12.9	14.8	16.6	18.4	—	—	19
10	9.1	11.4	13.6	15.8	18.0	20.2	22.4	24.5	—	
11	10.9	13.6	16.2	18.9	21.5	24.1	26.7	29.3	—	50
12	12.8	16.0	19.1	22.2	25.3	28.3	31.4	34.5	—	
13	14.9	18.5	22.1	25.7	29.3	32.9	36.4	39.9	43.5	70
14	—	21.2	25.4	29.5	33.6	37.7	41.8	45.9	48.8	
15	—	24.2	28.9	33.6	38.3	42.9	47.6	52.2	56.8	81
16	—	27.3	32.6	37.9	43.1	48.4	53.6	58.8	64.0	
17	—	30.5	36.5	42.4	48.3	54.2	60.0	65.9	71.7	69
18	—	—	40.6	47.2	53.7	60.2	66.8	73.3	79.8	
19	—	—	44.9	52.2	59.4	66.6	73.9	81.1	88.2	48
20	—	—	49.4	57.4	65.3	73.3	81.2	89.1	97.0	
21	—	—	54.1	62.8	71.6	80.3	89.0	97.6	106.2	15
22	—	—	—	68.5	78.0	87.5	97.7	106.5	115.9	
23	—	—	—	74.4	84.8	95.0	105.3	115.6	125.8	11
24	—	—	—	80.6	91.8	102.9	114.1	125.2	136.2	
25	—	—	—	86.9	99.0	111.0	123.1	135.0	147.0	7
26	—	—	—	93.5	106.5	119.4	132.4	145.3	158.1	
27	—	—	—	100.3	114.3	128.1	142.0	155.9	169.7	1
28	—	—	—	107.3	122.3	137.1	152.0	166.8	181.6	1
Basis, trees	—	—	9	25	129	123	69	16	1	372

TABLE 94

Species..... RED ALDER (Alnus rubra)
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... One foot (average)
Top d.i.b..... 2 inches
Method..... Frustum form factor
Number of trees..... 115
Location of trees..... Not given
Accuracy..... Not given
Author..... A. A. Griffin and A. R. Wilcox, U. S. Forest Service, Pacific Northwest Region
Source..... Table 17 in U. S. Dept. Agr. Bul. 1437
Year..... 1926

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--						
	60	70	80	90	100	110	120
8	7.2	11.5	15.7	----	----	----	----
9	8.4	13.0	17.4	21.9	----	----	----
10	9.6	14.0	19.2	24.6	----	----	----
11	10.8	15.7	21.9	28.1	----	----	----
12	12.2	18.0	24.5	31.1	37.5	----	----
13	----	20.4	27.4	34.1	41.0	----	----
14	----	23.7	31.0	37.8	45.0	52.0	----
15	----	27.0	35.3	42.3	49.4	56.5	----
16	----	30.5	39.1	46.8	54.4	62.0	69.7
17	----	----	43.2	51.2	59.6	68.0	77.0
18	----	----	47.4	56.3	65.6	75.0	84.8
19	----	----	51.6	61.3	71.5	82.0	92.4
20	----	----	55.8	66.8	77.9	89.0	100.0
21	----	----	----	71.8	84.0	96.0	108.0
22	----	----	----	77.6	90.2	102.9	115.5
23	----	----	----	83.3	96.5	109.8	123.2
24	----	----	----	89.0	102.4	116.8	131.0

TABLE 95

Species..... RED ALDER (Alnus rubra)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 8-foot logs
Log rule..... International 1/4-inch kerf
Scaling length for logs. 8 feet
Stump height..... As cut
Top d.i.b. ..... 8 inches
Trim allowance per log. 0.15 feet
Method..... Adjustment of volumes in table 1 of Research Note No. 55
Number of trees..... 415
Location of trees..... Oregon, Washington, and British Columbia
Accuracy..... Standard error of an individual tree volume 10.3 percent for base table
Author..... F. A. Johnson, Pacific Northwest Forest and Range Expt. Sta.; R. M. Kallander, Oregon State Board of Forestry; P. G. Lauterbach, Weyerhaeuser Timber Company
Source..... Table 3 in Research Note No. 55
Year..... 1949

D.b.h. (inches)	Board-foot volume when number of 8-foot logs is--									
	1	2	3	4	5	6	7	8	9	10
10	19	37	57	76	95	114	----	----	----	----
11	22	44	67	90	112	134	----	----	----	----
12	25	51	78	104	131	157	183	209	----	----
13	29	59	90	119	150	180	211	241	----	----
14	34	68	103	137	171	206	240	275	----	----
15	38	77	116	155	194	233	272	311	----	----
16	43	86	130	174	218	262	305	349	394	----
17	48	96	145	195	243	292	341	389	439	----
18	53	106	161	215	269	323	378	432	487	542
19	----	117	178	237	297	357	416	476	537	597
20	----	129	195	262	326	391	457	523	589	655
21	----	141	213	284	356	428	499	571	644	716
22	----	152	232	309	387	465	543	622	701	779
23	----	166	251	335	420	504	589	674	760	845
24	----	180	271	363	454	545	637	728	821	913
25	----	----	292	390	489	601	686	784	884	983
26	----	----	314	419	525	631	737	843	950	1,052
27	----	----	336	449	563	676	790	903	1,018	1,132
28	----	----	359	480	601	723	844	965	1,088	1,210

TABLE 96

Species..... RED ALDER (Alnus rubra)
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... Scribner
Scaling length for logs. 8 feet
Stump height..... One foot (average)
Top d.i.b..... 6 inches
Trim allowance per log. Not given
Method..... Frustum form factor
Number of trees..... 115
Location of trees..... Not given
Accuracy..... Not given
Author..... A. A. Griffin and A. R. Wilcox, U. S. Forest Service, Pacific Northwest Region
Source..... Table 16 in U. S. Dept. Agr. Bul. 1437
Year..... 1926

D.b.h. (inches)	Board-foot volume when total height of tree in feet is—						
	60	70	80	90	100	110	120
8	12	30	48	54	—	—	—
9	17	36	55	74	—	—	—
10	22	46	70	94	118	—	—
11	26	57	85	115	140	—	—
12	31	68	105	140	170	—	—
13	—	82	127	170	205	235	—
14	—	95	150	200	242	278	—
15	—	108	170	230	275	320	365
16	—	120	195	260	314	365	415
17	—	—	218	290	352	410	458
18	—	—	245	325	392	460	512
19	—	—	275	362	437	506	568
20	—	—	305	400	485	561	632
21	—	—	—	445	536	620	700
22	—	—	—	493	585	683	770
23	—	—	—	550	650	750	840
24	—	—	—	610	710	810	905

TABLE 97

Species..... RED ALDER (Alnus rubra)
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Long rule..... Scribner
Scaling length for logs. 8 feet
Stump height..... As cut
Top d.i.b..... 8 inches
Trim allowance per log. 0.15 feet
Method..... Multiple regression using logarithms
Number of trees..... 353
Location of trees..... Oregon, Washington, and British Columbia
Accuracy..... Standard error of an individual tree volume 20.6 percent
Author..... F. A. Johnson, Pacific Northwest Forest and Range Expt. Sta.; R. M. Kallander, Oregon State Board of Forestry; P. G. Lauterbach, Weyerhaeuser Timber Company
Source..... Table 5 in Research Note No. 55
Year..... 1949

D.b.h. (inches)	Board-foot volume when total height of tree in feet is—									Basis, trees
	40	50	60	70	80	90	100	110	120	
10	35	44	54	63	72	81	90	—	—	50
11	45	56	68	80	91	103	115	—	—	
12	56	70	84	99	114	128	143	—	—	70
13	68	86	103	121	139	157	174	—	—	
14	82	103	124	145	167	188	210	231	253	81
15	97	122	148	173	198	224	248	275	301	
16	114	144	173	203	233	263	293	323	353	69
17	—	167	202	236	271	306	341	376	411	
18	—	193	233	273	313	353	393	434	474	48
19	—	221	266	312	358	404	450	496	543	
20	—	251	303	355	407	459	512	564	617	15
21	—	—	342	401	460	519	578	637	697	
22	—	—	384	450	516	583	649	716	783	11
23	—	—	429	503	577	651	725	800	875	
24	—	—	478	559	657	724	807	890	973	7
25	—	—	—	619	710	802	893	985	1,077	0
26	—	—	—	683	784	885	986	1,087	1,189	
27	—	—	—	751	861	972	1,083	1,195	1,306	2
28	—	—	—	822	943	1,064	1,186	1,308	1,430	
Basis, trees	—	—	7	24	117	119	69	16	1	353

TABLE 98

Species..... RED ALDER (Alnus rubra)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 8-foot logs
Log rule..... Scribner
Scaling length for logs. 8 feet
Stump height..... One foot (average)
Top d.i.b..... 6 inches
Trim allowance per log. Not given
Method..... Frustum form factor
Number of trees..... 115
Location of trees..... Not given
Accuracy..... Not given
Author..... A. A. Griffin and A. R. Wilcox, U. S. Forest Service, Pacific Northwest Region
Source..... Table 18 in U. S. Dept. Agr. Bul. 1437
Year..... 1926

D.b.h. (inches)	Board-foot volume when number of 8-foot logs is—								
	4	5	6	7	8	9	10	11	12
8	30	40	50	----	----	----	----	----	----
9	36	47	57	67	----	----	----	----	----
10	46	58	71	86	98	----	----	----	----
11	57	73	90	106	122	138	----	----	----
12	68	89	109	128	147	167	----	----	----
13	----	----	132	154	179	202	----	----	----
14	----	----	155	182	210	238	265	----	----
15	----	----	177	208	240	271	302	----	----
16	----	----	----	235	272	309	346	384	----
17	----	----	----	262	303	346	388	430	----
18	----	----	----	295	340	386	432	479	----
19	----	----	----	328	380	431	482	533	----
20	----	----	----	365	421	477	533	590	645
21	----	----	----	404	465	527	590	654	715
22	----	----	----	447	515	575	650	720	787
23	----	----	----	----	570	640	712	785	855
24	----	----	----	----	631	704	776	850	924

TABLE 99

Species..... RED ALDER (Alnus rubra)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 8-foot logs
Log rule..... Scribner
Scaling length for logs. 8 feet
Stump height..... As cut
Top d.i.b..... 8 inches
Trim allowance per log. 0.15 feet
Method..... Multiple regression using logarithms
Number of trees..... 415
Location of trees..... Oregon, Washington, and British Columbia
Accuracy..... Standard error of an individual tree volume 10.3 percent
Author..... F. A. Johnson, Pacific Northwest Forest and Range Expt. Sta.; R. M. Kallander, Oregon State Board of Forestry; P. G. Lauterbach, Weyerhaeuser Timber Company
Source..... Table 1 in Research Note No. 55
Year..... 1949

D.b.h. (inches)	Board-foot volume when number of 8-foot logs is—										Basis, trees
	1	2	3	4	5	6	7	8	9	10	
10	18	35	53	71	89	107	----	----	----	----	54
11	21	42	63	85	106	127	----	----	----	----	
12	24	49	74	99	125	150	175	200	----	----	77
13	28	57	86	115	144	173	203	232	----	----	
14	33	66	99	132	165	199	232	266	----	----	96
15	37	75	112	150	188	226	264	302	----	----	
16	42	84	126	169	212	255	297	340	383	----	84
17	47	94	141	189	237	285	333	380	428	----	
18	52	104	157	210	263	316	370	423	476	530	57
19	----	115	174	232	291	350	408	467	526	585	
20	----	127	191	257	320	384	449	514	578	643	20
21	----	139	209	279	350	421	491	562	633	704	
22	----	151	228	304	381	458	535	613	690	767	16
23	----	164	247	330	414	497	581	665	749	833	
24	----	178	267	358	448	538	629	719	810	901	8
25	----	----	288	385	483	594	678	775	873	971	
26	----	----	310	414	519	624	729	834	939	1,040	1
27	----	----	332	444	557	669	782	894	1,007	1,120	
28	----	----	355	475	595	716	836	956	1,077	1,198	2
Basis, trees	----	14	26	54	82	98	70	45	22	4	415

TABLE 100

Species..... RED ALDER (Alnus rubra)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 8-foot logs
Log rule..... Scribner
Scaling length for logs. 8 feet
Stump height..... Not given
Top d.i.b. ..... 10 inches
Trim allowance per log. Not given
Method..... Not given
Number of trees..... 105
Location of trees..... Not given
Accuracy..... Aggregate deviation 1.24 percent low
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... File report
Year..... 1931

D.b.h. (inches)	Volume in tens of board-feet when number of 8-foot logs is--									
	1	2	3	4	5	6	7	8	9	10
10	3	----	----	----	----	----	----	----	----	----
11	3	6	9	----	----	----	----	----	----	----
12	3	6	9	11	14	16	----	----	----	----
13	----	7	10	13	16	18	----	----	----	----
14	----	8	10	14	17	21	25	30	----	----
15	----	9	11	16	19	23	27	32	----	----
16	----	10	12	18	22	26	30	36	43	49
17	----	----	14	20	25	29	33	40	46	53
18	----	----	16	22	27	32	37	44	50	58
19	----	----	18	25	30	36	42	48	54	62
20	----	----	20	28	33	40	45	52	59	67
21	----	----	----	31	37	44	50	56	64	72
22	----	----	----	35	41	48	55	62	69	77
23	----	----	----	----	46	54	60	66	74	83
24	----	----	----	----	51	59	65	72	79	89
25	----	----	----	----	57	64	70	77	84	94
26	----	----	----	----	----	70	76	82	90	100
27	----	----	----	----	----	76	82	88	96	106
28	----	----	----	----	----	82	88	94	101	111

TABLE 101

Species..... RED ALDER (Alnus rubra)
Unit of measure..... Board-foot
Variables..... D.b.h., number of 8-foot logs, and total height
Log rule..... Scribner
Scaling length for logs. 8 feet
Stump height..... One foot (average)
Top d.i.b..... 6 inches
Trim allowance per log. None
Method..... Frustum form factor
Number of trees..... 115
Location of trees..... Western Oregon and western Washington--elevations to 1,800 feet
Accuracy..... Not given
Author..... E. J. Hanzlik, U. S. Forest Service, Pacific Northwest Region
Source..... File report
Year..... 1924

D.b.h. (inches)	Board-foot volume when number of 8-foot logs is--										
	2	3	4	5	6	7	8	9	10	11	12
	or total height of tree in feet is--										
	59	64	70	76	81	86	92	99	106	114	122
8	10	20	30	40	50	----	----	----	----	----	----
9	16	26	36	47	57	67	----	----	----	----	----
10	21	34	46	58	71	86	98	----	----	----	----
11	24	40	57	73	90	106	122	138	----	----	----
12	27	47	68	89	109	128	147	167	----	----	----
13	----	55	82	107	132	154	179	202	----	----	----
14	----	63	95	126	155	182	210	238	265	----	----
15	----	----	108	142	177	208	240	271	302	----	----
16	----	----	120	160	199	235	272	309	346	384	----
17	----	----	----	178	220	262	303	346	388	430	----
18	----	----	----	----	250	295	340	386	432	479	----
19	----	----	----	----	280	328	380	431	482	533	----
20	----	----	----	----	315	365	421	477	533	590	645
21	----	----	----	----	----	404	465	527	590	654	715
22	----	----	----	----	----	447	515	575	650	720	787
23	----	----	----	----	----	----	570	640	712	785	855
24	----	----	----	----	----	----	631	704	776	850	924

TABLE 102

Species..... WESTERN LARCH (Larix occidentalis)
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Equivalent to d.b.h. with a 24-inch maximum
Top d.i.b..... 4 inches
Method..... Adjustment of volumes in two tables from the Northern Rocky Mountain Forest and Range Expt. Sta.
Number of trees..... Not given
Location of trees..... Northern Rocky Mountains
Accuracy..... Not given
Author..... F. L. Moravets, Pacific Northwest Forest and Range Expt. Sta.
Source..... File report
Year..... 1948

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--												
	40	50	60	70	80	90	100	110	120	130	140	150	160
6	1.7	2.5	2.9	3.3	4.0	———	———	———	———	———	———	———	———
8	4.1	5.1	6.5	7.9	8.8	9.7	———	———	———	———	———	———	———
10	———	9	11	13	15	16	17	19	———	———	———	———	———
12	———	———	16	18	20	23	25	28	31	———	———	———	———
14	———	———	20	24	27	31	34	38	42	46	49	———	———
16	———	———	29	34	38	42	46	50	55	59	64	68	———
18	———	———	———	41	47	52	57	62	67	72	78	83	89
20	———	———	———	48	55	62	68	74	80	86	93	99	106
22	———	———	———	58	65	73	80	88	95	103	112	120	127
24	———	———	———	66	75	84	93	102	111	120	128	137	146
26	———	———	———	———	85	96	106	116	126	136	146	156	166
28	———	———	———	———	96	108	120	131	142	153	165	176	188
30	———	———	———	———	108	121	133	145	158	171	185	197	210
32	———	———	———	———	117	133	147	162	176	190	204	218	232
34	———	———	———	———	130	146	162	178	194	210	226	241	257
36	———	———	———	———	142	160	177	195	212	230	248	265	283
38	———	———	———	———	———	175	194	214	232	251	271	290	309
40	———	———	———	———	———	190	211	232	252	273	294	315	336
42	———	———	———	———	———	207	230	253	276	299	322	344	366
44	———	———	———	———	———	224	250	274	299	324	349	373	398
46	———	———	———	———	———	243	271	297	324	351	379	406	433
48	———	———	———	———	———	263	292	320	349	379	409	437	465
50	———	———	———	———	———	283	315	346	378	409	441	472	503

Species..... WESTERN LARCH (Larix occidentalis)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... International 1/8-inch kerf
Scaling length for logs. 16 feet
Stump height..... 1 to 1.5 feet
Top d.i.b..... 6 to 9 inches
Trim allowance per log. 0.3 feet
Method..... Frustum form factor
Number of trees..... 85 larch and 207 Douglas-fir
Location of trees..... Wallowa National Forest, Oregon
Accuracy..... Aggregate deviation 0.78 percent low for larch, 0.20 percent high for Douglas-fir
Author..... E. J. Hanzlik, U. S. Forest Service, Pacific Northwest Region
Source..... File report
Year..... 1926

D.b.h. (inches)	Board-foot volume when number of 16-foot logs is--									
	1	2	3	4	5	6	7	8	9	10
8	20	45	75	----------	----------	----------	----------	----------	----------	----------
9	20	50	85	----------	----------	----------	----------	----------	----------	----------
10	20	60	95	----------	----------	----------	----------	----------	----------	----------
11	25	65	110	155	----------	----------	----------	----------	----------	----------
12	25	75	120	175	----------	----------	----------	----------	----------	----------
13	25	80	135	200	----------	----------	----------	----------	----------	----------
14	25	90	155	220	275	340	----------	----------	----------	----------
15	30	95	170	245	310	395	----------	----------	----------	----------
16	30	105	190	270	350	445	----------	----------	----------	----------
17	30	115	210	300	395	495	----------	----------	----------	----------
18	30	125	230	330	440	550	655	----------	----------	----------
19	30	135	255	360	485	610	720	----------	----------	----------
20	35	145	275	400	530	670	790	----------	----------	----------
21	35	160	300	435	580	730	865	----------	----------	----------
22	35	170	325	470	630	790	940	1,100	----------	----------
23	40	185	350	510	685	855	1,020	1,200	----------	----------
24	40	200	385	550	735	920	1,105	1,300	----------	----------
25	45	210	410	595	795	990	1,195	1,405	----------	----------
26	45	225	440	640	855	1,060	1,285	1,505	1,725	----------
27	45	240	470	685	915	1,140	1,380	1,610	1,850	----------
28	50	255	500	735	975	1,215	1,470	1,715	1,970	----------
29	50	270	530	785	1,040	1,295	1,535	1,830	2,095	----------
30	50	285	565	835	1,110	1,380	1,665	1,945	2,220	2,495
31	----------	295	600	885	1,180	1,465	1,770	2,065	2,355	2,645
32	----------	310	635	935	1,250	1,550	1,880	2,185	2,495	2,800
33	----------	----------	670	990	1,320	1,640	1,990	2,315	2,640	2,975
34	----------	----------	705	1,045	1,395	1,730	2,100	2,445	2,800	3,150
35	----------	----------	735	1,105	1,470	1,830	2,215	2,580	2,950	3,325
36	----------	----------	770	1,165	1,550	1,930	2,335	2,725	3,100	3,500
37	----------	----------	805	1,220	1,630	2,035	2,455	2,865	3,270	3,685
38	----------	----------	845	1,280	1,710	2,135	2,575	3,010	3,440	3,875
39	----------	----------	880	1,340	1,795	2,240	2,705	3,150	3,615	4,070
40	----------	----------	915	1,400	1,880	2,350	2,830	3,300	3,785	4,270
41	----------	----------	955	1,460	1,965	2,460	2,955	3,445	3,950	4,470
42	----------	----------	995	1,525	2,050	2,575	3,080	3,585	4,125	4,670

TABLE 104

Species..... WHITE FIR (Abies grandis)
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Equivalent to d.b.h. with a 24-inch maximum
Top d.i.b..... 4 inches
Method..... Adjustment of volumes in two tables from the Northern Rocky Mountain Forest and Range Expt. Sta.
Number of trees..... Not given
Location of trees..... Northern Rocky Mountains
Accuracy..... Not given
Author..... F. L. Moravets, Pacific Northwest Forest and Range Expt. Sta.
Source..... File report
Year..... 1948

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--																	
	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
6	1.7	2.5	3.3	3.9	4.5	5.4	6.4	----	----	----	----	----	----	----	----	----	----	----
8	4	5	7	8	9	11	13	14	16	----	----	----	----	----	----	----	----	----
10	----	9	11	13	15	17	19	21	23	----	----	----	----	----	----	----	----	----
12	----	13	16	19	22	25	28	31	34	37	----	----	----	----	----	----	----	----
14	----	----	21	25	29	33	38	42	47	52	56	60	----	----	----	----	----	----
16	----	----	----	36	40	46	52	57	63	68	74	80	85	91	----	----	----	----
18	----	----	----	45	52	59	66	73	80	87	93	100	107	114	121	----	----	----
20	----	----	----	54	63	72	80	88	95	103	112	121	129	138	146	154	163	172
22	----	----	----	----	75	85	95	104	113	123	133	143	153	164	174	184	194	205
24	----	----	----	----	86	98	109	121	132	144	156	167	178	190	202	214	226	238
26	----	----	----	----	100	113	127	140	153	167	180	194	207	220	234	248	262	276
28	----	----	----	----	114	130	145	160	175	190	205	221	236	252	267	283	299	315
30	----	----	----	----	----	148	165	182	199	216	234	252	269	287	305	323	341	360
32	----	----	----	----	----	166	187	207	227	246	266	286	305	325	345	365	386	407
34	----	----	----	----	----	187	210	232	254	276	298	321	343	366	389	412	435	457
36	----	----	----	----	----	208	234	259	284	309	334	359	384	409	435	460	486	512
38	----	----	----	----	----	232	260	287	315	342	370	398	426	454	482	510	539	568
40	----	----	----	----	----	256	287	318	348	378	409	440	471	502	533	565	597	629
42	----	----	----	----	----	280	315	349	383	417	451	485	518	552	587	622	657	692
44	----	----	----	----	----	----	345	382	419	456	493	530	567	604	642	681	719	757
46	----	----	----	----	----	----	376	417	467	497	538	579	620	661	702	743	785	827
48	----	----	----	----	----	----	409	453	496	540	585	630	674	718	762	807	852	897
50	----	----	----	----	----	----	443	491	539	586	633	681	728	776	824	873	922	972

TABLE 105

Species..... WHITE FIR (Abies concolor)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... As low as practical
Top d.i.b..... Not given
Trim allowance per log. 0.2 feet
Method..... Not given
Number of trees..... 322
Location of trees..... Near Pelican Bay and Fort Klamath
Accuracy..... Not given
Author..... A. F. Kerr, U. S. Forest Service, Pacific Northwest Region
Source..... Table 67 in "Volume Tables for the Important Timber Trees of the United States"
Year..... 1913

D.b.h. (inches)	Board-foot volume when number of 16-foot logs is--						
	2	3	4	5	6	7	8
11	50	----	----	----	----	----	----
12	64	105	----	----	----	----	----
13	77	120	175	----	----	----	----
14	89	137	194	----	----	----	----
15	100	151	214	303	----	----	----
16	109	164	233	326	----	----	----
17	118	178	255	349	----	----	----
18	127	193	273	367	473	----	----
19	138	213	299	402	517	----	----
20	151	234	327	437	557	----	----
21	----	261	356	478	615	----	----
22	----	290	385	516	668	----	----
23	----	----	415	555	720	913	----
24	----	----	448	598	775	983	----
25	----	----	483	651	837	1,053	1,340
26	----	----	520	692	888	1,122	1,430
27	----	----	----	742	949	1,192	1,516
28	----	----	----	805	1,021	1,282	1,629
29	----	----	----	877	1,094	1,375	1,737
30	----	----	----	959	1,175	1,473	1,850
31	----	----	----	1,045	1,261	1,570	1,963
32	----	----	----	1,115	1,362	1,664	2,080
33	----	----	----	----	1,483	1,791	2,202
34	----	----	----	----	1,610	1,932	2,328
35	----	----	----	----	1,745	2,060	2,460
36	----	----	----	----	1,890	2,190	2,590
37	----	----	----	----	2,028	2,328	2,724
38	----	----	----	----	----	2,465	2,865
39	----	----	----	----	----	2,602	3,032
40	----	----	----	----	----	2,748	3,185

TABLE 106

Species..... PORT-ORFORD-CEDAR (Chamaecyparis lawsoniana)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 1.5 to 4.5 feet
Top d.i.b..... 8 to 15 inches
Trim allowance per log.. 0.3 feet
Method..... Frustum form factor
Number of trees..... 58
Location of trees..... Coos Bay Region of Southwestern Oregon
Accuracy..... Aggregate deviation 1.85 percent high
Author..... E. J. Hanzlik, U. S. Forest Service, Pacific Northwest Region
Source..... File report
Year..... 1934

D.b.h. (inches)	Volume in tens of board-feet when number of 16-foot logs is--										
	2	3	4	5	6	7	8	9	10	11	12
12	9	14	18	--------	--------	--------	--------	--------	--------	--------	--------
14	10	15	20	27	--------	--------	--------	--------	--------	--------	--------
16	11	17	23	31	--------	--------	--------	--------	--------	--------	--------
18	12	19	27	37	44	--------	--------	--------	--------	--------	--------
20	13	22	31	42	51	60	--------	--------	--------	--------	--------
22	--------	25	36	49	60	70	--------	--------	--------	--------	--------
24	--------	29	41	55	68	81	--------	--------	--------	--------	--------
26	--------	33	47	63	78	92	--------	--------	--------	--------	--------
28	--------	37	53	70	87	103	123	--------	--------	--------	--------
30	--------	41	60	78	97	117	139	--------	--------	--------	--------
32	--------	45	67	87	108	130	154	--------	--------	--------	--------
34	--------	50	74	98	120	144	170	--------	--------	--------	--------
36	--------	55	81	106	132	158	185	215	--------	--------	--------
38	--------	--------	88	115	145	173	201	232	--------	--------	--------
40	--------	--------	95	126	158	187	218	248	--------	--------	--------
42	--------	--------	102	137	171	201	235	267	--------	--------	--------
44	--------	--------	--------	147	184	217	252	286	318	--------	--------
46	--------	--------	--------	157	197	235	270	307	344	386	--------
48	--------	--------	--------	167	210	252	288	330	370	416	--------
50	--------	--------	--------	178	223	268	308	353	396	444	--------
52	--------	--------	--------	--------	236	285	328	378	423	472	--------
54	--------	--------	--------	--------	249	303	348	403	450	502	--------
56	--------	--------	--------	--------	262	318	370	425	476	531	582
58	--------	--------	--------	--------	275	336	390	450	503	560	616
60	--------	--------	--------	--------	288	353	412	473	530	590	648
62	--------	--------	--------	--------	--------	370	432	496	556	618	682
64	--------	--------	--------	--------	--------	388	452	520	582	650	716
66	--------	--------	--------	--------	--------	404	472	542	609	679	751
68	--------	--------	--------	--------	--------	422	493	566	635	708	782
70	--------	--------	--------	--------	--------	439	514	588	663	736	815
72	--------	--------	--------	--------	--------	455	534	612	689	766	848
74	--------	--------	--------	--------	--------	472	554	635	716	795	882
76	--------	--------	--------	--------	--------	489	575	660	742	824	914
78	--------	--------	--------	--------	--------	506	596	682	770	853	938
80	--------	--------	--------	--------	--------	523	616	705	796	882	980

TABLE 107

Species..... WESTERN WHITE PINE (Pinus monticola)
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Equivalent to d.b.h. with a 24-inch maximum
Top d.i.b..... 4 inches
Method..... Adjustment of volumes in two tables from the Northern Rocky Mountain Forest and Range Expt. Sta.
Number of trees..... Not given
Location of trees..... Northern Rocky Mountains
Accuracy..... Not given
Author..... F. L. Moravetz, Pacific Northwest Forest and Range Expt. Sta.
Source..... File report
Year..... 1948

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--																	
	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
6	1.7	2.5	3.3	4.0	4.7	5.4	6.2	7.1	—	—	—	—	—	—	—	—	—	—
8	4	5	7	8	10	11	13	14	15	16	18	—	—	—	—	—	—	—
10	—	9	11	13	16	18	20	22	24	26	28	30	—	—	—	—	—	—
12	—	—	—	20	23	26	28	31	34	37	41	44	47	—	—	—	—	—
14	—	—	—	—	30	34	38	42	46	50	54	58	62	66	—	—	—	—
16	—	—	—	—	38	43	48	52	57	62	67	72	76	81	86	91	96	102
18	—	—	—	—	—	55	61	66	72	78	84	91	97	103	109	115	121	128
20	—	—	—	—	—	66	74	81	88	95	102	110	117	125	133	141	148	156
22	—	—	—	—	—	79	88	97	105	113	122	131	140	149	158	167	177	187
24	—	—	—	—	—	92	103	114	124	134	145	156	167	177	188	199	210	221
26	—	—	—	—	—	108	121	133	145	157	169	182	194	207	220	232	245	258
28	—	—	—	—	—	124	139	154	168	182	196	210	224	238	253	268	283	298
30	—	—	—	—	—	143	160	176	193	209	225	241	257	273	290	307	324	341
32	—	—	—	—	—	162	181	199	217	235	254	273	292	311	330	349	368	388
34	—	—	—	—	—	—	204	225	245	265	286	308	329	350	371	392	414	436
36	—	—	—	—	—	—	227	251	275	298	321	345	368	382	416	440	464	489
38	—	—	—	—	—	—	253	280	306	332	357	383	410	437	464	491	518	545
40	—	—	—	—	—	—	281	310	339	367	395	424	454	484	514	543	572	602
42	—	—	—	—	—	—	308	340	372	404	436	468	500	533	566	599	632	665
44	—	—	—	—	—	—	338	373	408	443	478	513	548	584	620	656	692	728
46	—	—	—	—	—	—	369	408	446	484	521	559	598	637	676	715	755	795
48	—	—	—	—	—	—	402	444	485	526	568	609	651	694	737	780	823	866
50	—	—	—	—	—	—	435	481	527	571	615	659	705	751	797	843	890	937

TABLE 108

Species..... WESTERN WHITE PINE (Pinus monticola)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 32 feet (top logs, 16 feet)
Stump height..... As cut
Top d.i.b..... 10 to 14 inches
Trim allowance per log. Not given
Method..... Adjustment of volumes in Quinault table by Steer and Clements
Number of trees..... 2,312 for base table
Location of trees..... Quinault Indian Reservation
Accuracy..... Aggregate deviation for base table 0.05 percent low
Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... File report
Year..... 1931

D.b.h. (inches)	Volume in tens of board-feet when number of 16-foot logs is--									
	2	3	4	5	6	7	8	9	10	11
16	13	22	31	39	—	—	—	—	—	—
18	16	26	35	45	55	—	—	—	—	—
20	18	29	41	52	64	76	—	—	—	—
22	20	33	47	61	76	91	108	126	—	—
24	22	39	54	70	88	108	128	150	—	—
26	24	42	61	81	103	126	140	173	196	—
28	26	47	69	93	120	146	172	198	223	—
30	—	—	78	106	137	166	194	223	250	274
32	—	—	87	120	154	187	218	247	275	304
34	—	—	97	134	171	206	240	272	304	334
36	—	—	106	149	188	226	263	297	330	364
38	—	—	118	163	203	246	285	323	359	393
40	—	—	129	179	224	269	310	349	387	423
42	—	—	—	194	243	289	333	375	417	455
44	—	—	—	210	262	311	357	401	445	487
46	—	—	—	224	282	334	382	425	477	520
48	—	—	—	—	310	357	408	455	507	554
50	—	—	—	—	324	380	435	485	540	590
52	—	—	—	—	346	405	463	515	573	624
54	—	—	—	—	—	430	490	545	610	659
56	—	—	—	—	—	450	517	575	640	695
58	—	—	—	—	—	480	547	607	670	732
60	—	—	—	—	—	503	575	630	705	768
62	—	—	—	—	—	530	603	670	735	806

TABLE 109

Species..... WESTERN WHITE PINE (Pinus monticola)
Unit of measure..... Board-foot
Variables..... D.b.h. and merchantable length in feet
Log rule..... Scribner
Scaling length for logs. 40 feet (20-foot top logs as one-half 40-foot logs)
Stump height..... As cut
Top d.i.b. ..... As cut
Trim allowance per log. Not given
Method..... Not given
Number of trees..... 2,312
Location of trees..... Quinault Indian Reservation
Accuracy..... Aggregate deviation 0.05 percent low
Author..... H. B. Steer and V. A. Clements, U. S. Forest Service
Source..... File report
Year..... 1930

D.b.h. (inches)	Volume in tens of board-feet when merchantable length in feet is--								Top diameter limit	Basis, trees
	40	60	80	100	120	140	160	180		
14	15	24	32	----------	----------	----------	----------	----------	10	1
15	16	26	35	----------	----------	----------	----------	----------	11	3
16	17	28	38	----------	----------	----------	----------	----------	11	38
17	18	30	41	52	----------	----------	----------	----------	11	70
18	20	32	44	56	----------	----------	----------	----------	11	119
19	21	35	47	61	75	----------	----------	----------	11	122
20	22	37	51	66	81	----------	----------	----------	11	167
21	24	40	55	72	89	----------	----------	----------	11	178
22	26	43	59	78	97	119	----------	----------	11	147
23	27	46	64	84	106	130	----------	----------	11	135
24	29	49	68	90	115	141	----------	----------	11	127
25	30	52	74	98	125	152	177	----------	11	101
26	32	55	79	106	135	164	191	----------	11	102
27	34	59	85	115	146	175	205	----------	12	81
28	36	62	91	124	156	188	218	----------	12	81
29	----------	66	97	133	166	200	231	261	12	94
30	----------	70	104	141	176	212	245	275	12	80
31	----------	73	110	149	187	224	258	290	12	73
32	----------	77	118	158	198	236	270	305	12	80
33	----------	81	125	167	208	248	284	320	12	68
34	----------	85	132	176	219	260	298	335	12	60
35	----------	89	139	185	230	272	311	350	12	61
36	----------	93	146	194	240	284	325	365	12	50
37	----------	98	153	203	250	296	339	379	12	42
38	----------	103	160	212	261	308	353	394	12	56
39	----------	108	168	222	272	321	367	409	12	30
40	----------	113	176	231	284	334	380	425	13	39
41	----------	----------	183	240	295	347	394	440	13	23
42	----------	----------	191	250	306	359	409	456	13	16
43	----------	----------	198	260	317	371	422	471	13	15
44	----------	----------	206	269	329	384	437	488	13	11
45	----------	----------	215	279	340	398	452	505	13	13
46	----------	----------	223	289	352	411	467	521	13	5
47	----------	----------	231	299	364	425	482	538	13	4
48	----------	----------	----------	310	376	439	498	555	13	7
49	----------	----------	----------	321	388	453	514	573	13	4
50	----------	----------	----------	331	401	468	530	591	13	4
51	----------	----------	----------	342	413	482	547	608	13	2
52	----------	----------	----------	353	426	497	563	625	13	-
53	----------	----------	----------	364	439	512	580	642	13	1
54	----------	----------	----------	----------	451	527	597	660	13	-
55	----------	----------	----------	----------	464	542	613	678	13	1
56	----------	----------	----------	----------	477	557	629	696	13	-
57	----------	----------	----------	----------	491	573	645	715	14	-
58	----------	----------	----------	----------	505	588	661	733	14	-
59	----------	----------	----------	----------	518	601	677	750	14	-
60	----------	----------	----------	----------	530	615	693	769	14	-
61	----------	----------	----------	----------	545	630	710	788	14	-
62	----------	----------	----------	----------	559	646	728	807	14	-
63	----------	----------	----------	----------	573	662	745	825	14	1
Basis, trees	278	411	679	431	413	82	17	1	----------	2,312

TABLE 110

Species..... SUGAR PINE (Pinus lambertiana)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... Not given
Top d.i.b..... 8 to 20 inches
Trim allowance per log. Not given
Method..... Inside-bark diameter of average log equal to 60 percent of d.b.h.
Number of trees..... Not given
Location of trees..... Not given
Accuracy..... Not given
Author..... J. W. Girard, Pacific Northwest Forest and Range Expt. Sta.
Source..... File report
Year..... 1932

D.b.h. (inches)	Volume in tens of board-feet when number of 16-foot logs is—												
	1	2	3	4	5	6	7	8	9	10	11	12	13
12	3	7	10	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
14	4	8	12	16	--------	--------	--------	--------	--------	--------	--------	--------	--------
16	6	12	18	24	--------	--------	--------	--------	--------	--------	--------	--------	--------
18	--------	14	21	28	--------	--------	--------	--------	--------	--------	--------	--------	--------
20	--------	16	25	33	--------	--------	--------	--------	--------	--------	--------	--------	--------
22	--------	18	30	40	51	--------	--------	--------	--------	--------	--------	--------	--------
24	--------	20	37	49	62	74	--------	--------	--------	--------	--------	--------	--------
26	--------	--------	--------	59	74	89	105	--------	--------	--------	--------	--------	--------
28	--------	--------	--------	71	88	106	125	140	--------	--------	--------	--------	--------
30	--------	--------	--------	--------	105	124	146	170	191	--------	--------	--------	--------
32	--------	--------	--------	--------	123	145	170	200	221	248	--------	--------	--------
34	--------	--------	--------	--------	--------	168	195	230	256	286	--------	--------	--------
36	--------	--------	--------	--------	--------	190	223	260	290	326	--------	--------	--------
38	--------	--------	--------	--------	--------	--------	253	292	330	370	--------	--------	--------
40	--------	--------	--------	--------	--------	--------	285	329	367	410	450	--------	--------
42	--------	--------	--------	--------	--------	--------	318	361	405	455	500	--------	--------
44	--------	--------	--------	--------	--------	--------	350	400	448	500	550	--------	--------
46	--------	--------	--------	--------	--------	--------	385	440	490	550	610	--------	--------
48	--------	--------	--------	--------	--------	--------	420	480	537	600	665	--------	--------
50	--------	--------	--------	--------	--------	--------	454	520	583	655	725	790	--------
54	--------	--------	--------	--------	--------	--------	--------	610	685	770	845	925	--------
58	--------	--------	--------	--------	--------	--------	--------	710	795	890	980	1,070	--------
62	--------	--------	--------	--------	--------	--------	--------	820	920	1,020	1,120	1,250	1,310
66	--------	--------	--------	--------	--------	--------	--------	940	1,050	1,170	1,280	1,390	1,570
70	--------	--------	--------	--------	--------	--------	--------	1,070	1,200	1,340	1,460	1,590	1,720
74	--------	--------	--------	--------	--------	--------	--------	1,170	1,310	1,470	1,600	1,750	1,890
78	--------	--------	--------	--------	--------	--------	--------	1,280	1,440	1,610	1,760	1,920	2,080
82	--------	--------	--------	--------	--------	--------	--------	--------	1,570	1,760	1,920	2,100	2,270
86	--------	--------	--------	--------	--------	--------	--------	--------	1,710	1,900	2,090	2,280	2,460
90	--------	--------	--------	--------	--------	--------	--------	--------	1,840	2,050	2,260	2,460	2,670
94	--------	--------	--------	--------	--------	--------	--------	--------	1,980	2,200	2,420	2,650	2,860

TABLE 111

Species..... SUGAR PINE (Pinus lambertiana)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 20 inches (average)
Top d.i.b..... 12 inches for trees up to 66 inches d.b.h. and 16 inches for trees over 66 inches d.b.h.
Trim allowance per log. 4 inches
Method..... Curves
Number of trees..... 485
Location of trees..... Sites II and III on the Umpqua and Rogue River National Forests
Accuracy..... Not given
Author..... S. A. Warg, Rogue River National Forest
Source..... File report
Year..... Not given

D.b.h. (inches)	Volume in tens of board-feet when number of 16-foot logs is--												
	1	2	3	4	5	6	7	8	9	10	11	12	Basis, trees
16	8	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
18	11	19	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
20	14	25	33	--------	--------	--------	--------	--------	--------	--------	--------	--------	1
22	21	32	40	48	--------	--------	--------	--------	--------	--------	--------	--------	3
24	27	44	57	67	71	--------	--------	--------	--------	--------	--------	--------	1
26	32	55	73	88	95	99	--------	--------	--------	--------	--------	--------	2
28	--------	66	90	110	121	128	--------	--------	--------	--------	--------	--------	2
30	--------	--------	109	134	149	159	--------	--------	--------	--------	--------	--------	3
32	--------	--------	--------	159	178	191	195	--------	--------	--------	--------	--------	10
34	--------	--------	--------	184	207	224	231	--------	--------	--------	--------	--------	12
36	--------	--------	--------	211	239	261	271	--------	--------	--------	--------	--------	30
38	--------	--------	--------	238	272	299	312	319	--------	--------	--------	--------	24
40	--------	--------	--------	265	305	337	354	364	--------	--------	--------	--------	34
42	--------	--------	--------	--------	338	375	397	410	418	--------	--------	--------	31
44	--------	--------	--------	--------	373	415	442	459	469	--------	--------	--------	39
46	--------	--------	--------	--------	409	456	488	509	521	--------	--------	--------	34
48	--------	--------	--------	--------	446	498	535	560	574	--------	--------	--------	38
50	--------	--------	--------	--------	484	542	585	615	632	638	--------	--------	38
52	--------	--------	--------	--------	523	587	636	671	691	699	--------	--------	28
54	--------	--------	--------	--------	563	633	688	728	751	761	--------	--------	25
56	--------	--------	--------	--------	603	679	740	785	811	823	--------	--------	27
58	--------	--------	--------	--------	643	725	792	842	871	885	891	--------	24
60	--------	--------	--------	--------	685	774	848	903	935	951	958	--------	18
62	--------	--------	--------	--------	--------	--------	907	967	1,002	1,021	1,029	--------	17
64	--------	--------	--------	--------	--------	--------	966	1,032	1,070	1,092	1,101	--------	12
66	--------	--------	--------	--------	--------	--------	1,030	1,102	1,143	1,168	1,178	--------	10
68	--------	--------	--------	--------	--------	--------	1,093	1,171	1,215	1,243	1,254	--------	14
70	--------	--------	--------	--------	--------	--------	1,160	1,244	1,292	1,323	1,335	--------	3
72	--------	--------	--------	--------	--------	--------	--------	1,320	1,372	1,406	1,420	--------	2
74	--------	--------	--------	--------	--------	--------	--------	1,400	1,456	1,493	1,509	1,516	--------
76	--------	--------	--------	--------	--------	--------	--------	1,484	1,544	1,584	1,602	1,609	1
78	--------	--------	--------	--------	--------	--------	--------	1,573	1,638	1,681	1,701	1,709	2
80	--------	--------	--------	--------	--------	--------	--------	1,664	1,734	1,781	1,803	1,811	--------
													485

TABLE 112

Species..... WESTERN REDCEDAR (Thuja plicata)
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Included
Top d.i.b..... Included
Method..... Alinement chart
Number of trees..... 202
Location of trees..... Western white pine region
Accuracy..... Aggregate deviation 0.05 percent low
Author..... I. T. Haig, Northern Rocky Mountain Forest and Range Expt. Sta.
Source..... Table 40 in U. S. Dept. Agr. Tech. Bul. 323
Year..... 1932

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--															
	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160
2	0.10	0.20	0.31	—	—	—	—	—	—	—	—	—	—	—	—	—
3	—	.47	.67	0.91	—	—	—	—	—	—	—	—	—	—	—	—
4	—	.83	1.25	1.63	2.1	2.5	—	—	—	—	—	—	—	—	—	—
5	—	1.27	1.95	2.60	3.2	3.8	—	—	—	—	—	—	—	—	—	—
6	—	—	2.8	3.6	4.5	5.3	6	7	—	—	—	—	—	—	—	—
7	—	—	4	5	6	7	8	9	—	—	—	—	—	—	—	—
8	—	—	5	6	8	9	10	12	13	14	—	—	—	—	—	—
9	—	—	6	8	9	11	13	14	16	18	—	—	—	—	—	—
10	—	—	7	9	11	14	16	18	20	22	—	—	—	—	—	—
11	—	—	—	11	14	16	19	21	23	26	29	—	—	—	—	—
12	—	—	—	13	16	19	22	25	27	30	33	36	38	—	—	—
13	—	—	—	15	18	22	25	28	32	35	38	41	44	—	—	—
14	—	—	—	—	21	25	29	33	36	40	43	47	50	—	—	—
15	—	—	—	—	24	29	33	37	41	45	49	53	56	—	—	—
16	—	—	—	—	27	32	37	41	46	50	54	58	62	—	—	—
17	—	—	—	—	30	35	40	45	50	55	60	64	69	—	—	—
18	—	—	—	—	33	39	45	50	55	60	65	70	76	—	—	—
19	—	—	—	—	36	43	49	55	61	66	71	77	83	—	—	—
20	—	—	—	—	—	—	53	60	66	72	78	84	90	—	—	—
21	—	—	—	—	—	—	58	65	72	78	84	91	98	—	—	—
22	—	—	—	—	—	—	—	—	77	84	91	98	106	114	—	—
23	—	—	—	—	—	—	—	—	83	91	99	107	115	123	—	—
24	—	—	—	—	—	—	—	—	90	98	106	115	123	131	139	146
25	—	—	—	—	—	—	—	—	96	105	114	123	132	140	149	156
26	—	—	—	—	—	—	—	—	103	113	122	131	140	149	158	167
27	—	—	—	—	—	—	—	—	110	120	130	140	149	159	168	178
28	—	—	—	—	—	—	—	—	117	128	138	148	158	168	178	188
29	—	—	—	—	—	—	—	—	125	136	146	157	167	178	188	199
30	—	—	—	—	—	—	—	—	132	143	154	165	176	187	198	209

TABLE 113

Species..... WESTERN REDCEDAR (Thuja plicata)
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Equivalent to d.b.h. with a maximum of 24 inches
Top d.i.b..... 4 inches
Method..... Adjustment of volumes in two tables from the Northern Rocky Mountain Forest and Range Expt. Sta.
Number of trees..... Not given
Location of trees..... Northern Rocky Mountains
Accuracy..... Not given
Author..... F. L. Moravets, Pacific Northwest Forest and Range Expt. Sta.
Source..... File report
Year..... 1948

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--													
	30	40	50	60	70	80	90	100	110	120	130	140	150	160
6	2	3	4	5	5	6	—	—	—	—	—	—	—	—
8	4	5	7	8	9	10	11	13	—	—	—	—	—	—
10	6	8	10	12	14	16	18	20	—	—	—	—	—	—
12	9	12	15	18	21	23	25	28	31	34	36	—	—	—
14	13	16	19	23	27	31	34	38	41	45	48	—	—	—
16	17	21	25	30	34	38	43	47	51	55	59	—	—	—
18	—	—	30	36	42	47	52	57	62	67	72	—	—	—
20	—	—	—	—	49	56	62	68	74	80	86	—	—	—
22	—	—	—	—	—	—	72	79	86	93	101	109	—	—
24	—	—	—	—	—	—	83	91	99	108	116	124	132	139
26	—	—	—	—	—	—	95	105	114	123	132	141	150	159
28	—	—	—	—	—	—	108	119	129	139	149	159	169	179
30	—	—	—	—	—	—	122	133	144	155	166	177	188	199

TABLE 114

Species..... WESTERN REDCEDAR (Thuja plicata)
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... International 1/4-inch kerf
Scaling length for logs. 16 feet
Stump height..... 1.5 feet
Top d.i.b..... 5 inches
Trim allowance per log. 0.3 feet
Method..... Adjustment of volumes in table 58 of U. S. Dept. Agr. Tech. Bul. 323
Number of trees..... 187 for base table
Location of trees..... Northern Rocky Mountains
Accuracy..... Aggregate deviation for base table less than 1 percent
Author..... E. C. Skinner, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 24 in "Volume Tables for Permanent Sample Plots"
Year..... 1953

D.b.h. (inches)	Board-foot volume when total height of tree in feet is--													
	30	40	50	60	70	80	90	100	110	120	130	140	150	160
7	8	13	17	22	26	30	—	—	—	—	—	—	—	—
8	13	18	24	31	38	44	51	57	—	—	—	—	—	—
9	17	25	33	43	52	60	69	78	—	—	—	—	—	—
10	22	33	43	54	66	78	89	100	—	—	—	—	—	—
11	—	40	52	67	81	95	109	122	136	—	—	—	—	—
12	—	48	65	82	100	118	136	154	167	186	199	—	—	—
13	—	56	77	100	118	140	158	181	199	217	235	—	—	—
14	—	—	90	113	140	163	186	208	226	249	272	—	—	—
15	—	—	104	131	163	190	217	240	262	285	308	—	—	—
16	—	—	122	154	186	217	244	272	294	321	348	—	—	—
17	—	—	136	172	208	244	276	308	335	362	389	—	—	—
18	—	—	154	190	231	272	303	339	367	398	430	—	—	—
19	—	—	167	213	253	299	335	371	407	439	475	—	—	—
20	—	—	—	—	281	326	367	407	443	480	520	—	—	—
21	—	—	—	—	308	353	398	443	484	525	566	—	—	—
22	—	—	—	—	—	—	434	484	525	570	611	656	—	—
23	—	—	—	—	—	—	471	520	566	615	661	706	—	—
24	—	—	—	—	—	—	507	557	606	661	710	760	805	851
25	—	—	—	—	—	—	543	597	652	706	760	814	860	905
26	—	—	—	—	—	—	579	634	697	760	814	869	923	968
27	—	—	—	—	—	—	615	679	742	805	864	923	977	1,023
28	—	—	—	—	—	—	656	724	787	851	914	977	1,032	1,086
29	—	—	—	—	—	—	692	765	833	905	968	1,023	1,086	1,140
30	—	—	—	—	—	—	733	815	878	950	1,014	1,077	1,140	1,204

Species..... WESTERN REDCEDAR (Thuja plicata)
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... 1.5 feet
Top d.i.b. ..... 8 inches
Trim allowance per log. 0.3 feet
Method..... Alinement chart
Number of trees..... 163
Location of trees..... Northern Rocky Mountains
Accuracy..... Aggregate deviation less than one percent
Author..... I. T. Haig, Northern Rocky Mountain Forest and Range Expt. Sta.
Source..... Table 46 in U. S. Dept. Agr. Tech. Bul. 323
Year..... 1932

D.b.h. (inches)	Board-foot volume when total height of tree in feet is--													
	30	40	50	60	70	80	90	100	110	120	130	140	150	160
10	4	10	16	22	28	34	40	47	-------	-------	-------	-------	-------	-------
11	-------	21	28	36	44	53	62	72	83	-------	-------	-------	-------	-------
12	-------	32	42	53	64	76	89	100	115	130	145	-------	-------	-------
13	-------	43	56	70	86	100	115	130	145	165	180	-------	-------	-------
14	-------	-------	71	88	105	125	140	160	175	195	215	-------	-------	-------
15	-------	-------	87	105	125	145	165	185	210	230	250	-------	-------	-------
16	-------	-------	100	125	150	170	190	215	240	260	285	-------	-------	-------
17	-------	-------	120	145	170	195	220	245	270	295	320	-------	-------	-------
18	-------	-------	135	160	190	215	245	270	300	325	355	-------	-------	-------
19	-------	-------	150	185	215	240	270	300	330	360	395	-------	-------	-------
20	-------	-------	-------	-------	235	270	300	330	365	400	435	-------	-------	-------
21	-------	-------	-------	-------	260	295	330	365	400	440	480	-------	-------	-------
22	-------	-------	-------	-------	-------	-------	360	395	435	480	520	565	-------	-------
23	-------	-------	-------	-------	-------	-------	390	430	475	520	565	610	-------	-------
24	-------	-------	-------	-------	-------	-------	425	465	510	560	610	660	710	765
25	-------	-------	-------	-------	-------	-------	455	500	550	600	650	705	760	820
26	-------	-------	-------	-------	-------	-------	490	535	585	640	700	755	815	875
27	-------	-------	-------	-------	-------	-------	520	570	625	680	740	800	865	930
28	-------	-------	-------	-------	-------	-------	555	605	665	725	785	850	920	990
29	-------	-------	-------	-------	-------	-------	585	645	705	770	835	900	975	1,050
30	-------	-------	-------	-------	-------	-------	620	680	750	815	880	950	1,030	1,110

TABLE 116

Species.....INCENSE-CEDAR (Libocedrus decurrens)
Unit of measure..... Board-foot
Variables..... D.b.h. and total height
Log rule..... Scribner
Scaling length for logs. 14.4 feet (average)
Stump height..... 1.6 to 3 feet
Top d.i.b..... 8 to 11 inches (see table)
Trim allowance per log. Not given
Method..... Not given
Number of trees..... 1,084
Location of trees..... Plumas, Sequoia, Shasta, and Stanislaus National Forests
Accuracy..... Not given
Author..... Not given
Source..... Table 92 in "Volume Tables for the Important Timber Trees of the United States," U. S. Forest Service
Year..... 1910-11

D.b.h. (inches)	Volume in tons of board-feet when total height of tree in feet is--																		Top diameter inside bark (inches)
	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	
12	3	4	5	6	8	9	10	11	----	----	----	----	----	----	----	----	----	----	----
14	4	5	5	7	9	10	11	12	----	----	----	----	----	----	----	----	----	----	----
16	4	5	6	8	10	11	12	14	----	----	----	----	----	----	----	----	----	----	8
18	5	6	9	11	13	15	17	19	----	----	----	----	----	----	----	----	----	----	9
20	----	8	12	14	17	19	22	24	27	----	----	----	----	----	----	----	----	----	9
22	----	11	15	18	21	24	27	30	33	37	----	----	----	----	----	----	----	----	9
24	----	14	18	22	25	29	33	36	41	45	----	----	----	----	----	----	----	----	9
26	----	17	22	27	31	35	40	45	50	56	62	----	----	----	----	----	----	----	9
28	----	21	26	32	37	42	48	54	61	68	74	81	----	----	----	----	----	----	9
30	----	25	32	38	44	50	57	64	72	80	87	95	----	----	----	----	----	----	9
32	----	30	38	45	52	59	67	76	84	92	101	110	119	----	----	----	----	----	10
34	----	35	44	52	60	68	77	87	96	106	116	125	136	147	----	----	----	----	10
36	----	----	51	59	68	78	88	98	109	120	131	142	154	166	----	----	----	----	10
38	----	----	60	68	78	88	100	111	123	135	147	160	173	186	198	----	----	----	10
40	----	----	----	76	88	100	112	125	138	151	164	178	192	206	220	234	----	----	10
42	----	----	----	85	99	112	125	139	153	168	182	197	212	227	243	258	----	----	10
44	----	----	----	----	110	125	139	154	170	184	200	217	232	249	266	283	299	----	10
46	----	----	----	----	120	137	153	169	186	202	219	236	254	272	290	308	327	342	10
48	----	----	----	----	----	151	167	184	202	221	238	257	276	295	314	334	352	371	10
50	----	----	----	----	----	164	182	200	219	239	258	279	299	319	339	361	381	401	10
52	----	----	----	----	----	----	197	216	236	258	280	302	323	345	366	388	410	431	10
54	----	----	----	----	----	----	211	232	255	278	302	325	348	372	394	417	441	464	10
56	----	----	----	----	----	----	----	249	273	298	325	350	375	400	423	449	474	498	11
58	----	----	----	----	----	----	----	264	291	320	349	376	403	430	456	483	510	537	11
60	----	----	----	----	----	----	----	283	312	344	374	403	432	462	489	520	549	580	11
Basis, trees-	----	3	----	39	----	174	----	341	----	333	----	157	----	32	----	4	----	1	1,084

TABLE 117

Species..... INCENSE-CEDAR (Libocedrus decurrens)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 14.4 feet (average)
Stump height..... 1.6 to 3 feet
Top d.i.b..... 6 to 11 inches (see table)
Trim allowance per log.. Not given
Method..... Not given
Number of trees..... 1,066
Location of trees..... Plumas, Sequoia, Shasta, and Stanislaus National Forests
Accuracy..... Not given
Author..... Not given
Source..... Table 91 in "Volume Tables for the Important Timber Trees of the United States," U. S. Forest Service
Year..... 1909-11

D.b.h. (inches)	Volume in tens of board-feet when number of 16-foot logs is--									Top diameter inside bark	Basis, trees
	1	2	3	4	5	6	7	8	9		
10	2	----------	----------	----------	----------	----------	----------	----------	----------	6	----------
12	3	5	11	----------	----------	----------	----------	----------	----------	7	----------
14	4	7	13	----------	----------	----------	----------	----------	----------	8	----------
16	5	9	15	----------	----------	----------	----------	----------	----------	8	2
18	7	11	18	----------	----------	----------	----------	----------	----------	9	8
20	----------	13	21	30	----------	----------	----------	----------	----------	9	20
22	----------	16	25	34	----------	----------	----------	----------	----------	9	38
24	----------	19	29	39	51	----------	----------	----------	----------	9	43
26	----------	23	34	45	57	----------	----------	----------	----------	9	43
28	----------	27	40	51	65	83	----------	----------	----------	9	61
30	----------	33	46	59	73	92	----------	----------	----------	9	76
32	----------	40	53	67	83	102	121	----------	----------	10	96
34	----------	47	61	76	94	112	131	----------	----------	10	84
36	----------	55	70	87	105	124	143	----------	----------	10	104
38	----------	64	80	98	117	137	157	178	----------	10	102
40	----------	73	92	111	131	152	174	196	----------	10	63
42	----------	85	104	125	146	169	192	217	----------	10	67
44	----------	----------	118	142	163	186	211	238	267	10	76
46	----------	----------	134	159	182	205	231	260	293	10	58
48	----------	----------	151	178	202	224	251	283	320	10	34
50	----------	----------	169	197	221	244	274	308	350	10	33
52	----------	----------	188	217	239	265	296	336	384	10	21
54	----------	----------	----------	239	255	285	320	365	420	10	8
56	----------	----------	----------	262	271	305	345	396	457	11	12
58	----------	----------	----------	----------	286	325	370	429	497	11	8
60	----------	----------	----------	----------	299	344	396	461	540	11	9
											1,066

TABLE 118

Species..... NOBLE FIR (Abies procera)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 32 feet
Stump height..... 2 to 3.5 feet
Top d.i.b..... 10 inches
Trim allowance per log. 0.5 feet
Method..... Frustum form factor
Number of trees..... 254
Location of trees..... Near Palmer, Multnomah County, Oreg.
Accuracy..... Not given
Author..... R. H. Weidman, U. S. Forest Service, Pacific Northwest Region
Source..... Table 77 in "Volume Tables for the Important Timber Trees of the United States"
Year..... 1925

D.b.h. (inches)	Volume in tens of board-feet when number of 16-foot logs is--										
	3	4	5	6	7	8	9	10	11	12	13
18	23	33	48	58	71	----	----	----	----	----	----
20	----	40	54	68	84	99	----	----	----	----	----
22	----	44	63	79	99	115	134	----	----	----	----
24	----	50	73	93	116	135	158	----	----	----	----
26	----	----	84	107	131	154	181	----	----	----	----
28	----	----	95	120	152	178	208	236	----	----	----
30	----	----	105	136	170	207	238	269	----	----	----
32	----	----	----	153	195	230	269	305	----	----	----
34	----	----	----	172	219	254	297	338	----	----	----
36	----	----	----	190	235	278	327	377	----	----	----
38	----	----	----	206	258	308	362	412	465	----	----
40	----	----	----	----	282	335	394	439	498	----	----
42	----	----	----	----	303	356	426	481	548	----	----
44	----	----	----	----	324	393	462	533	602	----	----
46	----	----	----	----	----	433	501	570	651	----	----
48	----	----	----	----	----	459	544	621	700	775	----
50	----	----	----	----	----	500	585	663	752	841	----
52	----	----	----	----	----	533	617	710	805	889	----
54	----	----	----	----	----	----	661	757	855	950	----
56	----	----	----	----	----	----	704	810	916	1,019	----
58	----	----	----	----	----	----	744	851	967	1,070	----
60	----	----	----	----	----	----	797	910	1,028	1,143	1,265
62	----	----	----	----	----	----	----	967	1,084	1,210	1,337
64	----	----	----	----	----	----	----	1,012	1,142	1,278	1,406
66	----	----	----	----	----	----	----	1,068	1,206	1,345	1,491
68	----	----	----	----	----	----	----	1,112	1,265	1,406	1,558
70	----	----	----	----	----	----	----	----	1,341	1,489	1,643
72	----	----	----	----	----	----	----	----	1,396	1,556	1,709
74	----	----	----	----	----	----	----	----	1,453	1,621	1,787

TABLE 119

Species..... NOBLE FIR (Abies procera)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 32-foot logs
Log rule..... Scribner
Scaling length for logs. 32 feet
Stump height..... Not given
Top d.i.b..... 50 percent of d.b.h.
Trim allowance per log.. Not given
Method..... Curved averages of individual log volumes
Number of trees..... 60
Location of trees..... Not given
Accuracy..... Not given
Author..... J. W. Girard, Pacific Northwest Forest and Range Expt. Sta.
Source..... File report
Year..... 1943
Note..... D.b.h. was taken in all cases above the butt swell; this varied from 4.5 feet to 7.0 feet above the ground

D.b.h. (inches)	No. 32-foot logs	Volume in tens of board-feet when gross volume by log position is—					Total volume
		1st	2nd	3rd	4th	5th	
16	1	16	----	----	----	----	16
18	1	23	----	----	----	----	23
20	1	31	----	----	----	----	31
	2	32	16	----	----	----	48
22	1	39	----	----	----	----	39
	2	40	22	----	----	----	62
24	1	48	----	----	----	----	48
	2	49	28	----	----	----	77
26	2	57	35	----	----	----	92
	3	58	36	16	----	----	110
28	2	67	43	----	----	----	110
	3	68	44	21	----	----	133
30	2	79	52	----	----	----	131
	3	82	54	27	----	----	163
32	3	92	63	34	----	----	189
	4	96	66	36	19	----	217
34	3	104	73	40	----	----	217
	4	108	77	43	22	----	250
36	3	117	83	47	----	----	247
	4	122	96	65	29	----	312
38	3	129	95	55	----	----	279
	4	138	109	76	36	----	359
40	3	144	108	64	----	----	316
	4	154	122	87	44	----	407
42	3	159	122	74	----	----	355
	4	169	135	99	51	----	454
44	3	175	135	85	----	----	395
	4	185	149	111	59	----	504
	5	189	158	123	86	40	596
46	3	192	150	98	----	----	440
	4	202	163	123	67	----	555
	5	206	172	136	97	48	659
48	3	210	166	112	----	----	488
	4	219	178	136	75	----	608
	5	223	189	151	108	57	728
50	3	230	183	128	----	----	541
	4	237	194	149	84	----	664
	5	244	207	165	119	65	800
52	3	252	202	145	----	----	599
	4	255	211	163	92	----	721
	5	269	226	182	130	73	880
54	3	274	221	162	----	----	657
	4	275	228	177	102	----	782
	5	290	243	198	142	81	954
56	3	298	242	180	----	----	720
	4	297	246	193	113	----	849
	5	311	264	215	155	89	1,034
58	4	319	264	210	124	----	917
	5	331	282	231	167	98	1,109
60	4	343	285	227	136	----	991
	5	350	302	248	180	106	1,186
62	4	367	306	245	148	----	1,066
	5	371	323	266	194	116	1,270
64	4	385	330	264	164	----	1,143
	5	390	344	284	208	125	1,351
66	4	400	350	280	176	----	1,206
	5	409	365	303	222	135	1,434
68	5	428	387	323	238	145	1,521
70	5	445	409	344	253	156	1,607

TABLE 120

Species..... ENGELMANN SPRUCE (Picea engelmannii)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 16-foot logs
Log rule..... Scribner
Scaling length for logs. 16 feet
Stump height..... Not given
Top d.i.b. ..... 8 inches
Trim allowance per log. Not given
Method..... Taper curves
Number of trees..... 2,952
Location of trees..... 11 national forests in Colorado
Accuracy..... Not given
Author..... P. J. Paxton, U. S. Forest Service, Rocky Mountain Region
Source..... Table 82 in "Volume Tables for the Important Timber Trees of the United States"
Year..... 1919

D.b.h. (inches)	Volume in tens of board-feet when number of 16-foot logs is--												Basis, trees
	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6	7	
9	3	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	28
10	3	5	7	--------	--------	--------	--------	--------	--------	--------	--------	--------	74
11	4	6	8	11	--------	--------	--------	--------	--------	--------	--------	--------	161
12	4	6	9	11	14	--------	--------	--------	--------	--------	--------	--------	227
13	4	7	9	11	15	18	--------	--------	--------	--------	--------	--------	231
14	--------	7	10	13	17	20	23	--------	--------	--------	--------	--------	269
15	--------	8	11	15	18	22	26	--------	--------	--------	--------	--------	300
16	--------	--------	12	16	19	24	28	34	--------	--------	--------	--------	240
17	--------	--------	13	18	21	26	31	37	--------	--------	--------	--------	248
18	--------	--------	--------	19	23	29	34	40	46	51	--------	--------	208
19	--------	--------	--------	21	25	31	37	43	50	55	--------	--------	215
20	--------	--------	--------	23	27	33	40	47	54	60	68	--------	134
21	--------	--------	--------	24	29	36	44	51	58	66	74	--------	130
22	--------	--------	--------	--------	31	39	48	55	62	71	79	--------	103
23	--------	--------	--------	--------	33	43	51	59	67	76	85	--------	78
24	--------	--------	--------	--------	36	45	55	65	72	81	91	--------	73
25	--------	--------	--------	--------	38	--------	60	--------	77	--------	98	--------	57
26	--------	--------	--------	--------	--------	--------	63	--------	81	--------	104	--------	43
27	--------	--------	--------	--------	--------	--------	67	--------	86	--------	110	--------	26
28	--------	--------	--------	--------	--------	--------	72	--------	94	--------	117	--------	16
29	--------	--------	--------	--------	--------	--------	78	--------	101	--------	124	150	17
30	--------	--------	--------	--------	--------	--------	84	--------	106	--------	132	162	20
31	--------	--------	--------	--------	--------	--------	--------	--------	114	--------	140	174	9
32	--------	--------	--------	--------	--------	--------	--------	--------	122	--------	149	186	13
33	--------	--------	--------	--------	--------	--------	--------	--------	130	--------	158	200	5
34	--------	--------	--------	--------	--------	--------	--------	--------	137	--------	167	214	11
35	--------	--------	--------	--------	--------	--------	--------	--------	146	--------	177	229	3
36	--------	--------	--------	--------	--------	--------	--------	--------	154	--------	186	245	2
37	--------	--------	--------	--------	--------	--------	--------	--------	163	--------	197	261	2
38	--------	--------	--------	--------	--------	--------	--------	--------	173	--------	207	278	2
39	--------	--------	--------	--------	--------	--------	--------	--------	181	--------	218	294	0
40	--------	--------	--------	--------	--------	--------	--------	--------	192	--------	228	310	2
41	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	239	327	2
42	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	250	344	1
43	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	261	361	2
44	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	272	378	0
Basis, trees	120	208	407	539	529	399	353	154	163	13	58	9	2,952

TABLE 121

Species..... BLACK COTTONWOOD (Populus trichocarpa)
Unit of measure..... Cubic foot
Variables..... D.b.h. and total height
Stump height..... Included
Top d.i.b..... Included
Method..... Alinement chart
Number of trees..... 88
Location of trees..... British Columbia
Accuracy..... Aggregate deviation 0.22 percent high
Author..... Not given
Source..... Report by British Columbia Forest Service
Year..... 1950

D.b.h. (inches)	Cubic-foot volume when total height of tree in feet is--												Basis, trees
	60	70	80	90	100	110	120	130	140	150	160	170	
8	8	9	10	12	13	14	16	—	—	—	—	—	4
9	10	11	13	15	16	18	20	—	—	—	—	—	—
10	12	14	16	18	20	23	25	27	—	—	—	—	3
11	15	17	20	22	25	28	30	33	—	—	—	—	—
12	18	21	24	27	30	33	36	39	—	—	—	—	5
13	21	24	28	32	35	38	42	46	—	—	—	—	—
14	24	27	32	37	40	44	48	53	56	—	—	—	2
15	27	31	37	42	46	51	55	60	64	—	—	—	—
16	31	36	42	48	53	58	63	68	73	78	—	—	11
17	—	41	47	54	59	65	70	76	82	87	—	—	—
18	—	46	53	60	66	72	78	85	91	97	—	—	9
19	—	52	59	66	73	80	86	94	101	107	—	—	—
20	—	58	65	73	81	88	95	103	111	118	—	—	5
21	—	64	71	80	88	96	104	113	121	130	—	—	—
22	—	70	78	87	96	105	113	123	132	142	—	—	6
23	—	75	85	95	105	115	124	135	144	155	—	—	—
24	—	81	92	103	114	125	136	147	157	168	—	—	8
25	—	—	—	111	123	135	147	159	169	181	—	—	—
26	—	—	—	120	132	145	158	171	182	195	208	—	11
27	—	—	—	129	142	156	170	184	196	210	224	—	—
28	—	—	—	138	152	167	182	197	210	225	240	—	4
29	—	—	—	148	163	179	195	210	225	241	257	—	—
30	—	—	—	158	174	191	208	224	240	257	274	—	10
31	—	—	—	168	185	203	221	238	256	273	291	—	—
32	—	—	—	178	197	216	235	253	272	290	308	—	2
33	—	—	—	189	209	229	249	268	288	308	327	—	—
34	—	—	—	200	221	242	263	283	305	326	347	—	2
35	—	—	—	211	234	256	278	300	322	345	367	—	—
36	—	—	—	223	247	271	294	317	340	364	387	—	1
37	—	—	—	—	260	285	309	334	358	383	407	—	—
38	—	—	—	—	273	299	325	351	377	403	428	452	4
39	—	—	—	—	286	314	342	370	396	423	449	475	—
40	—	—	—	—	300	330	359	389	416	444	471	498	—
41	—	—	—	—	315	346	376	406	435	464	493	521	—
42	—	—	—	—	330	362	394	424	455	485	515	545	1
43	—	—	—	—	—	—	412	443	476	507	539	570	—
44	—	—	—	—	—	—	430	463	497	530	563	596	—
45	—	—	—	—	—	—	448	483	518	553	587	622	—
46	—	—	—	—	—	—	467	503	539	576	611	648	—
47	—	—	—	—	—	—	486	524	562	600	637	675	—
48	—	—	—	—	—	—	505	545	585	624	663	703	—
49	—	—	—	—	—	—	525	567	608	649	690	730	—
50	—	—	—	—	—	—	545	589	632	674	717	758	—
60	—	—	—	—	—	—	770	830	890	930	1,010	1,070	—
70	—	—	—	—	—	—	1,030	1,120	1,200	1,280	1,360	1,440	—
													88

TABLE 122

Species..... BLACK COTTONWOOD (Populus trichocarpa)
Unit of measure..... Board-foot
Variables..... D.b.h. and number of 8-foot logs
Log rule..... Scribner
Scaling length for logs. 8 feet
Stump height..... 2 feet
Top d.i.b..... Variable merchantable top
Trim allowance per log. 0.3 feet
Method..... Harmonized curves
Number of trees..... 152
Location of trees..... Not given
Accuracy..... Aggregate deviation 1.2 percent high
Author..... G. M. Haliburton and H. E. Meeker, Weyerhaeuser Timber Co.
Source..... File report
Year..... 1948

D.b.h. (inches)	Volume in tens of board-feet when number of 8-foot logs is--													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
11	4	6	8	10	12	--------	--------	--------	--------	--------	--------	--------	--------	--------
12	4	7	10	13	16	18	20	--------	--------	--------	--------	--------	--------	--------
13	5	9	13	16	19	22	24	26	28	--------	--------	--------	--------	--------
14	--------	10	15	19	23	26	28	30	32	--------	--------	--------	--------	--------
15	--------	12	18	23	27	31	33	35	37	39	--------	--------	--------	--------
16	--------	--------	20	26	31	35	38	40	43	45	47	--------	--------	--------
17	--------	--------	23	29	35	39	44	47	50	52	54	--------	--------	--------
18	--------	--------	--------	33	39	45	50	52	55	58	61	64	--------	--------
19	--------	--------	--------	37	44	51	56	59	62	66	69	72	75	--------
20	--------	--------	--------	41	49	57	63	66	70	74	78	81	85	--------
21	--------	--------	--------	45	55	63	70	74	79	83	88	92	96	--------
22	--------	--------	--------	--------	62	71	78	83	88	93	98	103	108	--------
23	--------	--------	--------	--------	68	78	86	92	96	104	109	115	121	127
24	--------	--------	--------	--------	--------	86	94	101	108	114	121	128	134	141
25	--------	--------	--------	--------	--------	94	104	111	119	126	133	141	149	156
26	--------	--------	--------	--------	--------	103	114	122	131	139	147	156	164	173
27	--------	--------	--------	--------	--------	112	124	134	143	152	161	170	180	189
28	--------	--------	--------	--------	--------	122	135	146	157	166	176	186	196	206
29	--------	--------	--------	--------	--------	132	146	159	171	182	192	203	212	221
30	--------	--------	--------	--------	--------	143	159	173	186	198	209	220	230	240
31	--------	--------	--------	--------	--------	155	172	188	201	214	226	237	248	258
32	--------	--------	--------	--------	--------	168	187	204	219	232	245	256	267	277
33	--------	--------	--------	--------	--------	181	202	220	236	250	263	275	286	295
34	--------	--------	--------	--------	--------	194	216	236	252	268	282	295	306	316
35	--------	--------	--------	--------	--------	207	231	252	271	287	302	315	327	336
36	--------	--------	--------	--------	--------	220	246	269	289	307	322	336	348	357
37	--------	--------	--------	--------	--------	--------	262	286	307	326	343	357	369	379
38	--------	--------	--------	--------	--------	--------	--------	303	326	346	363	377	390	401
39	--------	--------	--------	--------	--------	--------	--------	--------	345	366	383	398	412	423
40	--------	--------	--------	--------	--------	--------	--------	--------	--------	386	404	419	433	444
41	--------	--------	--------	--------	--------	--------	--------	--------	--------	405	424	440	454	466

Relationship between diameter inside bark at 18 feet and d.b.h. for Sitka spruce.

Author..... W. H. Meyer, Pacific Northwest Forest and Range Expt. Sta.
Source..... Table 45 in U. S. Dept. Agr. Tech. Bul. 544
Year..... 1937

D.b.h. (inches)	Diameter inside bark at 18 feet					
	Second growth less than 100 years old[1]	120-year-old stand on fair site[2]	170-year-old stand on good site[3]	Old growth in British Columbia[4]	Old growth with heavy butt swell[5]	Old growth with light butt swell[6]
	Inches	*Inches*	*Inches*	*Inches*	*Inches*	*Inches*
4	2.8	—	—	—	—	—
6	4.6	—	—	—	—	—
8	6.4	—	—	—	—	—
10	8.2	—	—	—	—	—
12	10.0	10.0	—	10.0	—	—
14	11.7	11.5	—	11.8	—	—
16	13.4	12.8	13.9	13.5	—	—
18	15.1	14.4	15.2	15.3	—	—
20	16.7	16.0	16.7	17.0	—	—
22	18.3	17.5	18.4	18.7	—	—
24	19.8	19.0	20.2	20.4	—	—
26	21.3	20.6	22.0	22.1	—	—
28	22.8	22.0	24.0	23.9	—	—
30	24.3	23.5	26.0	25.6	—	—
32	25.7	25.0	28.2	27.3	20.0	—
34	27.1	26.3	30.4	29.0	21.2	—
36	28.5	27.6	32.6	30.7	22.2	—
38	29.9	28.9	34.8	32.3	23.3	—
40	31.2	30.2	37.1	33.9	24.4	—
44	33.9	32.6	—	36.9	26.6	—
48	36.7	34.9	—	39.8	28.9	39.0
52	39.3	37.2	—	42.6	31.0	42.4
56	42.0	39.4	—	45.3	33.2	45.2
60	44.5	41.6	—	48.0	35.6	48.0
64	—	—	—	50.7	37.8	50.6
68	—	—	—	—	39.9	53.3
72	—	—	—	—	42.1	56.0
76	—	—	—	—	44.3	58.8
80	—	—	—	—	46.5	61.5

[1] Basis, 344 tree measurements taken in Oregon and Washington and 264 taken in Alaska.
[2] Basis, 53 tree measurements taken on Young's River, Oreg.
[3] Basis, 25 tree measurements taken near Winchester Bay, Oreg.
[4] Basis, 279 tree measurements taken in British Columbia.
[5] Basis, 45 tree measurements taken near Humptulips, Wash.
[6] Basis, 51 tree measurements taken near Beaver, Wash.

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