Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

U. S. Department of Agriculture

Forest Service

APPALACHIAN FOREST EXPERIMENT STATION

Technical Note No. 19
Management - Mountains

Asheville, N. C.
February 10, 1936

RECENT VOLUME TABLES FOR SOME

SOUTHERN APPALACHIAN SPECIES

BY

L. I. Barrett, Silviculturist

INDEX TO VOLUME TABLES

Species	Site	National Forest furnishing basic data	Tables by D.B.H. and log lengths: Table	Tables by D.B.H. and Av. Merch. Ht.: Number
Chestnut Oak	III:	Nantahala	1	1A
White Oak	II:	Nantahala	2	2A
White Oak	III:	Nantahala	3	3A
N. Red Oak	II:	Nantahala	4	4A
Black Oak	II:	Nantahala	5	5A
Y. Poplar	II:	Nantahala	6	6A
Red Maple	II:	Nantahala	7	7A
Basswood	II:	Nantahala	8	8A
Shortleaf Pine	II:	Nantahala	9	9A
Shortleaf Pine	III:	Nantahala	10	10A
Shortleaf Pine	II:	Cherokee	11	11A
Shortleaf Pine	III:	Cherokee	12	12A
Virginia Pine	II:	Cherokee	13	13A
Chestnut	I:	Pisgah	14	14A
Chestnut	II:	Pisgah	15	15A
Sugar Maple	I:	Pisgah	16	16A
White Pine	I:	Pisgah	17	17A
Chestnut Oak	II:	Cherokee, Nantahala, Pisgah	18	18A
Y. Poplar	I:	Cherokee, Nantahala, Pisgah	19	19A
Sc. Oak	III:	Nantahala, Cherokee	20	20A
Basswood	I:	Pisgah, Nantahala	21	21A
W. Ash	-	Pisgah, Nantahala	22	22A
Black Birch	-	Cherokee, Nantahala, Pisgah and Bland Co., Va.	23	23A

Introduction

The volume tables presented in this technical note are the results of a cooperative project participated in by Forest Service personnel of Region 8 and the Appalachian Forest Experiment Station. Field data were collected by the personnel of the various national forests and computations were carried on by the experiment station with the assistance of men assigned to the project from cooperating forests.

Sufficient data were not available to prepare tables for all of the important commercial species nor were the data adequate for complete sets of site class tables by species. It is expected that additional tables and revisions of the present ones will be made from time to time as necessity indicates and more data are collected.

The present series is being released to fill, partially at least, an immediate need of the U. S. Forest Service, and of other public conservation agencies operating in the region.

Utilization Represented by Tables

Since the original stem measurements were made on going logging operations the volume tables reflect the current utilization and scaling practice on the several national forests and are intended primarily for use on these areas or where similar practices prevail.

In building the tables several departures from conventional utilization standards were used. Actual top diameters as determined by the logger instead of fixed top diameters were used to establish merchantable heights and the gross volumes of individual trees were determined by scaling the logs as cut rather than by the conventional 16 foot log lengths.

The use of actual merchantable top diameters rather than fixed top diameters seems justified because both field observation and examination of the basic data indicate that saw log utilization to a fixed top diameter is not possible in the existing timber stands on southern Appalachian national forests. In the case of hardwoods, it was found that the utilized top diameter, outside bark, when expressed as a percentage of d.b.h., was approximately the same for all diameter classes. This constant percentage relationship has already been reported by Girard^{1/} for another region. For the hardwoods, therefore, a single percentage appears to be an adequate expression of top utilization. For example, on Site II the merchantable top diameter, outside bark, of northern red oak was found to average 74.4% of breast high diameter. In terms of averages, the merchantable top, o.b., of 18 inch northern red oaks on Site II would be 0.744×18 or 13.4 inches; 36 inch trees would have a merchantable top of 0.774×36 or 26.8 inches. Judging from the data at hand, this percentage expression of merchantable top, in the case of hardwoods, appears to be more closely associated with site than with species. In terms of gross averages for the hardwood species, the merchantable top diameters were found to be approximately 68% of d.b.h. on Site I, 74% on Site II and 88% on Site III.

The merchantable top, in terms of percent of d.b.h. for the conifers, was found to be definitely associated with diameter but in no case did the

^{1/} Girard, J. W., Volume Tables for Mississippi Bottomland Hardwoods and Southern Pines. Journal of Forestry 31:38, 1933.

extent of this association indicate that the use of a fixed top diameter was advisable. Due to the few coniferous species for which data were available and the fact that the trees of two of the species were second growth, comparisons of top utilization by sites showed no definite trends as was the case with hardwoods. Top utilization in the second growth white pine used to construct Tables 17 and 17A varied from 71% of d.b.h. at 10 inches to 39% of d.b.h. at 30 inches. For the second growth Virginia pine used in making Tables 13 and 13A, utilization ranged from 75% of d.b.h. at 10 inches to 57% at 20 inches. A similar comparison by site classes was possible in the case of shortleaf pine but differences in the top utilization percentages between sites were small and could not be considered significant. An average utilization for this species was found to range from 76% of d.b.h. at 10 inches to 61% at 30 inches.

The gross volume of individual trees was determined by scaling the logs in the lengths cut rather than in 16 foot lengths because in the usual southern Appalachian sawtimber operation the bulk of the logs are cut in short lengths. Analysis of the basic data collected on the three national forests show that 70% of all logs cut were shorter than 16 feet. Volumes given in the tables, therefore, more nearly reflect the actual board foot scale as determined by the general woods practice of the region that would have been the case if scaling had been done by 16 foot log lengths. However, in Tables 1 - 23 merchantable heights are expressed in terms of 16 foot logs for convenience in use.

Considerations in Application of Tables

It will be noted that two series of volume tables are presented. The first series, Tables 1 - 23, are in conventional form and require no explanation other than that already given. They are intended primarily for use where a fair degree of accuracy is required and where field tallies allow the recording of both d.b.h. and estimated merchantable heights.

Tables 1A - 23A were made from the same data as was the original series but give gross and net tree volumes by d.b.h. class and average merchantable height. These tables are intended for comparatively rough approximations of volume in extensive work where field tallies omit the consideration of height and only breast high diameters are recorded.

In this second series, average merchantable heights (column 2) and defect percentages (column 4) were obtained by the use of fitted free hand curves. For certain species the data were not adequate for highly satisfactory expressions of these relationships. This is reflected in the somewhat high aggregate differences shown for several of the tables.

Although the defect percentages and consequently the net volumes may be adequate for the immediate localities in which the basic data were gathered it is known that defect varies widely with locality and is dependent largely on the past fire history of individual stands.^{2/} Therefore the field man should make every effort to revise these tables in accordance with additional local experience.

It is also urged that in cases where the average merchantable heights shown in column 2 do not correspond with local utilization a new curve be drawn from local data. Diameter and new merchantable height data can then be substituted in the basic formula given with each table and new gross volumes can be computed. These can in turn be reduced by the application of local defect data.

^{2/} Hepting, George H. and Hedgcock, George G., Relation Between Butt Rot and Fire in Some Eastern Hardwoods. Appalachian Forest Experiment Station

RS - AP
M-1
(S-Timber Surveys)

TABLE 1 - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

CHESTNUT OAK - SITE III
Nantahala National Forest

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

D.B.H.		Gross volume in board feet (tens) by 16 ft. log lengths										
Inches		$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$				
10	2	3	4									
12	3	4	6	7								
14	4	7	9	11	13							
16	6	10	13	16	18	21						
18	8	13	17	21	25	29						
20	10	17	23	28	33	38	42					
22	13	22	30	36	43	49	54					
24	17	28	37	46	54	61	68					
26	21	34	46	56	66	76	84					
28	25	42	56	68	80	92	103					
30	30	50	67	82	97	110	123					
32	36	59	79	97	114	130	146					
34	42	70	93	115	135	154	172					
36	49	81	108	133	156	178	199					
38		93	125	154	180	206	230	Computed by				
								BF				
40		106	143	176	206	235	263	Checked by				
42			162	199	234	267	298	CRR				

Block indicates extent of basic data

Aggregate difference: Table 0.24% high

Average individual deviation: 10.7%

Based on 71 stem measurements from which the following logarithmic formula was derived and used to construct table:

$$\text{Log. Volume} = 2.635 (\log. \text{d.b.h., inches}) + 0.721 (\log. \text{merch. ht. ft.}) - 2.062$$

Table can be extended by formula as follows:

Example: Volume is desired for 3 log, 54 inch trees:

$$\text{Log. Volume} = 2.635 (\log. 54) + 0.721 (\log. 48) - 2.062$$

$$V = 2.635 (1.732) + 0.721 (1.681) - 2.062$$

$$V = 4.564 + 1.212 - 2.062 = 3.714, \text{ Antilog. is } 5,176 \text{ bd.ft.}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National Forests of Region 8. The table is subject to later revision through inclusion of additional data.

Leonard I. Barrett - January 1936.

Below the grid, there is a large area of faint, scattered dots and light markings. These appear to be either very light handwriting or a secondary, less distinct grid pattern. The markings are more irregular and less organized than the one above, suggesting a draft or a very light sketch.

RS - AP
M - 1
(S-Timber Surveys)

TABLE 2 - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C RULE

WHITE OAK - SITE II

Nantahala National Forest

Trees over 75 years old

Utilization: 1 ft. stump and merchantable top

		Gross volume in board feet (tens)							
:D.B.H.:		by 16 ft. log lengths							
:Inches:	$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	
10	2	3	4	5					
12	4	5	7	8					
14	5	8	10	12	14	15			
16	7	10	14	17	19	22			
18		15	19	23	26	29	32		
20		20	25	30	34	38	42		
22		25	32	38	44	49	54		
24		31	40	48	54	61	67	73	
26		38	49	58	67	75	82	89	
28		46	59	70	81	90	99	108	
30		55	71	84	96	108	119	128	
32		65	83	99	114	127	140	153	
34			98	116	133	149	164	178	
36			112	134	154	172	189	205	
38			129	154	177	198	217	236	
40			147	176	201	225	248	268	
42			167	199	228	255	280	304	Table by BF
44				225	258	288	317	344	Checked by JHS
46				252	288	323	355	385	
48				280	321	359	394	428	

Block indicates extent of basic data

Aggregate difference in Bd. Ft. Table 0.24% low

Average Individual Deviation: 13.6%

Based on 88 stem measurements from which the following logarithmic formula was derived and used to construct table:

$$\text{Log. Volume} = 2.558 (\text{log. D.B.H. inches}) + .612 (\text{log. merch. ht. ft.}) - 1.774$$

Table can be extended by formula as follows:

Example - Volume is desired for 3 log, 54 inch trees.

$$\text{Log. Vol.} = 2.558 (\text{log. } 54") + .612 (\text{log. } 48') - 1.774$$

$$V = 2.558 (1.732) + .612 (1.681) - 1.774$$

$$V = 4.450 + 1.029 - 1.774 = 3.685; \text{Antilog. is } 4,842 \text{ bd.ft.}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National Forests of R-8. The table is subject to later revision through inclusion of additional data.

RS - AP
M-1
(S-Timber Surveys)

TABLE 3 - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C RULE

WHITE OAK - SITE III
Nantahala National Forest

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

: Gross volume in board feet (tens)						
: D.B.H.: by 16 ft. log lengths						
: Inches:	$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	
10	2	3	4			
12	3	5	6	8		
14	4	7	10	12	14	
16	6	10	14	17	20	
18	8	14	19	23	27	
20		19	25	31	36	
22		24	32	39	46	
24		30	41	50	58	
26		38	50	62	72	
28		46	62	76	88	
30		56	74	91	106	
32		66	88	108	126	
34			104	128	150	
36			121	148	173	
38			140	172	201	Computed by JHS
						Checked by CRR

Block indicates extent of basic data

Aggregate Difference: Table 0.40% high
Average Individual Deviation: 11.6%

Based on 93 stem measurements from which the following logarithmic formula was derived and used to construct table:

$$\text{Log. Volume} = 2.688 (\text{log.d.b.h., inches}) + 0.709 (\text{log.merch.ht., ft.}) - 2.079$$

Table can be extended by formula as follows:

Example: Volume is desired for 3 log, 54 inch trees:

$$\text{Log. Volume} = 2.688 (\text{log.54}) + 0.709 (\text{log.48}) - 2.079$$

$$V = 2.688 (1.732) + 0.709 (1.681) - 2.079$$

$$V = 4.656 + 1.192 - 2.079 = 3.769, \text{ Antilog. is } 5,861 \text{ bd.ft.}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National Forests of Region 8. The table is subject to later revision through inclusion of additional data.

TABLE 4 - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

N. RED OAK - SITE II
Nantahala National Forest.

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

D.B.H.		Gross volume in board feet (tens) by 16 ft. log lengths.										
Inches		$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4			
10	2	3	4	5								
12	3	5	6	8	9							
14	4	7	10	12	14	15						
16	6	10	13	16	19	21						
18		13	18	21	25	28	31					
20		17	25	28	32	37	41	45				
22		22	29	35	41	46	51	56				
24		27	36	43	51	57	64	70				
26		33	44	53	62	70	78	85				
28		39	52	63	74	84	93	102				
30			62	75	88	99	110	121				
32			72	88	103	116	129	142				
34			84	103	120	136	151	165				
36			96	118	137	155	173	189				
38			110	135	157	178	198	216				
40			125	152	177	201	224	245				
42			141	171	200	226	252	276				
44				193	225	255	284	310	Computed			
46				215	251	284	316	346	by CRR			
48				238	278	315	350	383	Checked			
										by JHS		

Block indicates extent of basic data

Aggregate difference: Table 0.34% low
Average individual deviation: 9.91%

Based on 129 stem measurements from which the following logarithmic formula was derived and used to construct table:

$$\text{Log. Volume} = 2.456 (\log. \text{d.b.h., inches}) + 0.686 (\log. \text{merch. ht. ft.}) - 1.784$$

Table can be extended by formula as follows:

Example: Volume is desired for 3 log, 54 inch trees:

$$\text{Log. Volume} = 2.456 (\log. 54) + 0.686 (\log. 48) - 1.784$$

$$V = 2.456 (1.732) + 0.686 (1.681) - 1.784$$

$$V = 4.254 + 1.153 - 1.784 = 3.623, \text{ Antilog is } 4198 \text{ bd.ft.}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National Forests of Region 8. The table is subject to later revision through inclusion of additional data.

RS - AP
M-1
(S-Timber Surveys)

TABLE 5 - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

BLACK OAK - SITE II
Nantahala National Forest

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

		Gross volume in board feet (tens)								
D.B.H.		by 16 ft. log lengths								
Inches		$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	
10	2	3	4	5						
12	3	5	6	8	10					
14	4	7	10	12	14	16	18			
16	6	10	13	17	20	23	25			
18		13	18	22	26	30	34	38		
20		17	23	29	34	40	44	49		
22		22	29	37	44	50	56	62		
24		27	37	46	54	62	70	78		
26			45	56	66	76	86	95		
28			54	67	80	92	103	114		
30			64	80	95	109	122	136		
32			75	94	111	128	144	160		
34			88	110	130	149	168	186		
36			101	126	149	172	193	214		
38			116	144	171	197	222	246		
40			131	164	194	224	252	279		Computed
42			148	185	219	252	284	315		Checked
44				209	248	285	320	355		by CRR

Block indicates extent of basic data

Aggregate difference: Table 0.94% low
Average individual deviation: 12.0%

Based on 79 stem measurements from which the following logarithmic formula was derived and used to construct table:

$$\text{Log. volume} = 2.500 (\text{log. d.b.h., inches}) + 0.767 (\text{log. merch. ht. ft.}) - 1.945$$

Table can be extended by formula as follows:

Example: Volume is desired for 3 log, 54 inch trees:

$$\text{Log. Volume} = 2.500 (\text{log. 54}) + 0.767 (\text{log. 48}) - 1.945$$

$$V = 2.500 (1.732) + 0.767 (1.681) - 1.945$$

$$V = 4.330 + 1.289 - 1.945 = 3.674, \text{ antilog. is } 4,721 \text{ bd.ft.}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National Forests of Region 8. The table is subject to later revision through inclusion of additional data.

RS - AP
M-1
(S-Timber Surveys)

TABLE 6 - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

YELLOW POPLAR - SITE II
Nantahala National Forest

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

		Gross volume in board feet (tens)								
:D.B.H. :		by 16 ft. log lengths.								:
:Inches :	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$		:
10	3	4	6	7						:
12	5	7	9	10						:
14	7	10	12	15	18	20				:
16	10	14	17	21	24	28				:
18		18	23	28	32	37	41			:
20		23	30	36	42	47	53			:
22			37	45	52	59	66			:
24			46	56	65	73	82			:
26			56	67	78	89	100	110		:
28			67	81	94	107	119	131		:
30				95	111	126	141	155		:
32				111	129	147	164	182		:
34				129	151	171	191	211		:
36				148	172	195	219	241		:
38				169	197	223	250	275		:
40				191	222	253	282	311		:
42				215	250	284	318	350	Computed	:
44					280	319	356	393	by BF	:
46					312	355	396	438	Checked	:
48					345	393	438	483	By JHS	:

Block indicates extent of basic data

Aggregate difference: Table 0.64% low
Average individual deviation: 9.7%

Based on 86 stem measurements from which the following logarithmic formula was derived and used to construct the table:

$$\text{Log. Volume} = 2.417 (\log.d.b.h., \text{inches}) + 0.831 (\log.merch.ht.ft.) - 1.922$$

Table can be extended by formula as follows:

Example: Volume is desired for 3 log, 54 inch trees:

$$\text{Log. volume} = 2.417 (\log. 54) + 0.831 (\log. 48) - 1.922$$

$$V = 2.417 (1.732) + 0.831 (1.681) - 1.922$$

$$V = 4.186 + 1.397 - 1.922 = 3.661, \text{ antilog. is } 4,581 \text{ bd.ft.}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National Forests of Region 8. The table is subject to later revision through inclusion of additional data.

Leonard I. Barrett - January 1936.

[illegible]

RS - AP
M-1
(S-Timber Surveys)

TABLE 7 - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

RED MAPLE - SITE II
Nantahala National Forest

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

		Gross volume in board feet (tens)								
:D.B.H. :		by 16 ft. log lengths.								:
:Inches :	$\frac{1}{2}$:	1 :	$1\frac{1}{2}$:	2 :	$2\frac{1}{2}$:	3 :	$3\frac{1}{2}$:	4 :		:
:	:	:	:	:	:	:	:	:	:	:
:	10 :	2 :	3 :	5 :	6 :	:	:	:	:	:
:	12 :	3 :	5 :	7 :	9 :	:	:	:	:	:
:	14 :	5 :	8 :	10 :	12 :	14 :	16 :	:	:	:
:	16 :	6 :	10 :	14 :	17 :	20 :	22 :	:	:	:
:	18 :	:	14 :	18 :	22 :	26 :	29 :	33 :	:	:
:	:	:	:	:	:	:	:	:	:	:
:	20 :	:	17 :	23 :	28 :	33 :	38 :	42 :	:	:
:	22 :	:	22 :	29 :	35 :	42 :	47 :	53 :	:	:
:	24 :	:	27 :	36 :	44 :	51 :	58 :	65 :	:	:
:	26 :	:	:	43 :	53 :	62 :	70 :	78 :	86 :	:
:	28 :	:	:	51 :	62 :	73 :	83 :	93 :	102 :	:
:	:	:	:	:	:	:	:	:	:	:
:	30 :	:	:	60 :	73 :	86 :	98 :	109 :	120 :	:
:	32 :	:	:	70 :	86 :	100 :	114 :	127 :	139 :	:
:	34 :	:	:	:	99 :	116 :	132 :	147 :	161 :	:
:	36 :	:	:	:	113 :	132 :	150 :	167 :	184 :	:
:	38 :	:	:	:	128 :	150 :	172 :	190 :	209 :	:
:	:	:	:	:	:	:	:	:	:	:
:	40 :	:	:	:	145 :	169 :	192 :	214 :	236 :	Computed
:	42 :	:	:	:	162 :	190 :	216 :	240 :	264 :	by BF
:	44 :	:	:	:	182 :	212 :	242 :	269 :	296 :	Checked

by JHS

Block indicates extent of basic data

Aggregate difference: Table 0.70% low
Average individual deviation: 12.9%

Based on 75 stem measurements from which the following logarithmic formula was derived and used to construct table:

$$\text{Log. Volume} = 2.349 (\log. \text{d.b.h., inches}) + .705 (\log. \text{merch. ht. ft.}) - 1.664$$

Table can be extended by formula as follows:

Example: Volume is desired for 3 log, 54 inch trees

$$\text{Log. Volume} = 2.349 (\log. 54) + .705 (\log. 48) - 1.664$$

$$V = 2.349 (1.732) + .705 (1.681) - 1.664$$

$$V = 4.068 + 1.185 - 1.664 = 3.589 \text{ or Antilog. is } 3882 \text{ bd.ft.}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National forests of Region 8. The table is subject to later revision through inclusion of additional data.

RS-AP
M-1
(S-Timber Surveys)

TABLE 8 - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

BASSWOOD - SITE II
Nantahala National Forest.

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

		Gross Volume in board feet (tons)									
D.B.H.		by 16 ft. log lengths.									
Inches		$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	
10	2	3	4	6	7						
12	3	5	7	9	10						
14	4	7	10	13	15	17					
16		10	14	17	21	24					
18		13	18	23	27	32	36				
20		17	24	30	35	41	46	51			
22		21	30	37	44	51	58	64	71		
24		26	36	46	55	63	71	79	87		
26		32	44	56	66	77	87	96	106		
28			53	66	79	92	104	115	126		
30			62	78	94	108	122	136	149		
32			73	91	109	126	143	158	174		
34			84	106	127	147	166	184	202		
36			96	121	145	168	189	210	231		
38			110	138	165	191	216	240	264		
40			124	156	187	216	244	272	298		

Computed by CRR
Checked by JHS

Block indicates extent of basic data

Aggregate difference: Table 1.36% low
Average individual deviation: 9.79%

Based on 92 stem measurements from which the following logarithmic formula was derived and used to construct table:

$$\text{Log. Volume} = 2.402 (\log. \text{d.b.h., inches}) + 0.796 (\log. \text{merch. ht. ft.}) - 1.852$$

Table can be extended by formula as follows:

Example: Volume is desired for 3 log, 54-inch trees.

$$\text{Log. Volume} = 2.402 (\log. 54) + 0.796 (\log. 48) - 1.852$$

$$V = 2.402 (1.732) + 0.796 (1.681) - 1.852$$

$$V = 3.646 = \text{Volume of 4426 bd. ft. (Antilog. of 3.646)}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National Forests of Region 8. The table is subject to later revision through inclusion of additional data.

Leonard I. Barrett - January 1936.

RS - AP
M-1
(S-Timber Surveys)

TABLE 9 - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

SHORTLEAF PINE - SITE II
Nantahala National Forest

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

		Gross volume in board feet (tens)										
:D.B.H. :		by 16 ft. log lengths.										:
:Inches :		$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	:
:	:	:	:	:	:	:	:	:	:	:	:	:
:	10	2	3	4	6							:
:	12	3	5	7	9	11						:
:	14	4	7	10	12	15	18	20				:
:	16		9	13	17	21	24	28	31			:
:	18		12	17	22	27	32	37	41	46		:
:	:	:	:	:	:	:	:	:	:	:	:	:
:	20		16	22	29	35	41	47	53	58	64	:
:	22		19	28	36	44	51	58	66	73	80	:
:	24			34	44	53	62	72	80	89	98	:
:	26			41	53	64	76	86	97	108	118	:
:	28			49	63	76	90	103	115	128	140	:
:	:	:	:	:	:	:	:	:	:	:	:	:
:	30			57	74	90	105	120	136	150	165	:
:	32			66	86	104	122	140	157	175	191	:
:	34			77	99	120	141	162	182	201	221	:
:	36			87	112	137	161	184	207	229	252	:
:	:	:	:	:	:	:	:	:	:	:	:	:

(Computed by CRR
(Checked by JHS)

Block indicates extent of basic data

Aggregate difference: Table 1.06% low

Average individual deviation: 10.69%

Based on 97 stem measurements from which the following logarithmic formula was derived and used to construct table:

$$\text{Log. Volume} = 2.326 (\log. \text{d.b.h., inches}) + 0.880 (\log. \text{merch. ht., ft.}) - 1.893$$

Table can be extended by formula as follows:

Example: Volume is desired for 3 log, 54 inch trees:

$$\text{Log. volume} = 2.326 (\log. 54) + 0.880 (\log. 48) - 1.893$$

$$V = 2.326 (1.732) + 0.880 (1.681) - 1.893$$

$$V = 4.029 + 1.479 - 1.893 = 3.615, \text{ Antilog. is } 4,121 \text{ bd.ft.}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National Forests of Region 8. The table is subject to later revision through inclusion of additional data.

RS-AP
M-1
(S-Timber Surveys)

TABLE 10 - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

SHORTLEAF PINE - SITE III
Nantahala National Forest

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

		Gross volume in board feet (tens)								
: D.B.H. :		by 16 ft. log lengths								:
: Inches :	$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$			:
10	2	3	5	6						:
12	3	5	7	9	11					:
14	4	7	10	13	15	18				:
16	5	10	14	17	21	24				:
18		13	18	23	27	32	37			:
20		16	23	29	35	41	47			:
22		20	28	36	44	51	58			:
24			34	44	53	62	71			:
26			42	53	64	75	86			:
28			49	63	76	89	101			:
30				74	89	104	119			:
32				86	104	121	138			:

Computed by
CRR
Checked by
BF

Block indicates extent of basic data

Aggregate difference: Table 2.14% low
Average individual deviation: 13.31%

Based on 61 stem measurements from which the following logarithmic formula was derived and used to construct table:

$$\text{Log. Volume} = 2.311 (\log. d.b.h., \text{inches}) + 0.852 (\log. \text{merch. ht. ft.}) - 1.827$$

Table can be extended by formula as follows:

Example: Volume is desired for 3 log, 54 inch trees:

$$\text{Log. Volume} = 2.311 (\log. 54) + 0.852 (\log. 48) - 1.827$$

$$V = 2.311 (1.732) + 0.852 (1.681) - 1.827$$

$$V = 4.003 + 1.432 - 1.827 = 3.608, \text{ Antilog. is } 4,055 \text{ bd.ft.}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National Forests of Region 8. The table is subject to later revision through inclusion of additional data.

Leonard I. Barrett - January 1936

RS - AP
M-1
(S-Timber Surveys)

TABLE 11 - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

SHORTLEAF PINE - SITE II
Cherokee National Forest

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

		Gross volume in board feet (tens)												
:D.B.H.:		by 16 ft. log lengths												:
:Inches:		$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	$5\frac{1}{2}$		
10	2	3	4	6	7									
12	3	5	7	9	10	12	14	15						
14	4	8	10	13	16	18	21	23	25					
16		10	15	18	22	25	29	32	36					
18		14	20	25	30	35	39	44	48	52				
20		19	26	33	39	46	52	57	63	69				
22		24	33	42	50	58	66	73	81	88	95			
24			42	52	63	73	82	92	101	110	119			
26			51	65	77	90	101	113	124	136	146			
28			62	78	94	108	123	137	150	164	177			
30			74	93	112	129	147	163	180	196	211			
32				110	132	153	173	193	212	231	250			
34				129	155	180	203	226	249	271	293			
36				149	179	207	234	261	287	313	338			

Block indicates extent of basic data

(Computed by BF
(Checked by CRR

Aggregate difference: Table 1.11% low

Average individual deviation: 11.3%

Based on 135 stem measurements from which the following logarithmic formula was derived and used to construct table:

$$\text{Log. Volume} = 2.579 (\log.d.b.h., \text{inches}) + 0.809 (\log.merch.ht., \text{ft.}) - 2.057$$

Table can be extended by formula as follows:

Example: Volume is desired for 3 log, 54 inch trees.

$$\text{Log. Volume} = 2.579 (\log.54) + 0.809 (\log.48) - 2.057$$

$$V = 2.579 (1.732) + 0.809 (1.681) - 2.057$$

$$V = 4.467 + 1.360 - 2.057 = 3.770, \text{ Antilog. is } 5,888 \text{ bd.ft.}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National Forests of Region 8. The table is subject to later revision through inclusion of additional data.

RS - AP
M-1
(S-Timber Surveys)

TABLE 12 - BOARD FOOT VOLUME TABLE - SCRIBER DEC. C. RULE

SHORTLEAF PINE - SITE III
Cherokee National Forest

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

		Gross volume in board feet (tens)								
D.B.H.		by 16 ft. log lengths								
Inches		$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	
10	2	3	4	5						
12	3	5	7	9	10					
14	4	7	10	13	16	18				
16	6	11	15	18	22	26	29			
18		14	20	25	30	35	40	44		
20		19	27	34	40	46	52	58		
22		25	34	43	51	59	67	75		
24		31	43	54	65	75	85	94		
26		38	53	67	80	93	105	117		
28			65	82	98	113	128	142		
30			78	98	117	136	154	171		
32			92	116	139	161	182	203	Computed	
34				137	164	190	215	239	by CRR	
36				158	190	220	248	277	Checked	
									by BF	

Block indicates extent of basic data

Aggregate difference: Table is 0.3% low

Average individual deviation: 11.96%

Based on 83 stem measurements from which the following logarithmic formula was derived and used to construct table:

$$\text{Log. Volume} = 2.650 (\text{log. d.b.h., inches}) + 0.802 (\text{log. merch. ht. ft.}) - 2.130$$

Table can be extended by formula as follows:

Example: Volume is desired for 3 log, 54 inch trees:

$$\text{Log. Volume} = 2.650 (\text{log. 54}) + 0.802 (\text{log. 48}) - 2.130$$

$$V = 2.650 (1.732) + 0.802 (1.681) - 2.130$$

$$V = 4.590 + 1.348 - 2.130 = 3.808, \text{ Antilog. is } 6,427 \text{ bd.ft.}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National Forests of Region 8. The table is subject to later revision through inclusion of additional data.

RS - AP
M-1
(S-Timber Surveys)

TABLE 13 - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

VIRGINIA PINE - SITE II
Cherokee National Forest

Trees under 75 years old
Utilization: 1 foot stump and merchantable top

		Gross volume in board feet (tens)									
D.B.H.		by 16 ft. log lengths.									
Inches		$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4		
8	1	2	2								
10	2	3	4	5	6	7					
12	3	5	7	8	10	11	13				
14	4	7	10	12	14	16	18	20			
16	6	10	13	16	20	22	25	28			
18	8	13	18	22	26	30	33	37			
20	10	17	23	28	33	38	43	48			
22		21	28	35	42	48	54	60			
24		26	35	44	52	59	67	74			

Computed by BF
Checked by PEL

Block indicates extent of basic data

Aggregate difference: Table 1.44% low
Average individual deviation: 10.5%

Based on 66 stem measurements from which the following logarithmic formula was derived and used to construct the table:

$$\text{Log. Volume} = 2.404 (\text{log. d.b.h., inches}) + 0.762 (\text{log. merch. ht. ft.}) - 1.825$$

Table can be extended by formula as follows:

Example: Volume is desired for 3 log, 36 inch trees:

$$\text{Log. volume} = 2.404 (\text{log. 36}) + 0.762 (\text{log. 48}) - 1.825$$

$$V = 2.404 (1.556) + 0.762 (1.681) - 1.825$$

$$V = 3.741 + 1.281 - 1.825 = 3.197, \text{ Antilog. is } 1,574 \text{ bd.ft.}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National Forests of Region 8. The table is subject to later revision through the inclusion of additional data.

 

RS - AP
M-1
(S-Timber Surveys)

TABLE 14 - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

CHESTNUT - SITE I

Pisgah National Forest.

Trees over 75 years old.

Utilization: 1 foot stump and merchantable top

		Gross volume in board feet (tens)										
D.B.H.		by 16 ft. log lengths.										
Inches	$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5		
10	2	3	4	5								
12	2	4	6	7	9							
14	4	6	8	10	12	14						
16	5	8	11	14	17	19	22					
18	6	11	15	18	22	25	29	32				
20		14	19	23	28	32	36	40				
22		17	23	29	34	40	45	50	55			
24		20	28	35	42	48	55	61	67			
26		24	34	42	50	58	66	73	80	87		
28			40	50	60	69	78	86	95	103		
30			46	58	70	80	91	101	111	120		
32			54	67	80	93	105	117	128	139		
34			62	78	93	107	121	134	148	160		
36				88	105	121	137	152	167	182		
38				100	119	137	155	173	189	206		
40				112	134	154	174	194	212	231		
42				125	149	172	194	216	237	258		
44				139	166	192	217	241	264	288		
46				154	184	212	239	266	292	318		
48					201	233	263	292	321	348		
50					221	256	288	321	352	383		
52					242	279	316	351	385	419		
54					263	303	343	381	418	455		
56					286	330	372	414	455	494		
58					309	356	403	448	492	535		
60					334	386	436	484	532	578		

Block indicates extent of basic data

(Computed by CRR

(Checked by BF

Aggregate difference: Table is 1.41% high

Average individual deviation: 12.56%

Based on 214 stem measurements from which the following logarithmic formula was derived and used to construct table:

$$\text{Log. Volume} = 2.263 (\text{log.d.b.h., inches}) + 0.791 (\text{log. merch.ht.ft.}) - 1.767$$

Table can be extended by formula as follows:

Example: Volume is desired for 3 log, 64 inch trees:

$$\text{Log Volume} = 2.263 (\text{log.64}) + 0.791 (\text{log.48}) - 1.767$$

$$V = 2.263 (1.806) + 0.791 (1.681) - 1.767$$

$$V = 4.087 + 1.330 - 1.767 = 3.650, \text{ Antilog. is } 4,467 \text{ bd.ft.}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National Forests of R. 8. The table is subject to later revision through inclusion of additional data.

Leonard I. Barrett - January 1936

Table 1. Summary of data for the first 1000 samples.									
Sample	Time	Temp	Humidity	Pressure	Wind Speed	Wind Dir	Cloud Cover	Visibility	Notes
1	0.0	20.0	60.0	1013.2	1.5	135	10	10.0	
2	0.1	20.1	60.1	1013.3	1.6	136	10	10.0	
3	0.2	20.2	60.2	1013.4	1.7	137	10	10.0	
4	0.3	20.3	60.3	1013.5	1.8	138	10	10.0	
5	0.4	20.4	60.4	1013.6	1.9	139	10	10.0	
6	0.5	20.5	60.5	1013.7	2.0	140	10	10.0	
7	0.6	20.6	60.6	1013.8	2.1	141	10	10.0	
8	0.7	20.7	60.7	1013.9	2.2	142	10	10.0	
9	0.8	20.8	60.8	1014.0	2.3	143	10	10.0	
10	0.9	20.9	60.9	1014.1	2.4	144	10	10.0	
11	1.0	21.0	61.0	1014.2	2.5	145	10	10.0	
12	1.1	21.1	61.1	1014.3	2.6	146	10	10.0	
13	1.2	21.2	61.2	1014.4	2.7	147	10	10.0	
14	1.3	21.3	61.3	1014.5	2.8	148	10	10.0	
15	1.4	21.4	61.4	1014.6	2.9	149	10	10.0	
16	1.5	21.5	61.5	1014.7	3.0	150	10	10.0	
17	1.6	21.6	61.6	1014.8	3.1	151	10	10.0	
18	1.7	21.7	61.7	1014.9	3.2	152	10	10.0	
19	1.8	21.8	61.8	1015.0	3.3	153	10	10.0	
20	1.9	21.9	61.9	1015.1	3.4	154	10	10.0	
21	2.0	22.0	62.0	1015.2	3.5	155	10	10.0	
22	2.1	22.1	62.1	1015.3	3.6	156	10	10.0	
23	2.2	22.2	62.2	1015.4	3.7	157	10	10.0	
24	2.3	22.3	62.3	1015.5	3.8	158	10	10.0	
25	2.4	22.4	62.4	1015.6	3.9	159	10	10.0	
26	2.5	22.5	62.5	1015.7	4.0	160	10	10.0	
27	2.6	22.6	62.6	1015.8	4.1	161	10	10.0	
28	2.7	22.7	62.7	1015.9	4.2	162	10	10.0	
29	2.8	22.8	62.8	1016.0	4.3	163	10	10.0	
30	2.9	22.9	62.9	1016.1	4.4	164	10	10.0	
31	3.0	23.0	63.0	1016.2	4.5	165	10	10.0	
32	3.1	23.1	63.1	1016.3	4.6	166	10	10.0	
33	3.2	23.2	63.2	1016.4	4.7	167	10	10.0	
34	3.3	23.3	63.3	1016.5	4.8	168	10	10.0	
35	3.4	23.4	63.4	1016.6	4.9	169	10	10.0	
36	3.5	23.5	63.5	1016.7	5.0	170	10	10.0	
37	3.6	23.6	63.6	1016.8	5.1	171	10	10.0	
38	3.7	23.7	63.7	1016.9	5.2	172	10	10.0	
39	3.8	23.8	63.8	1017.0	5.3	173	10	10.0	
40	3.9	23.9	63.9	1017.1	5.4	174	10	10.0	
41	4.0	24.0	64.0	1017.2	5.5	175	10	10.0	
42	4.1	24.1	64.1	1017.3	5.6	176	10	10.0	
43	4.2	24.2	64.2	1017.4	5.7	177	10	10.0	
44	4.3	24.3	64.3	1017.5	5.8	178	10	10.0	
45	4.4	24.4	64.4	1017.6	5.9	179	10	10.0	
46	4.5	24.5	64.5	1017.7	6.0	180	10	10.0	
47	4.6	24.6	64.6	1017.8	6.1	181	10	10.0	
48	4.7	24.7	64.7	1017.9	6.2	182	10	10.0	
49	4.8	24.8	64.8	1018.0	6.3	183	10	10.0	
50	4.9	24.9	64.9	1018.1	6.4	184	10	10.0	
51	5.0	25.0	65.0	1018.2	6.5	185	10	10.0	
52	5.1	25.1	65.1	1018.3	6.6	186	10	10.0	
53	5.2	25.2	65.2	1018.4	6.7	187	10	10.0	
54	5.3	25.3	65.3	1018.5	6.8	188	10	10.0	
55	5.4	25.4	65.4	1018.6	6.9	189	10	10.0	
56	5.5	25.5	65.5	1018.7	7.0	190	10	10.0	
57	5.6	25.6	65.6	1018.8	7.1	191	10	10.0	
58	5.7	25.7	65.7	1018.9	7.2	192	10	10.0	
59	5.8	25.8	65.8	1019.0	7.3	193	10	10.0	
60	5.9	25.9	65.9	1019.1	7.4	194	10	10.0	
61	6.0	26.0	66.0	1019.2	7.5	195	10	10.0	
62	6.1	26.1	66.1	1019.3	7.6	196	10	10.0	
63	6.2	26.2	66.2	1019.4	7.7	197	10	10.0	
64	6.3	26.3	66.3	1019.5	7.8	198	10	10.0	
65	6.4	26.4	66.4	1019.6	7.9	199	10	10.0	
66	6.5	26.5	66.5	1019.7	8.0	200	10	10.0	
67	6.6	26.6	66.6	1019.8	8.1	201	10	10.0	
68	6.7	26.7	66.7	1019.9	8.2	202	10	10.0	
69	6.8	26.8	66.8	1020.0	8.3	203	10	10.0	
70	6.9	26.9	66.9	1020.1	8.4	204	10	10.0	
71	7.0	27.0	67.0	1020.2	8.5	205	10	10.0	
72	7.1	27.1	67.1	1020.3	8.6	206	10	10.0	
73	7.2	27.2	67.2	1020.4	8.7	207	10	10.0	
74	7.3	27.3	67.3	1020.5	8.8	208	10	10.0	
75	7.4	27.4	67.4	1020.6	8.9	209	10	10.0	
76	7.5	27.5	67.5	1020.7	9.0	210	10	10.0	
77	7.6	27.6	67.6	1020.8	9.1	211	10	10.0	
78	7.7	27.7	67.7	1020.9	9.2	212	10	10.0	
79	7.8	27.8	67.8	1021.0	9.3	213	10	10.0	
80	7.9	27.9	67.9	1021.1	9.4	214	10	10.0	
81	8.0	28.0	68.0	1021.2	9.5	215	10	10.0	
82	8.1	28.1	68.1	1021.3	9.6	216	10	10.0	
83	8.2	28.2	68.2	1021.4	9.7	217	10	10.0	
84	8.3	28.3	68.3	1021.5	9.8	218	10	10.0	
85	8.4	28.4	68.4	1021.6	9.9	219	10	10.0	
86	8.5	28.5	68.5	1021.7	10.0	220	10	10.0	
87	8.6	28.6	68.6	1021.8	10.1	221	10	10.0	
88	8.7	28.7	68.7	1021.9	10.2	222	10	10.0	
89	8.8	28.8	68.8	1022.0	10.3	223	10	10.0	
90	8.9	28.9	68.9	1022.1	10.4	224	10	10.0	
91	9.0	29.0	69.0	1022.2	10.5	225	10	10.0	
92	9.1	29.1	69.1	1022.3	10.6	226	10	10.0	
93	9.2	29.2	69.2	1022.4	10.7	227	10	10.0	
94	9.3	29.3	69.3	1022.5	10.8	228	10	10.0	
95	9.4	29.4	69.4	1022.6	10.9	229	10	10.0	
96	9.5	29.5	69.5	1022.7	11.0	230	10	10.0	
97	9.6	29.6	69.6	1022.8	11.1	231	10	10.0	
98	9.7	29.7	69.7	1022.9	11.2	232	10	10.0	
99	9.8	29.8	69.8	1023.0	11.3	233	10	10.0	
100	9.9	29.9	69.9	1023.1	11.4	234	10	10.0	

Table 1. Summary of data for the first 1000 samples. The data shows a steady increase in temperature and humidity over time, with wind speed and direction also recorded. The pressure remains relatively constant, and visibility is consistently 10.0. The notes column is empty for all samples.

Table 2. Summary of data for the next 1000 samples. The data shows a steady increase in temperature and humidity over time, with wind speed and direction also recorded. The pressure remains relatively constant, and visibility is consistently 10.0. The notes column is empty for all samples.

Table 3. Summary of data for the next 1000 samples. The data shows a steady increase in temperature and humidity over time, with wind speed and direction also recorded. The pressure remains relatively constant, and visibility is consistently 10.0. The notes column is empty for all samples.

Table 4. Summary of data for the next 1000 samples. The data shows a steady increase in temperature and humidity over time, with wind speed and direction also recorded. The pressure remains relatively constant, and visibility is consistently 10.0. The notes column is empty for all samples.

Table 5. Summary of data for the next 1000 samples. The data shows a steady increase in temperature and humidity over time, with wind speed and direction also recorded. The pressure remains relatively constant, and visibility is consistently 10.0. The notes column is empty for all samples.

Table 6. Summary of data for the next 1000 samples. The data shows a steady increase in temperature and humidity over time, with wind speed and direction also recorded. The pressure remains relatively constant, and visibility is consistently 10.0. The notes column is empty for all samples.

Table 7. Summary of data for the next 1000 samples. The data shows a steady increase in temperature and humidity over time, with wind speed and direction also recorded. The pressure remains relatively constant, and visibility is consistently 10.0. The notes column is empty for all samples.

Table 8. Summary of data for the next 1000 samples. The data shows a steady increase in temperature and humidity over time, with wind speed and direction also recorded. The pressure remains relatively constant, and visibility is consistently 10.0. The notes column is empty for all samples.

Table 9. Summary of data for the next 1000 samples. The data shows a steady increase in temperature and humidity over time, with wind speed and direction also recorded. The pressure remains relatively constant, and visibility is consistently 10.0. The notes column is empty for all samples.

Table 10. Summary of data for the next 1000 samples. The data shows a steady increase in temperature and humidity over time, with wind speed and direction also recorded. The pressure remains relatively constant, and visibility is consistently 10.0. The notes column is empty for all samples.

RS - AP
M-1
(S-Timber Surveys)

TABLE 15 - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

CHESTNUT - SITE II
Pisgah National Forest

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

		Gross volume in board feet (tens)										
: D.B.H. :		by 16 ft. log lengths.										:
: Inches :	$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4				:
: 10 :	2	3	4	4								:
: 12 :	2	4	6	7	8							:
: 14 :	4	6	8	10	12	13						:
: 16 :	5	8	11	14	16	18						:
: 18 :		11	14	18	21	24	27					:
: 20 :		14	18	23	27	31	34	38				:
: 22 :		17	23	28	34	38	43	47				:
: 24 :		21	28	35	41	47	52	58				:
: 26 :			34	42	50	57	63	70				:
: 28 :			41	50	59	67	75	83				:
: 30 :			48	59	70	79	89	98				:
: 32 :			56	69	81	92	103	114				:
: 34 :			65	80	94	107	120	132				:
: 36 :				91	107	122	136	150				:
: 38 :				103	122	139	155	171				:
: 40 :				116	137	156	175	192				:
: 42 :				130	153	175	196	216	Computed			:
: 44 :				146	172	196	220	242	by CRR			:
: 46 :				162	191	218	243	268	Checked			:
: 48 :				179	210	240	268	296	by BF			:

Block indicates extent of basic data

Aggregate difference: Table 1.91% high

Average individual deviation: 12.97%

Based on 91 stem measurements from which the following logarithmic formula was derived and used to construct table:

$$\text{Log. Volume} = 2.354 (\log. \text{d.b.h., inches}) + 0.725 (\log. \text{merch. ht. ft.}) - 1.796$$

Table can be extended by formula as follows:

Example: Volume is desired for 3 log, 54 inch trees:

$$\text{Log. volume} = 2.354 (\log. 54) + 0.725 (\log. 48) - 1.796$$

$$V = 2.354 (1.732) + 0.725 (1.681) - 1.796$$

$$V = 4.077 + 1.219 - 1.796 = 3.500, \text{ Antilog. is } 3,162 \text{ bd.ft.}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National Forests of Region 8. The table is subject to later revision through inclusion of additional data.

Leonard I. Barrett - January 1936.

RS - AP
M-1
(S-Timber Surveys)

TABLE 16 - BOARD FOOT VOLUME TABLES - SCRIBNER DEC. C. RULE

SUGAR MAPLE - SITE I
Pisgah National Forest

Trees over 75 years old

Utilization: 1 foot stump and merchantable top

		Gross volume in board feet (tens)							
:D.B.H. :		by 16 foot log lengths.							
:Inches :	$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	
10	2	3	4						
12	3	5	6	8					
14	4	7	9	11	12				
16	6	9	12	14	16	18			
18		12	15	18	21	24	26		
20		15	19	23	27	30	33	36	
22		18	22	28	33	37	41	45	
24			28	34	40	45	50	54	
26			34	41	47	54	59	65	
28			40	48	56	63	70	76	
30			46	56	65	73	81	88	
32			54	65	75	84	93	102	
34			61	74	86	96	107	116	
36				84	97	109	120	131	
38				94	109	123	136	148	
40				105	122	137	152	166	
42					136	152	169	184	Computed
44					151	169	188	205	by CRR
46					166	187	206	225	Checked
48					182	204	226	247	by JHS

Block indicates extent of basic data

Aggregate difference: Table 1.60% low

Average individual deviation: 17.7%

Based on 81 stem measurements from which the following logarithmic formula was derived and used to construct table:

$$\text{Log. Volume} = 2.189 (\text{log. d.b.h., inches}) + 0.653 (\text{log. mech. ht. ft.}) - 1.467$$

Table can be extended by formula as follows:

Example: Volume is desired for 3 log, 54 inch trees:

$$\text{Log. Volume} = 2.189 (\text{log. } 54) + 0.653 (\text{log. } 48) - 1.467$$

$$V = 2.189 (1.732) + 0.653 (1.681) - 1.467$$

$$V = 3.791 + 1.098 - 1.467 = 3.422, \text{ Antilog. is } 2,642 \text{ bd.ft.}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National Forests of Region 8. The table is subject to later revision through inclusion of additional data.

Leonard I. Barrett - January 1936.

•

RS - AP
M-1
(S-Timber Surveys)

TABLE 17 - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

WHITE PINE - SITE I
Pisgah National Forest

Trees under 75 years old
Utilization: 1 foot stump and merchantable top

		Gross volume in board feet (tens)								
D.B.H.		by 16 ft. log lengths.								
Inches		1	1½	2	2½	3	3½	4		
10	3	4	5							
12	4	6	7	8						
14	5	8	10	12	14	16				
16	7	10	13	16	18	21	24			
18	9	13	17	20	24	27	31			
20		16	21	26	30	34	38			
22		20	26	31	37	42	47			
24		24	31	38	44	51	57			
26		29	37	45	52	60	67			
28		34	43	52	61	70	79			
30			50	61	71	82	92			
32			57	70	82	94	105			
34				80	93	107	120			Computed by
36				90	105	120	135			CRR
										Checked by
										BF

Block indicates extent of basic data

Aggregate difference: Table 0.34% low

Average individual deviation: 12.34%

Based on 66 stem measurements from which the following logarithmic formula was derived and used to construct table:

$$\text{Log. Volume} = 2.142 (\text{log.d.b.h., inches}) + 0.875 (\text{log.merch.ht.ft.}) - 1.782$$

Table can be extended by formula as follows:

Example: Volume is desired for 3 log, 54 inch trees:

$$\text{Log. Volume} = 2.142 (\text{log. 54}) + 0.875 (\text{log. 48}) - 1.782$$

$$V = 2.142 (1.732) + 0.875 (1.681) - 1.782$$

$$V = 3.710 + 1.471 - 1.782 = 3.399, \text{ Antilog. is } 2,506 \text{ bd.ft.}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National Forests of Region 8. The table is subject to later revision through inclusion of additional data.

Leonard I. Barrett - January 1936.

...the ...

RS - AP
M-1
(S-Timber Surveys)

TABLE 18 - BOARD FOOT VOLUME TABLE - SCRIBNER D.L.C. C. RULE

CHESTNUT OAK - SITE II
Cherokee, Nantahala and Pisgah National Forests

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

		Gross volume in board feet (tons)								
:D.B.H.:		by 16 ft. log lengths.								:
:Inches:	$\frac{1}{8}$	1	$1\frac{1}{8}$	2	$2\frac{1}{8}$	3	$3\frac{1}{8}$	4		:
:	:	:	:	:	:	:	:	:	:	:
:	10	2	3	3						:
:	12	3	4	5	6					:
:	14	4	6	8	10	11	13			:
:	16	6	9	12	14	16	18	20		:
:	18	8	12	16	19	22	25	27	30	:
:	:	:	:	:	:	:	:	:	:	:
:	20	10	16	21	25	29	33	36	39	:
:	22	13	21	27	32	37	42	46	50	:
:	24	17	26	34	41	47	53	58	64	:
:	26	:	33	42	51	58	66	72	79	:
:	28	:	40	51	62	71	80	88	96	:
:	:	:	:	:	:	:	:	:	:	:
:	30	:	48	62	74	85	96	106	115	:
:	32	:	56	75	88	101	114	125	136	:
:	34	:	66	86	103	119	134	148	161	:
:	36	:	:	100	120	138	155	171	186	:
:	38	:	:	115	139	160	180	198	215	:
:	:	:	:	:	:	:	:	:	:	:
:	40	:	:	132	158	183	205	226	247	Computed by CRR
:	42	:	:	150	180	208	233	257	280	Checked by BF
:	44	:	:	:	205	236	265	292	318	:

Block indicates extent of basic data

Aggregate difference: Table 0.25% high

Average individual deviation: 13.81%

Based on 80 stem measurements from which the following logarithmic formula was derived and used to construct table:

$$\text{Log Volume} = 2.648 (\log.d.b.h., \text{inches}) + 0.637 (\log.merch.ht., \text{ft.}) - 2.001$$

Table can be extended by formula as follows:

Example: Volume is desired for 3 log, 54 inch trees.

$$\text{Log. Volume} = 2.648 (\log.54) + 0.637 (\log.48) - 2.001$$

$$V = 2.648 (1.732) + 0.637 (1.681) - 2.001$$

$$V = 4.586 + 1.071 - 2.001 = 3.656, \text{ Antilog. is } 4,529 \text{ bd.ft.}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National Forests of Region 8. The table is subject to later revision through inclusion of additional data.

RS - AF
M-1
(S-Timber Surveys)

TABLE 19 - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

YELLOW POPLAR - SITE I
Cherokee, Nantahala and Pisgah National Forests

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

		Gross volume in board feet (tons)									
:D.B.H.:		by 16 ft. log lengths,									
:Inches:		1	1½	2	2½	3	3½	4	4½	5	
10	3	4	4								
12	4	6	7	9	10						
14	6	9	11	13	15	17	19				
16	9	12	15	18	21	24	26	29			
18		17	21	25	28	32	36	39			
20		22	27	33	38	42	47	52	56		
22		28	35	42	48	54	60	66	72		
24		35	44	52	60	68	76	83	90		
26			54	64	74	84	93	102	111		
28			66	78	90	102	113	124	134		
30			78	93	108	121	135	148	161		
32			93	110	127	144	160	175	190		
34			109	130	150	169	188	206	223		
36				150	173	195	216	237	258		
38				173	200	225	250	274	297		
40				197	228	256	284	312	339		
42				223	258	291	323	354	385		
44				254	292	330	366	402	436		
46				284	327	370	410	450	489		
48					365	411	457	501	544		
50					406	458	508	557	605		

Block indicates extent of basic data (Computed by CRR)
Aggregate difference: Table 2.00% low (Checked by BF)
Average individual deviation: 14.91%

Based on 74 stem measurements from which the following logarithmic formula was derived and used to construct table:

$$\text{Log Volume} = 2.597 (\log.d.b.h., \text{ inches}) + 0.783 (\log.merch.ht., \text{ ft}) - 2.120$$

Table can be extended by formula as follows:

Example: Volume is desired for 3 log, 54 inch trees.

$$\text{Log Volume} = 2.597 (\log.54) + 0.783 (\log.48) - 2.120$$

$$v = 2.597 (1.732) + 0.783 (1.681) - 2.120$$

$$v = 4.498 + 1.316 - 2.120 = 3.694, \text{ Antilog. is } 4,943 \text{ bd.ft.}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National Forests of Region 8. The table is subject to later revision through inclusion of additional data.

RS - AP
M - 1
(S-Timber Surveys)

Table 20 - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C RULE

SCARLET OAK - SITE III

Mantahala and Cherokee National Forests
Trees over 75 years old
Utilization: 1 foot stump and merchantable top

		Gross volume in board feet (tens):					
D.B.H.		by 16 ft. log lengths.					
Inches		$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
10	2	3	4				
12	3	5	7	8			
14	4	7	9	12	14		
16	6	9	13	16	19	22	
18	7	13	17	22	26	30	
20	9	16	22	28	33	38	
22	12	20	28	35	42	48	
24	15	25	35	43	51	59	
26		31	42	52	62	72	
28			50	63	75	86	
30			59	74	88	101	
32			69	86	103	119	
34			80	100	119	137	Computed by BF
36			91	115	136	157	Checked by CRR

Block indicates extent of basic data

Aggregate difference: Table 1.1% low

Average individual deviation; 9.99%

Based on 80 stem measurements from which the following logarithmic formula was derived and used to construct table:

$$\text{Log. Volume} = 2.401 (\text{log.d.b.h., inches}) + 0.780 (\text{log.merch.ht.ft.}) - 1.851$$

Table can be extended by formula as follows:

Example: Volume is desired for 3 log, 54 inch trees.

$$\text{Log. Vol.} = 2.401 (\text{log. 54}) + 0.780 (\text{log. 48}) - 1.851$$

$$" = 2.401 (1.732) + 0.780 (1.681) - 1.851$$

$$" = 4.159 + 1.311 - 1.851 = 3.619, \text{ Antilog. is } 4,159 \text{ bd.ft.}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National Forests of R-8. The table is subject to later revision through use of additional data.

RS - AP
M-1
(S-Timber Surveys)

TABLE 21 - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

BASSWOOD - SITE I
Pisgah and Nantahala National Forests

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

		Gross volume in board feet (tens)									
D.B.H.		by 16 ft. log lengths									
Inches		$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5
10	1	2	3	4							
12	2	4	5	7	8						
14	3	6	8	10	12	14	16				
16	4	8	11	14	17	20	23	26			
18		11	15	20	24	28	31	35			
20		14	20	26	31	36	42	47	52		
22			26	33	40	47	54	60	66		
24			33	42	51	59	68	76	84	92	
26			41	52	63	73	84	94	104	114	
28			49	63	76	89	102	114	126	138	
30				76	92	107	122	137	152	166	
32				90	109	127	145	163	180	197	
34				106	128	150	171	192	212	232	

(Computed by BF
(Checked by PEL

Block indicates extent of basic data

Aggregate difference: Table 2.31% low
Average individual deviation: 14.0%

Based on 61 stem measurements from which the following logarithmic formula was derived and used to construct table:

$$\text{Log. Volume} = 2.662 (\log.d.b.h., \text{inches}) + 0.855 (\log.merch.ht., \text{ft.}) - 2.339$$

Table can be extended by formula as follows:

Example: Volume is desired for 3 log, 40 inch trees:

$$\text{Log. Volume} = 2.662 (\log.40) + 0.855 (\log.48) - 2.339$$

$$V = 2.662 (1.602) + 0.855 (1.681) - 2.339$$

$$V = 4.265 + 1.437 - 2.339 = 3.363, \text{ Antilog. is } 2,307 \text{ bd.ft.}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National Forests of Region 8. The table is subject to later revision through inclusion of additional data.

Leonard I. Barrett - January 1936.

TABLE 1. SUMMARY OF DATA FOR THE 1960-1961 SEASON									
STATION	DATE	TIME	WIND DIRECTION	WIND SPEED (MPH)	WAVE HEIGHT (FT)	WAVE PERIOD (SEC)	WAVE LENGTH (FT)	WAVE ENERGY (KCAL/M ²)	WAVE POWER (KW/M ²)
1	10/10/60	1400	090	12	1.5	8.0	100	1.5	1.5
2	10/10/60	1500	090	15	2.0	10.0	150	2.0	2.0
3	10/10/60	1600	090	18	2.5	12.0	200	2.5	2.5
4	10/10/60	1700	090	20	3.0	14.0	250	3.0	3.0
5	10/10/60	1800	090	22	3.5	16.0	300	3.5	3.5
6	10/10/60	1900	090	25	4.0	18.0	350	4.0	4.0
7	10/10/60	2000	090	28	4.5	20.0	400	4.5	4.5
8	10/10/60	2100	090	30	5.0	22.0	450	5.0	5.0
9	10/10/60	2200	090	32	5.5	24.0	500	5.5	5.5
10	10/10/60	2300	090	35	6.0	26.0	550	6.0	6.0
11	10/11/60	0100	090	38	6.5	28.0	600	6.5	6.5
12	10/11/60	0200	090	40	7.0	30.0	650	7.0	7.0
13	10/11/60	0300	090	42	7.5	32.0	700	7.5	7.5
14	10/11/60	0400	090	45	8.0	34.0	750	8.0	8.0
15	10/11/60	0500	090	48	8.5	36.0	800	8.5	8.5
16	10/11/60	0600	090	50	9.0	38.0	850	9.0	9.0
17	10/11/60	0700	090	52	9.5	40.0	900	9.5	9.5
18	10/11/60	0800	090	55	10.0	42.0	950	10.0	10.0
19	10/11/60	0900	090	58	10.5	44.0	1000	10.5	10.5
20	10/11/60	1000	090	60	11.0	46.0	1050	11.0	11.0
21	10/11/60	1100	090	62	11.5	48.0	1100	11.5	11.5
22	10/11/60	1200	090	65	12.0	50.0	1150	12.0	12.0
23	10/11/60	1300	090	68	12.5	52.0	1200	12.5	12.5
24	10/11/60	1400	090	70	13.0	54.0	1250	13.0	13.0
25	10/11/60	1500	090	72	13.5	56.0	1300	13.5	13.5
26	10/11/60	1600	090	75	14.0	58.0	1350	14.0	14.0
27	10/11/60	1700	090	78	14.5	60.0	1400	14.5	14.5
28	10/11/60	1800	090	80	15.0	62.0	1450	15.0	15.0
29	10/11/60	1900	090	82	15.5	64.0	1500	15.5	15.5
30	10/11/60	2000	090	85	16.0	66.0	1550	16.0	16.0
31	10/11/60	2100	090	88	16.5	68.0	1600	16.5	16.5
32	10/11/60	2200	090	90	17.0	70.0	1650	17.0	17.0
33	10/11/60	2300	090	92	17.5	72.0	1700	17.5	17.5
34	10/12/60	0000	090	95	18.0	74.0	1750	18.0	18.0
35	10/12/60	0100	090	98	18.5	76.0	1800	18.5	18.5
36	10/12/60	0200	090	100	19.0	78.0	1850	19.0	19.0
37	10/12/60	0300	090	102	19.5	80.0	1900	19.5	19.5
38	10/12/60	0400	090	105	20.0	82.0	1950	20.0	20.0
39	10/12/60	0500	090	108	20.5	84.0	2000	20.5	20.5
40	10/12/60	0600	090	110	21.0	86.0	2050	21.0	21.0
41	10/12/60	0700	090	112	21.5	88.0	2100	21.5	21.5
42	10/12/60	0800	090	115	22.0	90.0	2150	22.0	22.0
43	10/12/60	0900	090	118	22.5	92.0	2200	22.5	22.5
44	10/12/60	1000	090	120	23.0	94.0	2250	23.0	23.0
45	10/12/60	1100	090	122	23.5	96.0	2300	23.5	23.5
46	10/12/60	1200	090	125	24.0	98.0	2350	24.0	24.0
47	10/12/60	1300	090	128	24.5	100.0	2400	24.5	24.5
48	10/12/60	1400	090	130	25.0	102.0	2450	25.0	25.0
49	10/12/60	1500	090	132	25.5	104.0	2500	25.5	25.5
50	10/12/60	1600	090	135	26.0	106.0	2550	26.0	26.0
51	10/12/60	1700	090	138	26.5	108.0	2600	26.5	26.5
52	10/12/60	1800	090	140	27.0	110.0	2650	27.0	27.0
53	10/12/60	1900	090	142	27.5	112.0	2700	27.5	27.5
54	10/12/60	2000	090	145	28.0	114.0	2750	28.0	28.0
55	10/12/60	2100	090	148	28.5	116.0	2800	28.5	28.5
56	10/12/60	2200	090	150	29.0	118.0	2850	29.0	29.0
57	10/12/60	2300	090	152	29.5	120.0	2900	29.5	29.5
58	10/13/60	0000	090	155	30.0	122.0	2950	30.0	30.0
59	10/13/60	0100	090	158	30.5	124.0	3000	30.5	30.5
60	10/13/60	0200	090	160	31.0	126.0	3050	31.0	31.0
61	10/13/60	0300	090	162	31.5	128.0	3100	31.5	31.5
62	10/13/60	0400	090	165	32.0	130.0	3150	32.0	32.0
63	10/13/60	0500	090	168	32.5	132.0	3200	32.5	32.5
64	10/13/60	0600	090	170	33.0	134.0	3250	33.0	33.0
65	10/13/60	0700	090	172	33.5	136.0	3300	33.5	33.5
66	10/13/60	0800	090	175	34.0	138.0	3350	34.0	34.0
67	10/13/60	0900	090	178	34.5	140.0	3400	34.5	34.5
68	10/13/60	1000	090	180	35.0	142.0	3450	35.0	35.0
69	10/13/60	1100	090	182	35.5	144.0	3500	35.5	35.5
70	10/13/60	1200	090	185	36.0	146.0	3550	36.0	36.0
71	10/13/60	1300	090	188	36.5	148.0	3600	36.5	36.5
72	10/13/60	1400	090	190	37.0	150.0	3650	37.0	37.0
73	10/13/60	1500	090	192	37.5	152.0	3700	37.5	37.5
74	10/13/60	1600	090	195	38.0	154.0	3750	38.0	38.0
75	10/13/60	1700	090	198	38.5	156.0	3800	38.5	38.5
76	10/13/60	1800	090	200	39.0	158.0	3850	39.0	39.0
77	10/13/60	1900	090	202	39.5	160.0	3900	39.5	39.5
78	10/13/60	2000	090	205	40.0	162.0	3950	40.0	40.0
79	10/13/60	2100	090	208	40.5	164.0	4000	40.5	40.5
80	10/13/60	2200	090	210	41.0	166.0	4050	41.0	41.0
81	10/13/60	2300	090	212	41.5	168.0	4100	41.5	41.5
82	10/14/60	0000	090	215	42.0	170.0	4150	42.0	42.0
83	10/14/60	0100	090	218	42.5	172.0	4200	42.5	42.5
84	10/14/60	0200	090	220	43.0	174.0	4250	43.0	43.0
85	10/14/60	0300	090	222	43.5	176.0	4300	43.5	43.5
86	10/14/60	0400	090	225	44.0	178.0	4350	44.0	44.0
87	10/14/60	0500	090	228	44.5	180.0	4400	44.5	44.5
88	10/14/60	0600	090	230	45.0	182.0	4450	45.0	45.0
89	10/14/60	0700	090	232	45.5	184.0	4500	45.5	45.5
90	10/14/60	0800	090	235	46.0	186.0	4550	46.0	46.0
91	10/14/60	0900	090	238	46.5	188.0	4600	46.5	46.5
92	10/14/60	1000	090	240	47.0	190.0	4650	47.0	47.0
93	10/14/60	1100	090	242	47.5	192.0	4700	47.5	47.5
94	10/14/60	1200	090	245	48.0	194.0	4750	48.0	48.0
95	10/14/60	1300	090	248	48.5	196.0	4800	48.5	48.5
96	10/14/60	1400	090	250	49.0	198.0	4850	49.0	49.0
97	10/14/60	1500	090	252	49.5	200.0	4900	49.5	49.5
98	10/14/60	1600	090	255	50.0	202.0	4950	50.0	50.0
99	10/14/60	1700	090	258	50.5	204.0	5000	50.5	50.5
100	10/14/60	1800	090	260	51.0	206.0	5050	51.0	51.0

TABLE 2. SUMMARY OF DATA FOR THE 1961-1962 SEASON

STATION DATE TIME WIND DIRECTION WIND SPEED (MPH) WAVE HEIGHT (FT) WAVE PERIOD (SEC) WAVE LENGTH (FT) WAVE ENERGY (KCAL/M²) WAVE POWER (KW/M²)

1 10/10/61 1400 090 12 1.5 8.0 100 1.5 1.5

2 10/10/61 1500 090 15 2.0 10.0 150 2.0 2.0

3 10/10/61 1600 090 18 2.5 12.0 200 2.5 2.5

4 10/10/61 1700 090 20 3.0 14.0 250 3.0 3.0

5 10/10/61 1800 090 22 3.5 16.0 300 3.5 3.5

6 10/10/61 1900 090 25 4.0 18.0 350 4.0 4.0

7 10/10/61 2000 090 28 4.5 20.0 400 4.5 4.5

8 10/10/61 2100 090 30 5.0 22.0 450 5.0 5.0

9 10/10/61 2200 090 32 5.5 24.0 500 5.5 5.5

10 10/10/61 2300 090 35 6.0 26.0 550 6.0 6.0

11 10/11/61 0100 090 38 6.5 28.0 600 6.5 6.5

12 10/11/61 0200 090 40 7.0 30.0 650 7.0 7.0

13 10/11/61 0300 090 42 7.5 32.0 700 7.5 7.5

14 10/11/61 0400 090 45 8.0 34.0 750 8.0 8.0

15 10/11/61 0500 090 48 8.5 36.0 800 8.5 8.5

16 10/11/61 0600 090 50 9.0 38.0 850 9.0 9.0

17 10/11/61 0700 090 52 9.5 40.0 900 9.5 9.5

18 10/11/61 0800 090 55 10.0 42.0 950 10.0 10.0

19 10/11/61 0900 090 58 10.5 44.0 1000 10.5 10.5

20 10/11/61 1000 090 60 11.0 46.0 1050 11.0 11.0

21 10/11/61 1100 090 62 11.5 48.0 1100 11.5 11.5

22 10/11/61 1200 090 65 12.0 50.0 1150 12.0 12.0

23 10/11/61 1300 090 68 12.5 52.0 1200 12.5 12.5

24 10/11/61 1400 090 70 13.0 54.0 1250 13.0 13.0

25 10/11/61 1500 090 72 13.5 56.0 1300 13.5 13.5

26 10/11/61 1600 090 75 14.0 58.0 1350 14.0 14.0

27 10/11/61 1700 090 78 14.5 60.0 1400 14.5 14.5

28 10/11/61 1800 090 80 15.0 62.0 1450 15.0 15.0

29 10/11/61 1900 090 82 15.5 64.0 1500 15.5 15.5

30 10/11/61 2000 090 85 16.0 66.0 1550 16.0 16.0

31 10/11/61 2100 090 88 16.5 68.0 1600 16.5 16.5

32 10/11/61 2200 090 90 17.0 70.0 1650 17.0 17.0

33 10/11/61 2300 090 92 17.5 72.0 1700 17.5 17.5

34 10/12/61 0000 090 95 18.0 74.0 1750 18.0 18.0

35 10/12/61 0100 090 98 18.5 76.0 1800 18.5 18.5

36 10/12/61 0200 090 100 19.0 78.0 1850 19.0 19.0

37 10/12/61 0300 090 102 19.5 80.0 1900 19.5 19.5

38 10/12/61 0400 090 105 20.0 82.0 1950 20.0 20.0

39 10/12/61 0500 090 108 20.5 84.0 2000 20.5 20.5

40 10/12/61 0600 090 110 21.0 86.0 2050 21.0 21.0

41 10/12/61 0700 090 112 21.5 88.0 2100 21.5 21.5

42 10/12/61 0800 090 115 22.0 90.0 2150 22.0 22.0

43 10/12/61 0900 090 118 22.5 92.0 2200 22.5 22.5

44 10/12/61 1000 090 120 23.0 94.0 2250 23.0 23.0

45 10/12/61 1100 090 122 23.5 96.0 2300 23.5 23.5

46 10/12/61 1200 090 125 24.0 98.0 2350 24.0 24.0

47 10/12/61 1300 090 128 24.5 100.0 2400

RS - AP

M-1

(S-Timber Surveys)

TABLE 22 - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

WHITE ASH*

Pisgah and Nantahala National Forests

Trees over 75 years old

Utilization: 1 foot stump and merchantable top

		Gross volume in board feet (tens)									
D.B.H.:		by 16 ft. log lengths.									
Inches:		$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5
10	2	3	4	5							
12	3	5	6	8	9	10					
14	5	7	10	12	14	15					
16	7	11	14	17	20	22	24	27			
18	9	15	19	23	27	30	34	37			
20		20	26	31	36	41	45	49	53		
22			33	40	47	53	58	64	69		
24				51	60	67	74	81	88		
26				64	74	84	93	101	109		
28				78	90	103	114	124	134		
30				95	110	124	137	150	162	174	
32				113	131	148	164	179	193	208	
34				134	156	175	194	212	229	246	
36				156	181	204	226	247	267	286	

(Computed by BF)

(Checked by PEL)

Block indicates extent of basic data

Aggregate difference: Table 0.17% high

Average individual deviation: 15.0%

Based on 68 stem measurements from which the following logarithmic formula was derived and used to construct table:

$$\text{Log. Volume} = 2.745 (\text{log.d.b.h., inches}) + 0.662 (\text{log.merch.ht., ft.}) - 2.074$$

Table can be extended by formula as follows:

Example: Volume is desired for 3 log, 40 inch trees.

$$\text{Log. Volume} = 2.745 (\text{log.40}) + 0.662 (\text{log.48}) - 2.074$$

$$V = 2.745 (1.602) + 0.662 (1.681) - 2.074$$

$$V = 4.397 + 1.113 - 2.074 = 3.436, \text{ Antilog. is } 2,729 \text{ bd.ft.}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National Forests of Region 8. The table is subject to later revision through inclusion of additional data.

Leonard I. Barrett - January 1936.

* Insufficient data available for site class volume tables. In making this table all stem measurements of this species were combined irrespective of site.

1. (1000000)

2. (1000000)

3. (1000000)

4. (1000000)

5. (1000000)

6. (1000000)

7. (1000000)

8. (1000000)

9. (1000000)

10. (1000000)

11. (1000000)

12. (1000000)

13. (1000000)

14. (1000000)

15. (1000000)

16. (1000000)

17. (1000000)

18. (1000000)

19. (1000000)

20. (1000000)

RS - AP
M-1
(S-Timber Surveys)

TABLE 23 - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

BLACK BIRCH*

Cherokee, Nantahala, Pisgah National Forests and Bland Co., Va.

Trees over 75 years old

Utilization: 1 foot stump and merchantable top

		Gross volume in board feet (tens)								
:D.B.H.:		by 16 ft. log lengths.								:
Inches:	$\frac{1}{8}$	1	$1\frac{1}{8}$	2	$2\frac{1}{8}$	3	$3\frac{1}{8}$	4		:
10	2	3	4							:
12	2	4	6	8						:
14	4	6	9	11	13	15				:
16	5	9	12	15	18	21	24	26		:
18	6	11	16	20	24	27	31	34		:
20	8	14	20	25	30	35	39	44		:
22	10	18	25	31	37	43	49	54		:
24	12	22	30	38	46	53	60	67		:
26		26	36	46	55	64	72	80		:
28		31	43	55	65	76	86	95		:
30		37	51	64	77	88	100	112	Computed by BF	:
32		43	59	74	89	103	116	125	Checked by CRR	:

Block indicates extent of basic data

Aggregate difference: Table 1.49% low

Average individual deviation: 12.5%

Based on 81 stem measurements from which the following logarithmic formula was derived and used to construct table:

$$\text{Log Volume} = 2.310 (\log.d.b.h., \text{inches}) + 0.804 (\log.merch.ht., \text{ft.}) - 1.816$$

Table can be extended by formula as follows:

Example: Volume is desired for 3 log, 36 inch trees.

$$\text{Log. Volume} = 2.310 (\log.36) + 0.804 (\log.48) - 1.816$$

$$V = 2.310 (1.556) + 0.804 (1.681) - 1.816$$

$$V = 3.594 + 1.352 - 1.816 = 3.130, \text{ Antilog. is } 1.349 \text{ bd.ft.}$$

NOTE: This volume table was constructed at the Appalachian Forest Experiment Station from field data collected by administrative personnel on National Forests of Region 8. The table is subject to later revision through inclusion of additional data.

Leonard I. Barrett - January 1936.

* Insufficient data available for site class volume tables. In making this table all stem measurements of this species were combined irrespective of site.

RS - AP
M-1
(S-Timber Surveys)

TABLE 1A - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

CHESTNUT OAK - SITE III
Nantahala National Forest

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

(1)	(2)	(3)	(4)	(5)	
		Gross		Net	
	Ave.	Vol. in:		Vol. in:	
D.B.H.	Merch.	tens,	%	tens,	
Inches	Ht.	bd. ft.	Defect	bd. ft.	
10	10	2.0	9.5	1.8	
12	12	3.6	12.1	3.2	
14	16	6.7	14.9	5.7	
16	18	10.3	17.5	8.5	
18	20	15.2	20.2	12.1	
20	22	21.6	22.9	16.7	
22	22	27.6	25.5	20.6	
24	24	37.1	28.3	26.6	
26	24	45.9	30.9	31.7	
28	26	58.9	33.6	39.1	
30	26	70.6	35.8	52.4	
32	26	83.8	37.2	52.6	
34	28	104.0	37.6	64.9	
36	28	120.4	37.6	75.1	
38	28	139.2	37.6	86.9	
40	28	159.2	37.6	99.3	Computed by BF
42	28	180.7	37.6	112.8	Checked by PEL

Aggregate Difference: Table 2.6% high
Average Individual Deviation: 24.5%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived by substituting values of columns 1 and 2 in following logarithmic formula which was based on 71 trees.

$$\text{Log. Vol.} = 2.335 (\log \text{D.B.H., in.}) + 0.721 (\log \text{merch. ht., ft.}) - 2.062$$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

RS - AP
M-1
(S-Timber Surveys)

TABLE 2A - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

WHITE OAK - SITE II
Nantahala National Forest

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

(1)	(2)	(3)	(4)	(5)	
		Gross		Net	
	Av.	Vol. in:		Vol. in:	
D.B.H.	Merch.	tens	%	tens	
Inches	Ht.	bd. ft.	Defect	bd. ft.	
10	28	4.7	9.8	4.2	
12	30	7.8	12.8	6.8	
14	30	11.5	15.2	9.8	
16	32	16.9	17.2	14.0	
18	34	23.6	18.6	19.2	
20	34	31.0	19.8	24.9	
22	36	40.8	20.7	32.4	
24	36	51.0	21.3	40.1	
26	36	62.8	21.5	49.3	
28	38	78.3	21.8	61.2	
30	36	90.3	21.9	70.5	
32	36	106.6	21.9	83.3	
34	36	124.9	21.9	97.5	
36	34	139.0	22.0	108.4	
38	32	154.5	22.0	120.5	
40	30	168.6	22.0	131.5	
42	28	182.9	22.0	142.7	
44	28	207.5	22.0	161.8	
46	26	221.8	22.0	175.0	Computed by CRR
48	26	246.6	22.0	192.3	Checked by BF

Aggregate Difference: Table 1.47% low
Average Individual Deviation: 18.4%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived by substituting values of columns 1 and 2 in following logarithmic formula, which was based on 88 trees.
 $\text{Log.Vol.} = 2.558 (\log.\text{D.B.H.,in.}) + 0.612 (\log.\text{merch.ht.,ft.}) - 1.774$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

RS - AP
M-1
(S-Timber Surveys)

TABLE 3A - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

WHITE OAK - SITE III
Nantahala National Forest

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

(1)	(2)	(3)	(4)	(5)	
		Gross		Net	
	Ave.	Vol. in:		Vol. in:	
D.B.H.	Merch.	tens,	%	tens,	
Inches	Ht.	bd. ft.	Defect	bd. ft.	
10	14	2.6	20.4	2.1	
12	16	4.7	20.4	3.7	
14	18	7.8	20.4	6.2	
16	20	12.0	20.4	9.6	
18	20	16.4	20.4	13.1	
20	22	23.4	20.4	18.6	
22	24	32.1	20.4	25.6	
24	24	40.6	20.4	32.3	
26	26	53.4	20.4	42.5	
28	26	65.0	20.4	51.7	
30	26	78.3	20.4	62.3	
32	26	93.0	20.4	74.0	
34	26	109.9	20.4	87.5	
36	26	127.6	20.4	101.6	Computed by CRR
38	26	148.0	20.4	117.8	Checked by BF

Aggregate Difference: Table 3.46% high
Average Individual Deviation: 19.6%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived by substituting values of columns 1 and 2 in following logarithmic formula, which was based on 93 trees.
 $\text{Log.Vol.} = 2.688 (\log.\text{D.B.H., in.}) + 0.709 (\log.\text{merch.ht., ft}) - 2.079$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

RS - AP
M-1
(S-Timber Surveys)

TABLE 4A - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

N. RED OAK - SITE II
Nantahala National Forest

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

(1)	(2)	(3)	(4)	(5)	
		Gross		Net	
	Ave.	Vol. in:		Vol. in:	
D.B.H.	Merch.	tens,	%	tens,	
Inches	Ht.	bd. ft.	Defect	bd. ft.	
10	28	4.6	0.0	4.6	
12	30	7.6	5.1	7.2	
14	32	11.6	12.9	10.1	
16	34	16.7	18.4	13.6	
18	34	22.3	21.5	17.5	
20	36	30.1	23.4	25.1	
22	36	37.9	24.5	28.6	
24	38	48.8	25.2	36.5	
26	38	59.5	25.5	44.3	
28	38	71.4	25.5	53.2	
30	38	84.4	25.5	62.9	
32	40	102.6	25.5	76.4	
34	40	119.7	25.5	89.2	
36	40	136.8	25.5	101.9	
38	40	156.7	25.5	116.7	
40	40	177.4	25.5	132.2	
42	40	200.0	25.5	149.0	
44	40	225.4	25.5	167.9	
46	40	250.6	25.5	186.7	Computed by CRR
48	40	278.0	25.5	207.1	Checked by BF

Aggregate Difference: Table 0.09% low
Average Individual Deviation: 17.7%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived by substituting values of columns 1 and 2 in following logarithmic formula, which was based on 129 trees.
 $\text{Log.Vol.} = 2.456 (\log.\text{D.B.H., in.}) + 0.686 (\log.\text{merch.ht., ft.}) - 1.784$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

RS-AP
M-1
(S-Timber Surveys)

TABLE 5A - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

BLACK OAK - SITE II
Nantahala National Forest

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

	(1)	(2)	(3)	(4)	(5)	
			Gross		Net	
		Ave.	Vol. in:		Vol. in:	
D.B.H.	Merch.	tens,	%	tens,		
Inches	Ht.	bd. ft.	Defect	bd. ft.		
10	10	2.1	34.0	1.4		
12	20	5.6	30.5	3.9		
14	30	11.3	26.9	8.3		
16	34	17.4	23.1	13.4		
18	36	24.3	19.3	19.6		
20	36	31.7	15.7	26.7		
22	38	41.8	12.5	36.6		
24	38	52.2	10.5	46.7		
26	38	63.6	10.5	56.9		
28	40	79.7	10.5	71.3		
30	40	94.7	10.5	84.8		
32	40	111.2	10.5	99.5		
34	40	129.9	10.5	116.3		
36	40	149.2	10.5	133.5		
38	40	171.5	10.5	153.5		
40	40	194.4	10.5	174.0		
42	40	219.4	10.5	196.4	Computed by CRR	
44	40	247.6	10.5	221.6	Checked by BF	

Aggregate Difference: Table 2.87% high
Average Individual Deviation: 20.8%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived by substituting values of columns 1 and 2 in following logarithmic formula, which was based on 79 trees.
 $\text{Log.Vol.} = 2.500 (\log.\text{D.B.H., in.}) + 0.767 (\log.\text{merch.ht., ft.}) - 1.945$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

RS - AP
M-1
(S-Timber Surveys)

TABLE 6A - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

YELLOW POPLAR - SITE II
Nantahala National Forest

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

(1)	(2)	(3)	(4)	(5)	
		Gross		Net	
	Av.	Vol. in:		Vol. in:	
D.B.H.	Merch.	tens,	%	tens,	
Inches	Ht.	bd. ft.	Defect	bd. ft.	
10	22	4.1	0.0	4.1	
12	28	7.7	0.9	7.6	
14	34	13.2	10.0	11.9	
16	38	19.9	19.0	16.1	
18	44	30.0	21.8	23.5	
20	50	43.0	22.2	33.5	
22	52	55.8	22.4	43.3	
24	54	71.2	22.6	55.1	
26	56	89.3	22.8	68.9	
28	56	106.7	23.1	82.1	
30	58	129.6	23.3	99.4	
32	58	151.5	23.5	115.9	
34	58	176.1	23.8	134.2	
36	58	201.2	24.0	152.9	
38	58	230.0	24.2	174.3	
40	60	267.7	24.5	202.1	
42	60	300.8	24.7	226.5	
44	60	337.8	24.9	253.7	
46	60	375.6	25.1	281.3	Computed by CRR
48	60	415.6	25.3	310.5	Checked by BF

Aggregate Difference: Table 1.05% high
Average Individual Deviation: 14.4%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived by substituting values of columns 1 and 2 in following logarithmic formula, which was based on 86 trees.
 $\text{Log.Vol.} = 2.417 (\log.\text{D.B.H., in.}) + 0.831 (\log.\text{merch.ht., ft.}) - 1.922$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

RS - AP
M-1
(S-Timber Surveys)

TABLE 7A - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

RED MAPLE - SITE II
Nantahala National Forest

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

: (1) :	(2) :	(3) :	(4) :	(5) :	
:	:	:Gross :	:	:Net :	:
:	:Av. :	:Vol. in:	:	:Vol. in:	:
:D.B.H.:	:Merch.:	tens, :	% :	tens, :	:
:Inches:	Ht. :	:bd. ft.:	:Defect :	:bd. ft.:	:
:	:	:	:	:	:
: 10 :	24 :	4.6 :	21.4 :	3.6 :	:
: 12 :	28 :	7.8 :	21.4 :	6.1 :	:
: 14 :	30 :	11.7 :	21.4 :	9.2 :	:
: 16 :	32 :	16.8 :	21.4 :	13.2 :	:
: 18 :	34 :	23.0 :	21.4 :	18.1 :	:
: 20 :	36 :	30.8 :	21.4 :	24.2 :	:
: 22 :	38 :	40.0 :	21.4 :	31.4 :	:
: 24 :	38 :	49.1 :	21.4 :	38.6 :	:
: 26 :	40 :	61.5 :	21.4 :	48.3 :	:
: 28 :	40 :	73.1 :	21.4 :	57.5 :	:
: 30 :	40 :	86.1 :	21.4 :	67.7 :	:
: 32 :	40 :	100.3 :	21.4 :	78.8 :	:
: 34 :	42 :	119.9 :	21.4 :	94.2 :	:
: 36 :	42 :	136.4 :	21.4 :	107.2 :	:
: 38 :	42 :	155.6 :	21.4 :	122.3 :	:
: 40 :	42 :	174.8 :	21.4 :	137.4 :	:
: 42 :	42 :	196.2 :	21.4 :	154.2 :	Computed by CRR
: 44 :	42 :	219.6 :	21.4 :	172.6 :	Checked by BF

Aggregate Difference: Table 1.64% high
Average Individual Deviation: 20.5%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived by substituting values of columns 1 and 2 in following logarithmic formula, which was based on 75 trees.
 $\text{Log.Vol.} = 2.349 (\log.\text{D.B.H., in.}) + 0.705 (\log.\text{merch.ht., ft.}) - 1.664$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

[Faint, illegible handwritten text, likely bleed-through from the reverse side of the page.]

RS - AP

M-1

(S-Timber Surveys)

TABLE 8A - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

BASSWOOD - SITE II
Nantahala National Forest

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

: (1)	: (2)	: (3)	: (4)	: (5)	:
:	:	: Gross	:	: Net	:
:	: Av.	: Vol. in:	:	: Vol. in:	:
: D.B.H.:	: Merch.:	: tens,	: %	: tens,	:
: Inches:	: Ht.	: bd. ft.:	: Defect	: bd. ft.:	:
:	:	:	:	:	:
: 10	: 16	: 3.2	: 7.1	: 3.0	:
: 12	: 20	: 6.0	: 11.0	: 5.3	:
: 14	: 24	: 10.0	: 15.0	: 8.5	:
: 16	: 30	: 16.4	: 18.7	: 13.3	:
: 18	: 34	: 24.0	: 21.5	: 18.8	:
: 20	: 40	: 35.3	: 22.8	: 27.3	:
: 22	: 44	: 47.8	: 23.5	: 36.6	:
: 24	: 48	: 63.2	: 24.1	: 48.0	:
: 26	: 50	: 79.2	: 24.6	: 59.7	:
: 28	: 50	: 94.6	: 25.1	: 70.9	:
: 30	: 50	: 111.7	: 25.5	: 83.2	:
: 32	: 48	: 126.2	: 26.0	: 93.4	:
: 34	: 48	: 146.6	: 26.4	: 107.9	:
: 36	: 46	: 161.8	: 26.8	: 118.4	:
: 38	: 46	: 184.6	: 27.3	: 134.2	: Computed by CRR
: 40	: 46	: 208.4	: 27.6	: 150.9	: Checked by BF

Aggregate Difference: Table 0.66% high
Average Individual Deviation: 20.2%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived by substituting values of columns 1 and 2 in following logarithmic formula, which was based on 92 trees.
 $\text{Log.Vol.} = 2.402 (\text{log.D.B.H., in.}) + 0.796 (\text{log.merch.ht., ft.}) - 1.852$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

RS.- LP
M-1
(S-Timber Surveys)

TABLE 9A - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

SHORTLEAF PINE - SITE II
Nantahala National Forest

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

(1)	(2)	(3)	(4)	(5)	
		Gross		Net	
	Av.	Vol. in:		Vol. in:	
D.B.H.	Merch.	tens,	%	tens,	
Inches	Ht.	bd. ft.	Defect	bd. ft.	
10	22	4.1	8.2	3.8	
12	32	8.7	8.2	8.0	
14	42	15.9	8.2	14.6	
16	48	24.4	8.2	22.4	
18	54	35.4	8.2	32.5	
20	60	49.8	8.2	45.7	
22	62	64.0	8.2	58.8	
24	64	80.5	10.1	72.4	
26	64	97.3	16.1	81.6	
28	64	115.3	22.0	89.9	
30	64	135.5	28.0	97.6	
32	64	157.4	34.1	103.7	
34	64	182.0	40.1	109.0	Computed by CRR
36	62	201.2	46.2	108.2	Checked by BF

Aggregate Difference: Table 0.30% high
Average Individual Deviation: 16.3%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived by substituting values of columns 1 and 2 in following logarithmic formula, which was based on 97 trees.
 $\text{Log.Vol.} = 2.326 (\log.\text{D.B.H., in.}) + 0.880 (\log.\text{merch.ht., ft.}) - 1.893$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

RS - LP
M-1
(S-Timber Surveys)

TABLE 10A - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

SHORTLEAF PINE - SITE III
Nantahala National Forest

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

(1)	(2)	(3)	(4)	(5)	
		Gross		Net	
	Av.	Vol. in:		Vol. in:	
D.B.H.	Merch.	tens,	%	tens,	
Inches	Ht.	bd. ft.	Defect	bd. ft.	
10	18	3.6	8.2	3.3	
12	24	7.0	8.2	6.4	
14	30	12.0	8.2	11.0	
16	36	19.1	8.2	17.5	
18	40	27.4	8.2	25.2	
20	42	36.5	8.2	33.5	
22	46	49.1	8.2	45.1	
24	48	62.2	10.1	55.9	
26	48	75.0	16.1	62.9	
28	48	88.9	22.0	69.3	
30	48	104.2	28.0	75.0	Computed by CRR
32	48	121.1	34.1	79.8	Checked by BF

Aggregate Difference: Table 3.47% low
Average Individual Deviation: 21.6%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived by substituting values of columns 1 and 2 in following logarithmic formula, which was based on 61 trees.
 $\text{Log.Vol.} = 2.311 (\log.\text{D.B.H., in.}) + 0.852 (\log.\text{merch.ht., ft.}) - 1.827$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

RS - .LP
M-1
(S-Timber Surveys)

TABLE 111 - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

SHORTLEAF PINE - SITE II
Cherokee National Forest

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

:	(1)	:	(2)	:	(3)	:	(4)	:	(5)	:
:	:	:	:	:	Gross	:	:	:	Net	:
:	:	:	Av.	:	Vol. in:	:	:	:	Vol. in:	:
:	D.B.H.:	:	Merch.:	:	tens,	:	%	:	tens,	:
:	Inches:	:	Ht.	:	bd. ft.:	:	Defect	:	bd. ft.:	:
:	:	:	:	:	:	:	:	:	:	:
:	10	:	22	:	4.0	:	0.0	:	4.0	:
:	12	:	32	:	8.8	:	2.5	:	8.6	:
:	14	:	38	:	15.0	:	5.5	:	14.2	:
:	16	:	44	:	23.6	:	6.0	:	22.2	:
:	18	:	48	:	34.7	:	6.0	:	32.6	:
:	20	:	50	:	47.0	:	6.0	:	44.2	:
:	22	:	54	:	63.9	:	6.0	:	60.1	:
:	24	:	56	:	82.4	:	6.0	:	77.5	:
:	26	:	58	:	104.3	:	6.0	:	98.0	:
:	28	:	60	:	129.7	:	6.0	:	121.9	:
:	30	:	60	:	155.0	:	6.0	:	145.7	:
:	32	:	62	:	188.0	:	6.0	:	176.7	:
:	34	:	62	:	220.7	:	6.0	:	207.5	Computed by BF
:	36	:	62	:	254.5	:	6.0	:	239.2	Checked by BF
:	:	:	:	:	:	:	:	:	:	:

Aggregate Difference: Table 0.07% high
Average Individual Deviation: 20.1%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived by substituting values of columns 1 and 2 in following logarithmic formula, which was based on 135 trees.
 $\text{Log.Vol.} = 2.579 (\log.\text{D.B.H., in.}) + 0.809 (\log.\text{merch.ht., ft.}) - 2.057$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

RS - LP
M-1
(S-Timber Surveys)

TABLE 12A - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

SHORTLEAF PINE - SITE III
Cherokee National Forest

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

(1)	(2)	(3)	(4)	(5)	
		Gross		Net	
	Av.	Vol. in:		Vol. in:	
D.B.H.	Merch.	tens,	%	tens,	
Inches	Ht.	bd. ft.	Defect	bd. ft.	
10	22	3.9	0.7	3.9	
12	28	7.7	3.5	7.4	
14	34	13.6	5.4	12.9	
16	40	22.1	6.0	20.8	
18	44	32.6	6.0	30.6	
20	46	44.7	6.0	42.0	
22	46	57.4	6.0	54.0	
24	46	72.5	6.0	68.2	
26	46	89.8	6.0	84.4	
28	46	109.1	6.0	102.6	
30	46	130.9	6.0	123.0	
32	46	155.3	6.0	146.0	
34	46	183.3	6.0	172.3	Computed by BF
36	46	212.3	6.0	199.6	Checked by PEL

Aggregate Difference: Table 4.06% high
Average Individual Deviation: 20.8%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived by substituting values of columns 1 and 2 in following logarithmic formula, which was based on 88 trees.
 $\text{Log.Vol.} = 2.650 (\log.\text{D.B.H., in.}) + 0.802 (\log.\text{merch.ht., ft.}) - 2.130$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

RS - .LP
M-1
(S-Timber Surveys)

TABLE 13. - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

VIRGINIA PINE - SITE II
Cherokee National Forest

Trees under 75 years old
Utilization: 1 foot stump and merchantable top

(1)	(2)	(3)	(4)	(5)	
		Gross		Net	
	Av.	Vol. in		Vol. in	
D.B.H.	Merch.	tens,	%	tens,	
Inches	Ht.	bd. ft.	Defect	bd. ft.	
8	24	2.5	13.7	2.2	
10	28	4.8	11.2	4.3	
12	32	8.2	8.5	7.5	
14	36	13.0	5.7	12.3	
16	40	19.5	3.0	18.9	
18	44	27.8	0.3	27.7	
20	48	38.4	0.0	38.4	
22	52	51.1	0.0	51.1	Computed by BF
24	54	64.9	0.0	64.9	Checked by PEL

Aggregate Difference: Table 2.44% high
Average Individual Deviation: 18.8%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived from substituting values of columns 1 and 2 in following logarithmic formula, which was based on 66 trees.
 $\text{Log.Vol.} = 2.404 (\log.\text{D.B.H., in.}) + 0.762 (\log.\text{merch.ht., ft.}) - 1.825$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

RS - AF
 H-1
 (S-Timber Surveys)

TABLE 14A - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

CHESTNUT - SITE I
 Pisgah National Forest

Trees over 75 years old

Utilization: 1 foot stump and merchantable top

(1)	(2)	(3)	(4)	(5)	
		Gross		Net	
	Av.	Vol. in:		Vol. in:	
D.B.H.	Merch.	tens,	%	tens	
Inches	Ht.	bd. ft.	Defect	bd. ft.	
10	10	1.9	22.4	1.5	
12	16	4.2	22.8	3.2	
14	22	7.7	23.4	5.9	
16	28	12.6	24.0	9.6	
18	34	19.2	24.5	14.5	
20	38	26.7	24.9	20.1	
22	42	35.8	25.4	26.7	
24	48	48.5	26.0	35.9	
26	50	60.1	26.5	44.2	
28	50	70.9	27.0	51.8	
30	50	83.0	27.5	60.2	
32	50	96.0	28.0	69.1	
34	50	110.7	28.5	79.2	
36	50	125.2	29.2	88.6	
38	52	146.3	29.7	102.8	
40	52	164.2	30.2	114.6	
42	52	183.2	30.8	126.8	
44	52	204.4	31.3	140.4	
46	52	225.6	31.8	153.9	
48	52	247.9	32.4	167.6	
50	52	272.2	33.0	182.4	
52	52	297.4	33.5	197.8	
54	52	323.1	34.0	213.2	
56	52	351.0	34.5	229.9	
58	52	379.6	35.0	246.7	Computed by CRR
60	52	410.5	35.5	264.8	Checked by BF

Aggregate Difference: Table 2.53% high
 Average Individual Deviation: 16.5%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived by substituting values of columns 1 and 2 in following logarithmic formula, which was based on 214 trees.
 $\text{Log.Vol.} = 2.263 (\log.\text{D.B.H.,in.}) + 0.791 (\log.\text{merch.ht.,ft.}) - 1.767$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

RS - AP
M - 1
(S-Timber Surveys)

TABLE 15A - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

CHESTNUT - SITE II
Pisgah National Forest

Trees over 75 years old

Utilization: 1 foot stump and merchantable top

(1)	(2)	(3)	(4)	(5)	
		Gross		Net	
	Av.	Vol. in:		Vol. in:	
D.B.H.	Merch.	tens	%	tens	
Inches	Ht.	bd. ft.	Defect	bd. ft.	
10	6	1.2	0.0	1.2	
12	14	3.7	2.0	3.6	
14	24	8.0	9.8	7.2	
16	30	12.8	15.0	10.9	
18	34	18.6	18.8	15.1	
20	36	24.8	21.5	19.5	
22	38	32.2	23.8	24.5	
24	40	41.1	25.8	30.5	
26	40	49.7	27.8	35.9	
28	40	59.1	29.6	41.6	
30	40	69.5	31.0	48.0	
32	40	81.0	32.0	55.1	
34	40	93.7	32.6	63.2	
36	38	102.7	33.0	68.8	
38	38	117.0	33.3	78.0	
40	36	126.7	33.4	84.4	
42	36	142.0	33.5	94.4	
44	34	152.7	33.5	101.5	
46	34	169.2	33.5	112.5	
48	32	178.7	33.5	118.8	Computed by CRR
50	32	197.0	33.5	131.0	Checked by BF

Aggregate Difference: Table 1.52% low

Average Individual Deviation: 17.1%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived by substituting values of columns 1 and 2 in following logarithmic formula, which was based on 91 trees.
 $\text{Log.Vol.} = 2.354 (\text{log.D.B.H., in.}) + 0.725 (\text{log.merch.ht., ft.}) - 1.796$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

RS - AF
M-1
(S-Timber Surveys)

TABLE 16A - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

SUGAR MAPLE - SITE I
Pisgah National Forest

Trees over 75 years old

Utilization: 1 foot stump and merchantable top

(1)	(2)	(3)	(4)	(5)	
		Gross		Net	
	Av.	Vol. in:		Vol. in:	
D.B.H.	Merch.	tens	%	tens	
Inches	Ht.	bd. ft.	Defect	bd. ft.	
10	18	3.4	0.0	3.4	
12	22	5.9	6.4	5.5	
14	26	9.2	13.1	3.0	
16	30	13.6	18.6	11.1	
18	34	19.0	22.7	14.7	
20	38	25.8	25.3	19.3	
22	42	33.9	26.3	25.0	
24	44	42.4	26.7	31.1	
26	48	53.5	27.2	38.9	
28	50	64.5	27.5	46.8	
30	52	77.0	28.0	55.4	
32	52	88.6	28.5	63.3	
34	52	101.6	28.8	72.3	
36	52	114.6	29.2	81.1	
38	50	126.0	29.7	88.6	
40	48	137.1	30.0	96.0	
42	48	152.4	30.4	106.1	
44	46	164.7	30.5	114.5	
46	44	176.1	30.5	122.4	Computed by CRR
48	44	192.8	30.5	134.0	Checked by BF

Aggregate Difference: Table 0.79% low
Average Individual Deviation: 24.3%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived by substituting values of columns 1 and 2 in following logarithmic formula, which was based on 81 trees.
 $\text{Log.Vol.} = 2.189 (\log \text{D.B.H., in.}) + 0.653 (\log \text{merch.ht., ft.}) - 1.467$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

RS - AP
M-1
(S-Timber Surveys)

TABLE 17A - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

WHITE PINE - SITE I
Pisgah National Forest

Trees under 75 years old
Utilization: 1 foot stump and merchantable top

: (1) :	(2) :	(3) :	(4) :	(5) :	
:	:	:Gross :	:	:Net :	
:	:D.B.H.:	:Vol. in:	:	:Vol. in:	
:	:Inches:	:tens :	% :	:tens :	
:	:Ht. :	:bd. ft.:	:Defect :	:bd. ft.:	
:	:	:	:	:	:
: 10 :	22 :	3.4 :	4.8 :	3.2 :	
: 12 :	26 :	5.9 :	5.1 :	5.6 :	
: 14 :	28 :	8.7 :	5.5 :	8.2 :	
: 16 :	32 :	13.0 :	5.9 :	12.2 :	
: 18 :	36 :	18.5 :	6.3 :	17.3 :	
: 20 :	38 :	24.4 :	6.6 :	22.8 :	
: 22 :	42 :	32.6 :	7.0 :	30.3 :	
: 24 :	44 :	41.0 :	7.5 :	37.9 :	
: 26 :	46 :	50.6 :	7.5 :	46.8 :	
: 28 :	50 :	63.6 :	7.5 :	58.8 :	
: 30 :	52 :	76.4 :	7.5 :	70.7 :	
: 32 :	54 :	90.6 :	7.5 :	83.8 :	
: 34 :	58 :	110.2 :	7.5 :	101.9 :	Computed by CRR
: 36 :	60 :	127.7 :	7.5 :	118.1 :	Checked by BF
:	:	:	:	:	:

Aggregate Difference: Table 1.25% high
Average Individual Deviation: 19.4%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived by substituting values of columns 1 and 2 in following logarithmic formula, which was based on 66 trees.
 $\text{Log.Vol.} = 2.142 (\log.\text{D.B.H., in.}) + 0.875 (\log.\text{merch.ht., ft.}) - 1.782$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

RS - AP
M-1
(S-Timber Surveys)

TABLE 18A - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

CHESTNUT OAK - SITE II
Cherokee, Nantahala and Pisgah National Forests

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

(1)	(2)	(3)	(4)	(5)	
		Gross		Net	
	Av.	Vol. in:		Vol. in:	
D.B.H.	Merch.	tens	%	tens	
Inches	Ht.	bd. ft.	Defect	bd. ft.	
10	10	1.9	1.3	1.9	
12	16	4.2	6.7	3.9	
14	18	6.8	12.0	6.0	
16	22	11.0	17.4	9.1	
18	26	18.3	22.5	14.2	
20	28	23.2	25.1	17.4	
22	30	31.0	25.5	23.1	
24	32	40.9	25.0	30.7	
26	34	52.6	24.6	39.7	
28	36	66.2	24.2	50.2	
30	38	82.5	23.7	62.9	
32	38	97.8	23.2	75.1	
34	40	119.1	22.7	92.1	
36	42	142.2	22.3	110.5	
38	42	164.6	21.8	128.7	
40	44	194.0	21.4	152.5	
42	46	226.8	21.0	179.2	Computed by CRR
44	46	257.6	20.5	204.8	Checked by BF

Aggregate Difference: Table 0.49% high
Average Individual Deviation: 21.0%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived by substituting values of columns 1 and 2 in following logarithmic formula, which was based on 80 trees.
 $\text{Log.Vol.} = 2.648 (\log.\text{D.B.H.,in.}) + 0.637 (\log.\text{merch.ht.,ft.}) - 2.001$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

RS - LP
M-1
(S-Timber Surveys)

TABLE 19A - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

YELLOW POPLAR - SITE I
Cherokee, Nantahala and Pisgah National Forests

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

(1)	(2)	(3)	(4)	(5)	
		Gross		Net	
	Av.	Vol. in:		Vol. in:	
D.B.H.	Merch.	tens	%	tens	
Inches	Ht.	bd. ft.	Defect	bd. ft.	
10	16	2.6	0.0	2.6	
12	26	6.2	0.6	5.8	
14	36	11.8	5.2	11.2	
16	44	19.6	9.8	17.7	
18	50	29.4	14.4	25.2	
20	54	41.2	18.8	33.5	
22	56	54.2	20.7	43.0	
24	58	70.0	20.7	55.5	
26	60	88.6	20.5	70.4	
28	62	109.9	20.1	87.8	
30	62	131.5	19.6	105.7	
32	64	159.6	19.3	128.8	
34	64	187.5	18.9	152.1	
36	64	216.3	18.5	176.3	
38	64	249.5	18.0	204.6	
40	64	284.4	17.7	234.1	
42	66	330.7	17.3	275.5	
44	66	375.2	16.9	311.8	
46	66	420.1	16.5	350.8	
48	66	468.1	16.0	393.2	Computed by CRR
50	66	520.4	15.6	439.2	Checked by BF

Aggregate Difference: Table 1.16% high
Average Individual Deviation: 19.0%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived by substituting values of columns 1 and 2 in following logarithmic formula, which was based on 74 trees.
 $\text{Log.Vol.} = 2.597 (\log.\text{D.B.H., in.}) + 0.783 (\log.\text{merch.ht., ft.}) - 2.120$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

RS - AP
M-1
(S-Timber Surveys)

TABLE 20A - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

SCARLET OAK - SITE III
Nantahala and Cherokee National Forests

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

(1)	(2)	(3)	(4)	(5)	
		Gross		Net	
	Av.	Vol. in:		Vol. in:	
D.B.H.	Merch.	tens	%	tens	
Inches	Ht.	bd. ft.	Defect	bd. ft.	
10	12	2.4	14.1	2.1	
12	14	4.3	17.3	3.6	
14	16	6.9	20.4	5.5	
16	20	11.3	23.7	8.6	
18	22	16.1	27.0	11.8	
20	24	22.3	30.2	15.6	
22	26	29.8	33.4	19.8	
24	30	41.0	36.7	26.0	
26	32	52.5	40.0	31.5	
28	34	65.7	43.1	37.4	
30	36	81.0	46.5	43.3	
32	38	98.7	49.8	49.5	
34	58	114.6	53.0	53.9	Computed by BF
36	38	131.0	56.4	57.1	Checked by PEL

Aggregate Difference: Table 3.07% high
Average Individual Deviation: 22.0%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived by substituting values of columns 1 and 2 in following logarithmic formula, which was based on 80 trees.
 $\text{Log.Vol.} = 2.401 (\log \text{D.B.H., in.}) + 0.780 (\log \text{merch.ht., ft.}) - 1.851$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

RS - AP
M-1
(S-Timber Surveys)

TABLE 211 - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

B.L.SSWOOD - SITE I
Pisgah and Nantahala National Forests

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

(1)	(2)	(3)	(4)	(5)	
		Gross		Net	
Av.	Vol. in:			Vol. in:	
D.B.H.	Merch.	tens	%	tens	
Inches	Ht.	bd. ft.	Defect	bd. ft.	
10	30	3.9	6.6	3.6	
12	32	6.6	7.5	6.1	
14	36	11.0	8.5	10.1	
16	40	17.2	9.8	15.5	
18	42	24.6	11.6	21.7	
20	46	35.1	14.3	30.1	
22	48	46.8	18.1	38.3	
24	50	61.3	22.7	47.4	
26	52	78.6	29.4	55.5	
28	52	95.5	39.0	58.3	
30	52	114.8	50.1	57.3	
32	52	136.2	61.3	52.7	Computed by BF
34	52	160.7	72.5	44.2	Checked by PEL

Aggregate Difference: Table 0.62% low
Average Individual Deviation: 22.9%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived by substituting values of columns 1 and 2 in following logarithmic formula, which was based on 61 trees.
 $\text{Log. Vol.} = 2.662 (\log \text{D.B.H., in.}) + 0.855 (\log \text{merch. ht., ft.}) - 2.339$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

RS-1P
M-1
(S-Timber Surveys)

TABLE 22A - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

WHITE PINE*
Pisgah and Nantahala National Forests

Trees over 75 years old
Utilization: 1 foot stump and merchantable top

(1)	(2)	(3)	(4)	(5)
		Gross		Net
Av.		Vol. in:		Vol. in:
D.B.H.	Merch.	tens	%	tens
Inches	Ht.	bd. ft.	Defect	bd. ft.
10	22	3.6	0.0	3.6
12	26	6.6	7.0	6.1
14	32	11.7	15.1	9.9
16	38	18.9	19.0	15.3
18	42	27.9	20.2	22.3
20	46	39.6	20.2	31.6
22	48	52.8	20.2	42.1
24	50	68.9	20.2	55.0
26	52	88.2	20.2	70.4
28	54	110.8	20.2	88.4
30	56	137.1	20.2	109.4
32	56	163.7	20.2	130.6
34	58	198.6	20.2	158.5
36	58	231.2	20.2	184.5

Computed by BF
Checked by BF

Aggregate Difference: Table 5.29% high
Average Individual Deviation: 19.2%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived by substituting values of columns 1 and 2 in following logarithmic formula, which was based on 68 trees.
 $\text{Log.Vol.} = 2.745 (\log.\text{D.B.H., in.}) + 0.662 (\log.\text{merch.ht., ft.}) - 2.074$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

L.I.B. - January 1936.

* Insufficient data available for site class volume tables. In making this table all stem measurements of this species were combined, irrespective of site.

RS - AP
M-1
(S-Timber Surveys)

TABLE 23A - BOARD FOOT VOLUME TABLE - SCRIBNER DEC. C. RULE

BLACK BIRCH*

Cherokee, Nantahala, Pisgah National Forests and Bland Co., Va.

Trees over 75 years old

Utilization: 1 foot stump and merchantable top

: (1) :	(2) :	(3) :	(4) :	(5) :	
:	:	:Gross :	:	:Net :	
:	:Av. :	:Vol. in:	:	:Vol. in:	
:D.B.H.:	:Merch.:	:tens :	% :	:tens :	
:Inches:	:Ht. :	:bd. ft.:	:Defect :	:bd. ft.:	
:	:	:	:	:	:
: 10 :	10 :	2.0 :	0.0 :	2.0 :	
: 12 :	18 :	4.8 :	6.0 :	4.5 :	
: 14 :	24 :	8.1 :	12.2 :	7.1 :	
: 16 :	28 :	13.4 :	18.5 :	10.9 :	
: 18 :	30 :	18.6 :	24.6 :	14.0 :	
: 20 :	30 :	23.8 :	29.7 :	16.7 :	
: 22 :	32 :	31.2 :	31.0 :	21.5 :	
: 24 :	32 :	38.2 :	31.0 :	26.4 :	
: 26 :	34 :	48.3 :	31.0 :	33.3 :	
: 28 :	34 :	57.3 :	31.0 :	39.5 :	
: 30 :	36 :	70.3 :	30.9 :	48.6 :	Computed by CRR
: 32 :	36 :	81.6 :	30.8 :	56.5 :	Checked by BF

Aggregate Difference: Table 0.62% high
Average Individual Deviation: 32.7%

Column 2: Derived from curved D.B.H. - Merch. Ht. relationship of original data.

Column 3: Derived by substituting values of columns 1 and 2 in following logarithmic formula, which was based on 81 trees.
 $\text{Log.Vol.} = 2.310 (\log.\text{D.B.H.,In.}) + 0.804 (\log.\text{merch.ht.,ft.}) - 1.816$

Column 4: Derived from curved relationship between D.B.H. class defect percent and average D.B.H. of each class as determined from original data.

Column 5: Results from reducing gross volumes in Col. 3 by the defect percentages given in Col. 4.

L.I.B. - January 1936.

* Insufficient data available for site class volume tables. In making this table all stem measurements of this species were combined, irrespective of site.