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Board-Foot and Cubic-Foot Volume Tables for Alaska-Cedar in Southeast Alaska

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Abstract

Four tables give cubic-foot and board-foot volume estimates for Alaska-cedar given breast-height diameter outside bark (DBHOB) and either total tree height or number of logs to a 6-inch top. The values for DBHOB and total tree height (or number of logs in the tree) that are in the tables have been limited to the ranges these variables had in the sample data.

Keywords: Alaska-cedar, volume tables, profile equations, southeast Alaska, mensuration.

Introduction

The four volume tables presented in this paper are for managers and field foresters who do not have ready access to computing facilities. These tables have been produced because the stem profile equations developed for Alaska-cedar (*Chamaecyparis nootkatensis* (D. Don) Spach) do not lend themselves to easy solving on handheld calculators. Profile equations usually require a computer program equipped with many complex routines to calculate the volume and other estimates that such equations can provide.

DeMars¹ gives details on the development of the profile equations including a description of the basic data, methods of data analysis, the conditioning of the equations, and statistics on each equation

The four tables presented here give cubic-foot and board-foot volume estimates for Alaska-cedar given tree breast-height diameter outside bark (DBHOB) and either total tree height or number of logs to a 6-inch top (log length for the Tongass National Forest is on a long-log basis; that is 32.6 feet in length). The values for DBHOB and total tree height (or number of logs in the tree) that are in the tables have been limited to the ranges these variables had in the sample data. The merchantable top diameter for the tables is based on a 6-inch scale diameter (that is, 6.5 inches is the midpoint of a 6-inch scale diameter). Stump height is set at 1 foot for trees with DBHOB less than or equal to 36 inches and is set at (DBHOB/36) feet for trees with DBHOB greater than 36 inches.

¹DeMars, Donald J. Relative diameter and relative basal area as dependent variables in tree profile equations. Manuscript in preparation.

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Tables 1 and 2 are entered by using DBHOB and total tree height (in feet). Table 1 gives estimates of board-foot volume for each half-log segment along with an estimate of total board-foot volume in the tree stem. Table 2 gives estimates of cubic-foot volume for each half-log segment (log length is 32 feet) along with an estimate of total cubic-foot volume of the merchantable part of the tree stem. An estimate of cubic feet (or board feet) for the odd chunk-length tree segment that lies between the top of the upper most half-log and the estimated height of the top merchantable diameter are also included in tables 1 and 2.

Tables 3 and 4 are entered by DBHOB and number of logs in the tree (in terms of whole logs and half-logs) to the merchantable top diameter. Table 3 gives estimates of board-foot volume for each half-log segment along with an estimate of total board-foot volume in the tree stem. Table 4 gives estimates of cubic-foot volume for each half-log segment along with an estimate of total cubic-foot volume of the merchantable part of the tree stem. Estimates of total tree height in tables 3 and 4 are calculated from the profile equations by an iterative routine.

Table 1—Scribner board-foot volume of Alaska-cedar (1-foot stump to a 6-inch top diameter inside bark) by half-logs and for the tree, given diameter at breast height (d.b.h.) in inches and total tree height in feet

			Board-foot volume											
D.b.h.	Tree ht.	No. of 32- ft logs	32-foot log position										Total tree volume	Chunk Length
			0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5			
<i>In</i>	<i>Ft</i>											<i>Bf</i>	<i>Feet</i>	
10	40	1.0	25	3	—	—	—	—	—	—	—	28	2	
10	50	1.0	27	7	—	—	—	—	—	—	—	34	6	
10	60	1.0	29	14	—	—	—	—	—	—	—	43	12	
10	70	1.5	30	23	2	—	—	—	—	—	—	55	2	
12	40	1.0	27	7	—	—	—	—	—	—	—	34	6	
12	50	1.0	30	13	—	—	—	—	—	—	—	43	12	
12	60	1.5	34	20	2	—	—	—	—	—	—	56	2	
12	70	1.5	39	25	12	—	—	—	—	—	—	76	10	
12	80	1.5	44	28	25	—	—	—	—	—	—	97	—	
14	50	1.0	37	13	—	—	—	—	—	—	—	50	16	
14	60	1.5	43	20	7	—	—	—	—	—	—	70	6	
14	70	1.5	53	27	17	—	—	—	—	—	—	97	14	
14	80	2.0	60	39	27	7	—	—	—	—	—	133	6	
14	90	2.0	65	52	30	16	—	—	—	—	—	163	14	
16	60	1.5	53	21	10	—	—	—	—	—	—	84	8	
16	70	1.5	67	38	25	—	—	—	—	—	—	130	—	
16	80	2.0	76	54	28	9	—	—	—	—	—	167	8	
16	90	2.0	82	62	34	18	—	—	—	—	—	196	—	
16	100	2.5	86	68	45	22	12	—	—	—	—	233	10	
18	60	1.5	65	25	12	—	—	—	—	—	—	102	10	
18	70	2.0	81	49	26	2	—	—	—	—	—	158	2	
18	80	2.0	92	60	30	10	—	—	—	—	—	192	10	
18	90	2.5	100	72	39	19	5	—	—	—	—	235	4	
18	100	2.5	104	86	53	27	15	—	—	—	—	285	12	
20	70	2.0	99	51	27	4	—	—	—	—	—	181	4	
20	80	2.0	112	69	33	10	—	—	—	—	—	224	12	
20	90	2.5	128	86	44	19	7	—	—	—	—	284	6	
20	100	2.5	141	104	62	34	17	—	—	—	—	358	14	
20	110	3.0	147	123	81	53	28	9	—	—	—	441	8	

Table 1—Scribner board-foot volume of Alaska-cedar (1-foot stump to a 6-inch top diameter inside bark) by half-logs and for the tree, given diameter at breast height (d.b.h.) in inches and total tree height in feet (continued)

D.b.h.	Tree ht.	No. of 32- ft logs	Board-foot volume										Total tree volume	Chunk Length
			32-foot log position											
			0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5			
<i>In</i>	<i>Ft</i>											<i>Bf</i>	<i>Feet</i>	
22	80	2.0	140	82	36	10	—	—	—	—	—	268	14	
22	90	2.5	160	110	50	19	7	—	—	—	—	346	6	
22	100	2.5	172	132	74	43	20	—	—	—	—	441	16	
22	110	3.0	179	146	90	60	29	11	—	—	—	515	10	
24	80	2.0	171	99	38	10	—	—	—	—	—	318	16	
24	90	2.5	192	128	57	21	10	—	—	—	—	408	8	
24	100	3.0	211	149	82	48	25	3	—	—	—	518	2	
24	110	3.0	220	174	106	63	30	10	—	—	—	603	10	
26	80	2.0	201	111	39	11	—	—	—	—	—	362	16	
26	90	2.5	231	145	63	23	12	—	—	—	—	474	10	
26	100	3.0	251	179	94	50	26	2	—	—	—	602	2	
26	110	3.0	260	205	120	74	33	10	—	—	—	702	12	
26	120	3.5	268	228	155	110	46	19	7	—	—	833	6	
28	80	2.0	233	127	40	12	—	—	—	—	—	412	—	
28	90	2.5	266	169	70	29	12	—	—	—	—	546	10	
28	100	3.0	289	207	103	51	27	4	—	—	—	681	4	
28	110	3.0	307	245	140	82	34	9	—	—	—	817	12	
28	120	3.5	316	269	178	122	51	18	7	—	—	961	6	
28	130	3.5	317	288	216	154	83	47	20	—	—	1125	16	
30	90	2.5	304	192	77	31	12	—	—	—	—	616	10	
30	100	3.0	334	241	112	57	27	4	—	—	—	775	4	
30	110	3.0	349	267	161	94	36	10	—	—	—	917	14	
30	120	3.5	361	297	202	133	56	20	10	—	—	1079	8	
30	130	3.5	366	320	247	177	92	48	25	—	—	1275	—	
32	100	3.0	382	252	122	62	27	4	—	—	—	849	4	
32	110	3.0	402	292	178	106	37	9	—	—	—	1024	14	
32	120	3.5	415	335	229	147	61	21	10	—	—	1218	8	
32	130	4.0	422	358	269	201	100	50	26	2	—	1428	2	

Table 1—Scribner board-foot volume of Alaska-cedar (1-foot stump to a 6-inch top diameter inside bark) by half-logs and for the tree, given diameter at breast height (d.b.h.) in inches and total tree height in feet (continued)

			Board-foot volume										Total tree volume	Chunk Length
D.b.h.	Tree ht.	No. of 32- ft logs	32-foot log position											
			0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5			
<i>In</i>	<i>Ft</i>											<i>Bf</i>	<i>Feet</i>	
34	100	3.0	428	282	133	65	27	4	—	—	—	939	4	
34	110	3.0	455	325	197	111	37	9	—	—	—	1134	14	
34	120	3.5	472	360	252	166	64	24	10	—	—	1348	8	
34	130	4.0	482	405	303	225	106	52	26	2	—	1601	2	
36	100	3.0	469	311	147	67	27	7	—	—	—	1028	6	
36	110	3.0	504	372	211	119	39	9	—	—	—	1254	16	
36	120	3.5	527	425	274	181	70	26	10	—	—	1513	8	
36	130	4.0	538	462	334	246	113	56	26	2	—	1777	2	
36	140	4.0	542	488	379	291	178	106	35	8	—	2027	12	

Table 2—Cubic-foot volume for Alaska-cedar (1-foot stump to a 6-inch top diameter inside bark) by half-logs and for the tree, given diameter at breast height (d.b.h.) in inches and total height in feet

		No. of 32- ft logs	Cubic-foot volume (stump to top diameter)										Total tree volume	Chuck length
D.b.h.	Tree ht.		32-foot log position											
			0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5			
<i>In</i>	<i>Ft</i>											<i>Bf</i>	<i>Feet</i>	
10	40	1.0	6.6	0.4	—	—	—	—	—	—	—	7.0	2	
10	50	1.0	7.0	1.8	—	—	—	—	—	—	—	8.8	6	
10	60	1.0	7.4	3.6	—	—	—	—	—	—	—	11.0	12	
10	70	1.5	7.5	5.2	0.6	—	—	—	—	—	—	13.3	2	
12	40	1.0	9.4	1.6	—	—	—	—	—	—	—	11.0	6	
12	50	1.0	10.1	3.9	—	—	—	—	—	—	—	14.0	12	
12	60	1.5	10.5	6.1	.5	—	—	—	—	—	—	17.1	2	
12	70	1.5	10.7	7.1	2.6	—	—	—	—	—	—	20.4	10	
12	80	1.5	10.8	7.8	5.2	—	—	—	—	—	—	23.8	—	
14	50	1.0	13.6	5.9	—	—	—	—	—	—	—	19.5	16	
14	60	1.5	14.2	8.0	1.7	—	—	—	—	—	—	23.9	6	
14	70	1.5	14.5	9.3	4.5	—	—	—	—	—	—	28.3	14	
14	80	2.0	14.6	10.3	6.7	1.4	—	—	—	—	—	33.0	6	
14	90	2.0	14.7	11.0	8.1	4.2	—	—	—	—	—	38.0	14	
16	60	1.5	18.4	10.1	2.8	—	—	—	—	—	—	31.3	8	
16	70	1.5	18.8	11.8	6.3	—	—	—	—	—	—	36.9	—	
16	80	2.0	19.0	13.1	8.4	2.6	—	—	—	—	—	43.1	8	
16	90	2.0	19.2	14.0	10.1	6.0	—	—	—	—	—	49.3	—	
16	100	2.5	19.1	14.7	11.6	7.9	2.8	—	—	—	—	56.1	10	
18	60	1.5	23.1	12.3	3.8	—	—	—	—	—	—	39.2	10	
18	70	2.0	23.7	14.5	7.6	.6	—	—	—	—	—	46.4	2	
18	80	2.0	24.0	16.1	10.1	3.6	—	—	—	—	—	53.8	10	
18	90	2.5	24.2	17.3	12.3	7.1	.9	—	—	—	—	61.8	4	
18	100	2.5	24.2	18.2	14.1	9.5	4.2	—	—	—	—	70.2	12	
20	70	2.0	29.1	17.4	8.9	1.1	—	—	—	—	—	56.5	4	
20	80	2.0	29.6	19.4	11.9	4.8	—	—	—	—	—	65.7	12	
20	90	2.5	29.8	20.9	14.6	8.3	1.5	—	—	—	—	75.1	6	
20	100	2.5	29.8	22.0	16.8	11.2	5.3	—	—	—	—	85.1	14	
20	110	3.0	29.6	22.6	18.7	13.8	8.5	2.2	—	—	—	95.4	8	

Table 2—Cubic-foot volume for Alaska-cedar (1-foot stump to a 6-inch top diameter inside bark) by half-logs and for the tree, given diameter at breast height (d.b.h.) in inches and total height in feet (continued)

			Cubic-foot volume (stump to top diameter)										Total tree volume	Chuck length
D.b.h.	Tree ht.	No. of 32- ft logs	32-foot log position											
			0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5			
<i>In</i>	<i>Ft</i>											<i>Bf</i>	<i>Feet</i>	
22	80	2.0	35.7	23.0	13.8	5.7	—	—	—	—	—	78.2	14	
22	90	2.5	35.9	24.8	17.0	9.6	2.1	—	—	—	—	89.4	6	
22	100	2.5	36.0	26.1	19.6	12.9	6.5	—	—	—	—	101.1	16	
22	110	3.0	35.8	26.9	21.9	16.0	9.8	3.0	—	—	—	113.4	10	
24	80	2.0	42.3	26.7	15.7	6.7	—	—	—	—	—	91.4	16	
24	90	2.5	42.7	28.9	19.4	10.8	2.7	—	—	—	—	104.5	8	
24	100	3.0	42.7	30.5	22.6	14.7	7.4	.3	—	—	—	118.2	2	
24	110	3.0	42.6	31.5	25.3	18.2	11.1	3.7	—	—	—	132.4	10	
26	80	2.0	49.5	30.7	17.7	7.6	—	—	—	—	—	105.5	16	
26	90	2.5	50.0	33.3	22.0	12.1	3.2	—	—	—	—	120.6	10	
26	100	3.0	50.1	35.2	25.7	16.4	8.2	.6	—	—	—	136.2	2	
26	110	3.0	49.9	36.4	28.8	20.6	12.4	4.4	—	—	—	152.5	12	
26	120	3.5	49.6	37.1	31.4	24.3	16.6	9.2	1.5	—	—	169.7	6	
28	80	2.0	57.3	34.8	19.6	8.3	—	—	—	—	—	120.0	—	
28	90	2.5	57.9	37.9	24.5	13.3	3.7	—	—	—	—	137.3	10	
28	100	3.0	58.0	40.2	28.8	18.2	9.0	.9	—	—	—	155.1	4	
28	110	3.0	57.9	41.6	32.4	22.9	13.7	5.1	—	—	—	173.6	12	
28	120	3.5	57.5	42.4	35.4	27.2	18.5	10.1	1.9	—	—	193.0	6	
28	130	3.5	56.9	42.6	37.8	31.1	23.1	14.8	7.0	—	—	213.3	16	
30	90	2.5	66.3	42.7	27.1	14.4	4.1	—	—	—	—	154.6	10	
30	100	3.0	66.5	45.4	32.0	20.0	9.8	1.1	—	—	—	174.8	4	
30	110	3.0	66.4	47.1	36.2	25.2	15.0	5.7	—	—	—	195.6	14	
30	120	3.5	66.0	48.1	39.6	30.1	20.3	11.0	2.3	—	—	217.4	8	
30	130	3.5	65.4	48.4	42.3	34.5	25.5	16.2	7.8	—	—	240.1	—	
32	100	3.0	75.6	50.8	35.2	21.6	10.5	1.3	—	—	—	195.0	4	
32	110	3.0	75.5	52.8	40.0	27.5	16.2	6.3	—	—	—	218.3	14	
32	120	3.5	75.0	54.0	43.9	33.0	22.1	11.9	2.6	—	—	242.5	8	
32	130	4.0	74.4	54.4	47.0	38.0	27.9	17.7	8.4	.4	—	268.2	2	

Table 2—Cubic-foot volume for Alaska-cedar (1-foot stump to a 6-inch top diameter inside bark) by half-logs and for the tree, given diameter at breast height (d.b.h.) in inches and total height in feet (continued)

Cubic-foot volume (stump to top diameter)														
D.b.h.	Tree ht.	No. of 32- ft logs	32-foot log position									Total tree volume	Chuck length	
			0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5			
<i>In</i>	<i>Ft</i>											<i>Bf</i>	<i>Feet</i>	
34	100	3.0	85.3	56.4	38.5	23.3	11.1	1.5	—	—	—	216.1	4	
34	110	3.0	85.2	58.8	43.8	29.8	17.3	6.8	—	—	—	241.7	14	
34	120	3.5	84.8	60.2	48.2	35.9	23.8	12.8	3.0	—	—	268.7	8	
34	130	4.0	84.0	60.7	51.8	41.5	30.2	19.0	9.0	.5	—	296.7	2	
36	100	3.0	95.6	62.3	41.7	24.8	11.7	1.6	—	—	—	237.7	6	
36	110	3.0	95.5	65.0	47.7	32.0	18.4	7.3	—	—	—	265.9	16	
36	120	3.5	95.0	66.7	52.7	38.8	25.5	13.6	3.2	—	—	295.5	8	
36	130	4.0	94.2	67.3	56.8	45.0	32.6	20.4	9.6	.7	—	326.6	2	
36	140	4.0	93.1	67.0	59.9	50.5	39.4	27.5	16.0	5.5	—	358.9	12	

Table 3—Scribner board-foot volume of Alaska-cedar (1-foot stump to a 6-inch top diameter inside bark) by half-logs and for the tree, given diameter at breast height (d.b.h.) in inches and number of 32-foot logs

			Board-foot volume									Total tree volume
D.b.h.	Tree ht.	No. of 32 ft logs	32-foot log position									
			0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	
<i>In</i>	<i>Ft</i>											<i>Bf</i>
10	36.9	0.5	20	—	—	—	—	—	—	—	—	20
10	66.3	1.0	30	20	—	—	—	—	—	—	—	50
10	89.9	1.5	32	31	20	—	—	—	—	—	—	83
12	30.5	.5	20	—	—	—	—	—	—	—	—	20
12	56.8	1.0	33	17	—	—	—	—	—	—	—	50
12	79.4	1.5	44	28	20	—	—	—	—	—	—	92
12	99.7	2.0	52	38	30	20	—	—	—	—	—	140
14	51.8	1.0	37	13	—	—	—	—	—	—	—	50
14	73.5	1.5	56	30	20	—	—	—	—	—	—	106
14	93.3	2.0	66	56	31	19	—	—	—	—	—	172
16	48.7	1.0	39	11	—	—	—	—	—	—	—	50
16	69.7	1.5	66	39	20	—	—	—	—	—	—	125
16	89.1	2.0	82	60	33	17	—	—	—	—	—	192
16	107.4	2.5	87	73	53	29	20	—	—	—	—	262
18	46.6	1.0	40	10	—	—	—	—	—	—	—	50
18	67.1	1.5	78	44	20	—	—	—	—	—	—	142
18	86.1	2.0	97	66	35	15	—	—	—	—	—	213
18	104.3	2.5	108	90	60	33	20	—	—	—	—	311
18	121.7	3.0	116	106	82	60	33	17	—	—	—	414
20	65.2	1.5	92	44	20	—	—	—	—	—	—	156
20	83.9	2.0	118	76	37	13	—	—	—	—	—	244
20	101.9	2.5	142	108	66	39	20	—	—	—	—	375
20	119.2	3.0	150	134	91	67	35	15	—	—	—	492
22	63.8	1.5	102	46	20	—	—	—	—	—	—	168
22	82.3	2.0	147	88	38	12	—	—	—	—	—	285
22	100.1	2.5	172	132	74	43	20	—	—	—	—	441
22	117.3	3.0	183	157	105	70	36	14	—	—	—	565

Table 3—Scribner board-foot volume of Alaska-cedar (1-foot stump to a 6-inch top diameter inside bark) by half-logs and for the tree, given diameter at breast height (d.b.h.) in inches and number of 32-foot logs (continued)

			Board-foot volume									Total tree volume
D.b.h.	Tree ht.	No. of 32 ft logs	32-foot log position									
			0.5	1.0	1.5	2..0	2..5	3.0	3.5	4.0	4.5	
<i>In</i>	<i>Ft</i>											<i>Bf</i>
24	62.8	1.5	113	45	20	—	—	—	—	—	—	178
24	81.1	2.0	175	105	39	11	—	—	—	—	—	330
24	98.7	2.5	207	148	80	46	20	—	—	—	—	501
24	115.8	3.0	226	186	120	78	38	12	—	—	—	660
24	132.5	3.5	227	213	164	132	73	42	20	—	—	871
26	80.1	2.0	201	111	39	11	—	—	—	—	—	362
26	97.6	2.5	247	171	86	46	20	—	—	—	—	570
26	114.5	3.0	263	212	137	85	38	12	—	—	—	747
26	131.2	3.5	275	253	188	142	78	46	20	—	—	1002
28	79.4	2.0	229	126	40	10	—	—	—	—	—	405
28	96.7	2.5	280	195	94	46	20	—	—	—	—	635
28	113.5	3.0	311	259	155	95	39	11	—	—	—	870
28	130.1	3.5	317	288	216	154	83	47	20	—	—	1125
30	78.8	2.0	265	135	40	10	—	—	—	—	—	450
30	96.0	2.5	325	227	99	47	20	—	—	—	—	718
30	112.7	3.0	353	275	172	108	39	11	—	—	—	958
30	129.3	3.5	365	313	244	174	90	46	20	—	—	1252
30	145.6	4.0	365	345	296	256	156	99	39	11	—	1567
32	78.4	2.0	295	150	41	9	—	—	—	—	—	495
32	95.4	2.5	370	235	104	46	20	—	—	—	—	775
32	112.1	3.0	407	303	188	112	39	11	—	—	—	1060
32	128.5	3.5	422	352	263	192	95	47	20	—	—	1391
32	144.8	4.0	413	385	331	269	172	112	39	11	—	1732
34	78.1	2.0	323	157	41	9	—	—	—	—	—	530
34	95.0	2.5	412	252	109	47	20	—	—	—	—	840
34	111.6	3.0	457	329	204	116	39	11	—	—	—	1156
34	127.9	3.5	481	395	287	209	99	47	20	—	—	1538
34	144.2	4.0	481	447	360	292	185	115	39	11	—	1930

Table 3—Scribner board-foot volume of Alaska-cedar (1-foot stump to a 6-inch top diameter inside bark) by half-logs and for the tree, given diameter at breast height (d.b.h.) in inches and number of 32-foot logs (continued)

			Board-foot volume									Total tree volume
D.b.h.	Tree ht.	No. of 32 ft logs	32-foot log position									
			0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	
<i>In</i>	<i>Ft</i>											<i>Bf</i>
36	78.0	2.0	366	178	41	9	—	—	—	—	—	594
36	94.7	2.5	450	284	113	47	20	—	—	—	—	914
36	111.1	3.0	508	379	219	126	40	10	—	—	—	1282
36	127.4	3.5	535	449	321	231	103	49	20	—	—	1708
36	143.6	4.0	542	498	398	320	199	121	40	10	—	2128
38	94.6	2.5	492	300	119	47	20	—	—	—	—	978
38	110.9	3.0	562	422	233	132	40	10	—	—	—	1399
38	127.0	3.5	594	506	339	246	107	49	20	—	—	1861
38	143.2	4.0	588	548	433	341	214	126	40	10	—	2300
38	159.3	4.5	575	567	516	452	330	245	108	50	20	2863

Table 4—Cubic-foot volume for Alaska-cedar (1-foot stump to a 6-inch top diameter inside bark) by half logs and for the tree, given diameter at breast height (d.b.h.) in inches and number of 32-foot logs

			Board-foot volume (stump to top diameter)										Total tree volume
D.b.h.	Tree ht.	No. of 32 ft logs	32-foot log position										
			0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5		
<i>In</i>	<i>Ft</i>											<i>Ft³</i>	
10	36.9	0.5	6.4	—	—	—	—	—	—	—	—	6.4	
10	66.3	1.0	7.5	4.9	—	—	—	—	—	—	—	12.4	
10	89.9	1.5	7.6	6.0	4.6	—	—	—	—	—	—	18.2	
12	30.5	.5	8.1	—	—	—	—	—	—	—	—	8.1	
12	56.8	1.0	10.4	5.7	—	—	—	—	—	—	—	16.1	
12	79.4	1.5	10.8	7.8	5.2	—	—	—	—	—	—	23.8	
12	99.7	2.0	10.8	8.7	7.1	4.9	—	—	—	—	—	31.5	
14	51.8	1.0	13.7	6.6	—	—	—	—	—	—	—	20.3	
14	73.5	1.5	14.6	9.7	5.7	—	—	—	—	—	—	30.0	
14	93.3	2.0	14.7	11.2	8.5	5.4	—	—	—	—	—	39.8	
16	48.7	1.0	17.4	7.4	—	—	—	—	—	—	—	24.8	
16	69.7	1.5	18.0	11.7	6.2	—	—	—	—	—	—	35.2	
16	89.1	2.0	19.2	13.9	10.0	5.8	—	—	—	—	—	48.9	
16	107.4	2.5	19.1	15.0	12.5	9.2	5.6	—	—	—	—	61.4	
18	46.6	1.0	21.5	8.3	—	—	—	—	—	—	—	29.8	
18	67.1	1.5	23.5	13.9	6.8	—	—	—	—	—	—	44.2	
18	86.1	2.0	24.1	16.9	11.5	6.2	—	—	—	—	—	58.7	
18	104.3	2.5	24.1	18.4	14.8	10.4	5.9	—	—	—	—	73.6	
18	121.7	3.0	23.8	18.9	17.1	13.9	9.9	5.8	—	—	—	89.4	
20	65.2	1.5	28.8	16.2	7.3	—	—	—	—	—	—	52.3	
20	83.9	2.0	29.7	20.1	13.0	6.6	—	—	—	—	—	69.4	
20	101.9	2.5	29.8	22.1	17.2	11.7	6.2	—	—	—	—	87.0	
20	119.2	3.0	29.4	22.9	20.1	15.9	11.0	6.1	—	—	—	105.4	
22	63.8	1.5	34.5	18.6	7.8	—	—	—	—	—	—	60.9	
22	82.3	2.0	35.7	23.4	14.6	7.0	—	—	—	—	—	80.7	
22	100.1	2.5	36.0	26.1	19.7	12.9	6.6	—	—	—	—	101.3	
22	117.3	3.0	35.6	27.2	23.3	18.0	12.1	6.4	—	—	—	122.6	

Table 4—Cubic-foot volume for Alaska-cedar (1-foot stump to a 6-inch top diameter inside bark) by half logs and for the tree, given diameter at breast height (d.b.h.) in inches and number of 32-foot logs (continued)

			Board-foot volume (stump to top diameter)									Total tree volume
D.b.h.	Tree ht.	No. of 32 ft logs	32-foot log position									
			0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	
<i>In</i>	<i>Ft</i>											<i>Ft³</i>
24	62.8	1.5	40.7	21.0	8.3	—	—	—	—	—	—	70.0
24	81.1	2.0	42.4	27.0	16.2	7.3	—	—	—	—	—	92.9
24	98.7	2.5	42.7	30.3	22.2	14.2	6.9	—	—	—	—	116.3
24	115.8	3.0	42.4	31.9	26.6	20.2	13.2	6.7	—	—	—	141.0
24	132.5	3.5	41.8	32.1	29.6	25.1	19.3	12.8	6.6	—	—	167.3
26	80.1	2.0	49.5	30.7	17.7	7.7	—	—	—	—	—	105.6
26	97.6	2.5	50.1	34.8	24.8	15.4	7.2	—	—	—	—	132.3
26	114.5	3.0	49.8	36.8	30.0	22.3	14.3	7.0	—	—	—	160.2
26	131.2	3.5	49.0	37.2	33.6	28.1	21.2	13.8	6.8	—	—	189.7
28	79.4	2.0	57.3	34.6	19.3	8.0	—	—	—	—	—	119.2
28	96.7	2.5	58.0	39.5	27.4	16.6	7.5	—	—	—	—	149.0
28	113.5	3.0	57.8	42.0	33.6	24.4	15.4	7.2	—	—	—	180.4
28	130.1	3.5	56.9	42.6	37.8	31.1	23.2	14.8	7.1	—	—	213.5
30	78.8	2.0	65.5	38.6	20.9	8.3	—	—	—	—	—	133.3
30	96.0	2.5	66.5	44.4	30.1	17.8	7.8	—	—	—	—	166.6
30	112.7	3.0	66.3	47.4	37.2	26.6	16.4	7.5	—	—	—	201.4
30	129.3	3.5	65.4	48.4	42.2	34.2	25.1	15.8	7.4	—	—	238.5
30	145.6	4.0	64.0	47.6	45.3	40.4	33.2	24.6	15.6	7.3	—	278.0
32	78.4	2.0	74.3	42.8	22.4	8.6	—	—	—	—	—	148.1
32	95.4	2.5	75.6	49.5	32.8	18.9	8.0	—	—	—	—	184.8
32	112.1	3.0	75.4	53.1	40.8	28.7	17.4	7.7	—	—	—	223.1
32	128.5	3.5	74.5	54.4	46.6	37.3	27.0	16.8	7.6	—	—	264.2
32	144.8	4.0	73.0	53.7	50.4	44.3	36.0	26.5	16.6	7.6	—	308.1
34	78.1	2.0	83.6	47.1	23.9	8.9	—	—	—	—	—	163.5
34	95.0	2.5	85.2	54.8	35.5	19.9	8.2	—	—	—	—	203.6
34	111.6	3.0	85.2	59.1	44.6	30.8	18.3	8.0	—	—	—	246.0
34	127.9	3.5	84.2	60.7	51.2	40.4	28.9	17.7	7.9	—	—	291.0
34	144.2	4.0	82.5	60.0	55.5	48.3	38.9	28.3	17.6	7.8	—	338.9

Table 4—Cubic-foot volume for Alaska-cedar (1-foot stump to a 6-inch top diameter inside bark) by half logs and for the tree, given diameter at breast height (d.b.h.) in inches and number of 32-foot logs (continued)

		No. of 32 ft logs	Board-foot volume (stump to top diameter)									Total tree volume
D.b.h.	Tree ht.		32-foot log position									
			0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	
<i>In</i>	<i>Ft</i>											<i>Ft³</i>
36	78.0	2.0	93.5	51.5	25.3	9.1	—	—	—	—	—	179.4
36	94.7	2.5	95.4	60.3	38.2	20.9	8.4	—	—	—	—	223.2
36	111.1	3.0	95.5	65.3	48.3	32.8	19.2	8.2	—	—	—	269.3
36	127.4	3.5	94.4	67.2	55.8	43.4	30.7	18.6	8.1	—	—	318.2
36	143.6	4.0	92.6	66.7	60.8	52.3	41.8	30.1	18.5	8.1	—	370.9
38	94.6	2.5	105.9	65.9	40.8	21.9	8.6	—	—	—	—	243.1
38	110.9	3.0	106.0	71.6	52.0	34.8	20.0	8.3	—	—	—	292.7
38	127.0	3.5	104.9	74.0	60.5	46.4	32.5	19.4	8.3	—	—	346.0
38	143.2	4.0	103.0	73.6	66.2	56.3	44.6	31.8	19.3	8.3	—	403.1
38	159.3	4.5	100.3	71.0	69.4	64.2	55.6	44.5	32.0	19.5	8.4	464.9

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