

## APPENDIX 3: STOCKING LEVEL TABLES (SUBALPINE FIR SERIES)

This appendix provides suggested stocking levels in a series of tables grouped by plant association and forest series. Each of the 44 upland-forest associations has one to seven tables, depending on the number of tree species associated with it (table 2). The order of these tables follows the order used in table 2, both for the plant associations (the rows in table 2) and for the tree species (the columns of table 2). Note that the tables differ from the stocking-level figures in appendix 2 because they do not include any information about the full-stocking level; only the upper and lower limits of the management zone are described in this appendix.

Each table consists of 17 columns arranged in three sections. Two of the sections are also divided into subsections, as illustrated in the example below. Each section or subsection will be described individually.

**Table 1:** Stocking levels for subalpine fir in the ABLA2/TRCA3 plant association (full stocking = 382).

QMD	UPPER MANAGEMENT ZONE (SDI = 287)								LOWER MANAGEMENT ZONE (SDI = 191)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
1.0	15323	14426	13340	1.8	84	79	73	72	10215	9618	8893	2.2	56	52	49	65
1.2	11178	10524	9731	2.1	88	83	76	73	7452	7016	6488	2.6	59	55	51	66
1.4	8561	8060	7453	2.4	92	86	80	73	5707	5374	4969	3.0	61	57	53	66
1.6	6795	6398	5916	2.7	95	89	83	74	4530	4265	3944	3.3	63	60	55	67
1.8	5543	5218	4825	3.0	98	92	85	75	3695	3479	3217	3.7	65	61	57	68
2.0	4619	4349	4021	3.3	101	95	88	75	3079	2899	2681	4.0	67	63	58	68
<b>Section 1</b>	<b>Subsection One</b>				<b>Subsection Two</b>				<b>Subsection One</b>				<b>Subsection Two</b>			
	<b>Section Two</b>								<b>Section Three</b>							

**Section One: QMD.** The first section is a single column providing quadratic mean diameters (QMDs) ranging from 1.0 to 10.0 inches in 0.2-inch increments, and from 10.5 to 30.0 inches in 0.5-inch increments (excluding 29.5 inches). Smaller increments were used for QMDs below 10 inches because the additional detail is useful when preparing silvicultural prescriptions for treatments such as precommercial thinning. If more detail is needed than is shown in the tables, intermediate values could be interpolated.

**Section Two: ULMZ.** The second section of each table, which consists of eight columns divided into two subsections, provides information about the upper limit of the management zone (ULMZ). The ULMZ can be thought of as a constant level of stand density index (SDI); the actual SDI level selected as an ULMZ is shown in the section heading, e.g., “Upper Management Zone (SDI = 287).” Refer to the “Derivation of the Stocking Level Information” section, page 15 (Upper Limit of the Management Zone), for information about how the SDI level was calculated for the ULMZ.

The first subsection of section two provides trees per acre calculations based on the SDI level established for the ULMZ, and the QMD given in column 1. The first column in this subsection provides the trees per acre associated with an even-aged stand structure, the next column provides it for an irregular structure, and the third column shows it for an uneven-aged stand. Note that the lodgepole pine tables do not include a trees per acre value for an uneven-aged stand because that structure is rare in primary lodgepole forest, and because establishment of an uneven-aged structure has not been a management objective for stands where lodgepole is the dominant or featured species.

The fourth column in subsection one shows the equilateral spacing associated with the trees per acre value for an even-aged stand structure. Spacing calculations were always based on even-aged stands because that structure presumably has the most consistent inter-tree distances; the equilateral spacing values shown in this column would not apply to trees left in clumps or in other irregular arrangements. Note that the lodgepole pine tables provide two measures of inter-tree distance – an equilateral spacing as described above, and a square spacing value that might be helpful when preparing silvicultural prescriptions for treatments in young lodgepole stands at very small QMDs. The square spacing calculation was also based on an even-aged stand structure.

Subsection two of section two provides basal area per acre calculations based on the SDI level established for the ULMZ, and the QMD given in column 1. As described above for subsection one (trees per acre), this subsection provides basal areas per acre for an even-aged, irregular, and uneven-aged structure (once again, an uneven-aged value was not calculated for lodgepole pine).

The fourth column in subsection two shows the forest (tree) canopy cover percentage associated with the basal area per acre for an even-aged or irregular stand structure. For Douglas-fir, ponderosa pine, Engelmann spruce, grand fir, and subalpine fir, canopy cover values pertain to an irregular structure because it best reflects the unmanaged stands that were sampled to derive the mathematical formulas used for the calculations. For lodgepole pine and western larch, canopy cover values pertain to even-aged stands because unmanaged stands tend to be even-aged for those species. Lodgepole pine has two canopy cover values – one pertaining to unmanaged stands, and another for managed stands (defined as those thinned early in life, before they attained a mean stand height of nine feet).

**Section Three: LLMZ.** The third section of each table, which consists of eight columns divided into two subsections, provides information about the lower limit of the management zone (LLMZ). The LLMZ can be thought of as a constant level of stand density index (SDI); the actual SDI level selected as a LLMZ is shown in the section heading, e.g., “Lower Management Zone (SDI = 191).” Refer to the “Derivation of the Stocking Level Information” section, page 16 (Lower Limit of the Management Zone), for information about how the SDI level was calculated for the LLMZ.

Subsection one of section three provides trees per acre calculations based on the SDI level established for the LLMZ, and the QMD given in column 1. As was described above for section two (ULMZ), this subsection provides trees per acre for an even-aged, irregular, and uneven-aged structure (once again, an uneven-aged value was not included in the lodgepole pine tables). The fourth column in this subsection shows the equilateral spacing associated with the trees per acre value for an even-aged stand structure.

Subsection two of section three provides basal area per acre calculations based on the SDI level established for the LLMZ, and the QMD given in column 1. As described above for subsection one (trees per acre), this subsection provides basal areas per acre for an even-aged, irregular, and uneven-aged structure (once again, an uneven-aged value was not calculated for lodgepole pine). The fourth column in this subsection shows the forest (tree) canopy cover associated with the basal area per acre for an even-aged or irregular stand structure, and was calculated as described above for section two.

Footnotes at the end of each table describe the column heading codes, and summarize how the calculations were made for each item. All of the calculations resulting in the figures in appendix 2, and the tables in appendix 3, were made in a computerized spreadsheet program. Calculation methodology followed the instructions from Cochran and others (1994) – see their appendix 2 (page 19) for more information. Further information about how the calculations were made for this publication can be obtained from the author. The information in this appendix could also be derived using a computer program called SDI. Refer to the “Customizing the Stocking-Level Information” section, page 30, for more information about the SDI program and how to obtain it.

**Table 8:** Stocking levels for lodgepole pine in the ABLA2/TRCA3 plant association  
(full stocking = 277).

QMD	UPPER MANAGEMENT ZONE (SDI = 170)								LOWER MANAGEMENT ZONE (SDI = 114)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	ES	SS	EA	IS	UC	MC	EA	IS	ES	SS	EA	IS	UC	MC
1.0	9337	8791	2.3	2.2	51	48	51	78	6256	5890	2.8	2.6	34	32	44	59
1.2	6799	6401	2.7	2.5	53	50	52	78	4555	4289	3.3	3.1	36	34	45	59
1.4	5199	4895	3.1	2.9	56	52	53	78	3484	3280	3.8	3.5	37	35	46	59
1.6	4121	3880	3.5	3.3	58	54	54	78	2761	2600	4.3	4.0	39	36	46	59
1.8	3358	3161	3.9	3.6	59	56	54	78	2250	2118	4.7	4.4	40	37	47	59
2.0	2795	2632	4.2	3.9	61	57	55	78	1873	1763	5.2	4.8	41	38	48	59
2.2	2368	2230	4.6	4.3	63	59	55	78	1587	1494	5.6	5.2	42	39	48	59
2.4	2035	1916	5.0	4.6	64	60	55	78	1364	1284	6.1	5.7	43	40	48	59
2.6	1771	1667	5.3	5.0	65	61	56	78	1186	1117	6.5	6.1	44	41	49	59
2.8	1557	1465	5.7	5.3	67	63	56	78	1043	982	6.9	6.5	45	42	49	59
3.0	1380	1300	6.0	5.6	68	64	57	78	925	871	7.4	6.9	45	43	49	59
3.2	1234	1162	6.4	5.9	69	65	57	78	827	778	7.8	7.3	46	43	50	59
3.4	1110	1045	6.7	6.3	70	66	57	78	744	700	8.2	7.7	47	44	50	59
3.6	1005	946	7.1	6.6	71	67	57	78	673	634	8.6	8.0	48	45	50	59
3.8	915	861	7.4	6.9	72	68	58	78	613	577	9.1	8.4	48	45	50	59
4.0	837	788	7.8	7.2	73	69	58	78	561	528	9.5	8.8	49	46	51	59
4.2	769	724	8.1	7.5	74	70	58	78	515	485	9.9	9.2	50	47	51	59
4.4	709	667	8.4	7.8	75	70	58	78	475	447	10.3	9.6	50	47	51	59
4.6	656	618	8.8	8.1	76	71	59	78	440	414	10.7	10.0	51	48	51	59
4.8	609	574	9.1	8.5	77	72	59	78	408	384	11.1	10.3	51	48	52	59
5.0	568	534	9.4	8.8	77	73	59	78	380	358	11.5	10.7	52	49	52	59
5.2	530	499	9.7	9.1	78	74	59	78	355	334	11.9	11.1	52	49	52	59
5.4	496	467	10.1	9.4	79	74	59	78	333	313	12.3	11.4	53	50	52	59
5.6	466	439	10.4	9.7	80	75	59	78	312	294	12.7	11.8	53	50	52	59
5.8	438	413	10.7	10.0	80	76	60	78	294	277	13.1	12.2	54	51	52	59
6.0	413	389	11.0	10.3	81	76	60	78	277	261	13.5	12.5	54	51	53	59
6.2	390	368	11.4	10.6	82	77	60	78	262	246	13.9	12.9	55	52	53	59
6.4	369	348	11.7	10.9	83	78	60	78	247	233	14.3	13.3	55	52	53	59
6.6	350	330	12.0	11.2	83	78	60	78	235	221	14.6	13.6	56	52	53	59
6.8	332	313	12.3	11.4	84	79	60	78	223	210	15.0	14.0	56	53	53	59
7.0	316	298	12.6	11.7	84	80	60	78	212	199	15.4	14.3	57	53	53	59
7.2	301	283	12.9	12.0	85	80	61	78	202	190	15.8	14.7	57	54	53	59
7.4	287	270	13.2	12.3	86	81	61	78	192	181	16.2	15.1	57	54	54	59
7.6	274	258	13.6	12.6	86	81	61	78	184	173	16.6	15.4	58	54	54	59
7.8	262	246	13.9	12.9	87	82	61	78	175	165	16.9	15.8	58	55	54	59
8.0	251	236	14.2	13.2	87	82	61	78	168	158	17.3	16.1	59	55	54	59
8.2	240	226	14.5	13.5	88	83	61	78	161	151	17.7	16.5	59	56	54	59
8.4	230	217	14.8	13.8	89	83	61	78	154	145	18.1	16.8	59	56	54	59
8.6	221	208	15.1	14.0	89	84	61	78	148	139	18.4	17.2	60	56	54	59
8.8	212	200	15.4	14.3	90	84	62	78	142	134	18.8	17.5	60	57	54	59
9.0	204	192	15.7	14.6	90	85	62	78	137	129	19.2	17.8	60	57	54	59
9.2	196	185	16.0	14.9	91	85	62	78	132	124	19.5	18.2	61	57	55	59
9.4	189	178	16.3	15.2	91	86	62	78	127	119	19.9	18.5	61	58	55	59
9.6	182	172	16.6	15.5	92	86	62	78	122	115	20.3	18.9	61	58	55	59
9.8	176	166	16.9	15.7	92	87	62	78	118	111	20.7	19.2	62	58	55	59
10.0	170	160	17.2	16.0	93	87	62	78	114	107	21.0	19.6	62	58	55	59
10.5	156	147	18.0	16.7	94	88	62	78	105	98	21.9	20.4	63	59	55	59
11.0	144	136	18.7	17.4	95	89	63	78	96	91	22.8	21.3	64	60	55	59

**Table 8:** Stocking levels for lodgepole pine in the ABLA2/TRCA3 plant association  
(full stocking = 277).

QMD	UPPER MANAGEMENT ZONE (SDI = 170)								LOWER MANAGEMENT ZONE (SDI = 114)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	ES	SS	EA	IS	UC	MC	EA	IS	ES	SS	EA	IS	UC	MC
11.5	133	125	19.4	18.1	96	90	63	78	89	84	23.7	22.1	64	61	56	59
12.0	124	116	20.2	18.8	97	91	63	78	83	78	24.6	22.9	65	61	56	59
12.5	115	108	20.9	19.4	98	92	63	78	77	73	25.5	23.8	66	62	56	59
13.0	108	101	21.6	20.1	99	93	63	78	72	68	26.4	24.6	66	63	56	59
13.5	101	95	22.3	20.8	100	94	64	78	68	64	27.3	25.4	67	63	56	59
14.0	95	89	23.1	21.5	101	95	64	78	63	60	28.2	26.2	68	64	57	59
14.5	89	84	23.8	22.1	102	96	64	78	60	56	29.0	27.0	68	64	57	59
15.0	84	79	24.5	22.8	103	97	64	78	56	53	29.9	27.8	69	65	57	59
15.5	79	75	25.2	23.4	104	98	64	78	53	50	30.8	28.6	70	66	57	59
16.0	75	71	25.9	24.1	105	99	64	78	50	47	31.6	29.4	70	66	57	59
16.5	71	67	26.6	24.8	106	99	64	78	48	45	32.5	30.2	71	67	57	59
17.0	67	64	27.3	25.4	106	100	65	78	45	43	33.4	31.0	71	67	57	59
17.5	64	60	28.0	26.1	107	101	65	78	43	40	34.2	31.8	72	68	58	59
18.0	61	58	28.7	26.7	108	102	65	78	41	39	35.1	32.6	72	68	58	59
18.5	58	55	29.4	27.3	109	102	65	78	39	37	35.9	33.4	73	69	58	59
19.0	56	52	30.1	28.0	110	103	65	78	37	35	36.7	34.2	73	69	58	59
19.5	53	50	30.8	28.6	110	104	65	78	36	34	37.6	35.0	74	70	58	59
20.0	51	48	31.4	29.3	111	104	65	78	34	32	38.4	35.8	74	70	58	59
20.5	49	46	32.1	29.9	112	105	65	78	33	31	39.3	36.5	75	70	58	59
21.0	47	44	32.8	30.5	112	106	66	78	31	29	40.1	37.3	75	71	58	59
21.5	45	42	33.5	31.2	113	106	66	78	30	28	40.9	38.1	76	71	59	59
22.0	43	41	34.2	31.8	114	107	66	78	29	27	41.7	38.8	76	72	59	59
22.5	41	39	34.8	32.4	114	108	66	78	28	26	42.6	39.6	77	72	59	59
23.0	40	38	35.5	33.0	115	108	66	78	27	25	43.4	40.4	77	73	59	59
23.5	38	36	36.2	33.7	116	109	66	78	26	24	44.2	41.1	78	73	59	59
24.0	37	35	36.9	34.3	116	110	66	78	25	23	45.0	41.9	78	73	59	59
24.5	36	34	37.5	34.9	117	110	66	78	24	23	45.8	42.7	78	74	59	59
25.0	34	32	38.2	35.5	118	111	66	78	23	22	46.6	43.4	79	74	59	59
25.5	33	31	38.8	36.2	118	111	66	78	22	21	47.5	44.2	79	75	59	59
26.0	32	30	39.5	36.8	119	112	67	78	22	20	48.3	44.9	80	75	59	59
26.5	31	29	40.2	37.4	119	112	67	78	21	20	49.1	45.7	80	75	59	59
27.0	30	28	40.8	38.0	120	113	67	78	20	19	49.9	46.4	80	76	60	59
27.5	29	28	41.5	38.6	121	113	67	78	20	18	50.7	47.2	81	76	60	59
28.0	28	27	42.1	39.2	121	114	67	78	19	18	51.5	47.9	81	76	60	59
28.5	27	26	42.8	39.8	122	115	67	78	18	17	52.3	48.7	82	77	60	59
29.0	27	25	43.4	40.4	122	115	67	78	18	17	53.1	49.4	82	77	60	59
30.0	25	24	44.7	41.6	123	116	67	78	17	16	54.7	50.9	83	78	60	59

**Column headings are:**

QMD Quadratic mean diameter (the diameter of the tree of average basal area).

EA Even aged, showing the trees/acre, or basal area/acre, associated with an even-aged stand structure.

IS Irregular structure; even-aged SDIs were reduced by 6% for an irregular stand structure (from Long 1995).

ES Equilateral spacing, in feet, that the trees per acre associated with an even-aged stand structure (EA columns) would have when spaced equilaterally apart; also referred to as triangular spacing.

SS Square spacing; distance between trees (feet) when spaced on a square grid pattern, rather than equilaterally.

UC Unmanaged canopy cover; based on the "CL" equation from Dealy (1985) and the basal area/acre for an even-aged structure (EA columns). Pertains to unthinned stands, or those thinned after a mean height of 9 feet.

MC Managed canopy cover; based on Cochran and Dahms (1998). Pertains to stands thinned early in life (< 9').

**Table 9:** Stocking levels for Engelmann spruce in the ABLA2/TRCA3 plant association  
(full stocking = 344).

QMD	UPPER MANAGEMENT ZONE (SDI = 258)								LOWER MANAGEMENT ZONE (SDI = 172)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
1.0	13800	12992	12014	1.9	75	71	66	70	9200	8662	8009	2.3	50	47	44	63
1.2	10067	9478	8764	2.2	79	74	69	71	6711	6318	5843	2.7	53	50	46	64
1.4	7710	7259	6712	2.6	82	78	72	72	5140	4839	4475	3.1	55	52	48	65
1.6	6120	5762	5328	2.9	85	80	74	72	4080	3841	3552	3.5	57	54	50	65
1.8	4992	4700	4346	3.2	88	83	77	73	3328	3133	2897	3.9	59	55	51	66
2.0	4160	3917	3622	3.5	91	85	79	73	2773	2611	2414	4.3	61	57	53	66
2.2	3528	3321	3071	3.8	93	88	81	74	2352	2214	2047	4.6	62	58	54	67
2.4	3035	2857	2642	4.1	95	90	83	74	2023	1905	1761	5.0	64	60	55	67
2.6	2642	2488	2300	4.4	97	92	85	75	1761	1658	1534	5.3	65	61	57	68
2.8	2324	2188	2023	4.7	99	94	87	75	1549	1459	1349	5.7	66	62	58	68
3.0	2063	1942	1796	4.9	101	95	88	75	1375	1295	1197	6.0	68	64	59	68
3.2	1845	1737	1606	5.2	103	97	90	76	1230	1158	1071	6.4	69	65	60	69
3.4	1661	1564	1446	5.5	105	99	91	76	1107	1043	964	6.7	70	66	61	69
3.6	1505	1417	1310	5.8	106	100	93	76	1003	944	873	7.1	71	67	62	69
3.8	1370	1290	1193	6.1	108	102	94	76	914	860	795	7.4	72	68	63	69
4.0	1254	1181	1092	6.3	109	103	95	77	836	787	728	7.8	73	69	64	70
4.2	1153	1085	1003	6.6	111	104	97	77	768	723	669	8.1	74	70	64	70
4.4	1063	1001	926	6.9	112	106	98	77	709	667	617	8.4	75	70	65	70
4.6	985	927	857	7.1	114	107	99	77	656	618	572	8.8	76	71	66	70
4.8	915	861	796	7.4	115	108	100	77	610	574	531	9.1	77	72	67	70
5.0	852	803	742	7.7	116	109	101	78	568	535	495	9.4	77	73	67	71
5.2	796	750	693	7.9	117	111	102	78	531	500	462	9.7	78	74	68	71
5.4	746	702	650	8.2	119	112	103	78	497	468	433	10.1	79	74	69	71
5.6	701	660	610	8.5	120	113	104	78	467	440	407	10.4	80	75	70	71
5.8	659	621	574	8.7	121	114	105	78	440	414	383	10.7	81	76	70	71
6.0	622	585	541	9.0	122	115	106	79	415	390	361	11.0	81	77	71	71
6.2	588	553	511	9.3	123	116	107	79	392	369	341	11.3	82	77	71	72
6.4	556	524	484	9.5	124	117	108	79	371	349	323	11.6	83	78	72	72
6.6	527	496	459	9.8	125	118	109	79	352	331	306	12.0	84	79	73	72
6.8	501	471	436	10.0	126	119	110	79	334	314	291	12.3	84	79	73	72
7.0	476	448	415	10.3	127	120	111	79	318	299	276	12.6	85	80	74	72
7.2	454	427	395	10.5	128	121	112	79	302	285	263	12.9	86	81	74	72
7.4	433	407	377	10.8	129	122	112	79	288	272	251	13.2	86	81	75	72
7.6	413	389	360	11.0	130	123	113	80	275	259	240	13.5	87	82	76	73
7.8	395	372	344	11.3	131	123	114	80	263	248	229	13.8	87	82	76	73
8.0	378	356	329	11.5	132	124	115	80	252	237	219	14.1	88	83	77	73
8.2	362	341	315	11.8	133	125	116	80	241	227	210	14.4	89	83	77	73
8.4	347	327	302	12.0	134	126	116	80	232	218	202	14.7	89	84	78	73
8.6	334	314	290	12.3	135	127	117	80	222	209	194	15.0	90	84	78	73
8.8	321	302	279	12.5	135	127	118	80	214	201	186	15.3	90	85	79	73
9.0	308	290	268	12.8	136	128	119	80	206	194	179	15.6	91	86	79	73
9.2	297	279	258	13.0	137	129	119	81	198	186	172	15.9	91	86	80	73
9.4	286	269	249	13.3	138	130	120	81	191	180	166	16.2	92	87	80	74
9.6	276	260	240	13.5	139	131	121	81	184	173	160	16.5	92	87	80	74
9.8	266	251	232	13.7	139	131	121	81	177	167	154	16.8	93	87	81	74
10.0	257	242	224	14.0	140	132	122	81	171	161	149	17.1	93	88	81	74

10.5	236	222	206	14.6	142	134	124	81	157	148	137	17.9	95	89	82	74
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**Table 9:** Stocking levels for Engelmann spruce in the ABLA2/TRCA3 plant association  
(full stocking = 344).

QMD	UPPER MANAGEMENT ZONE (SDI = 258)								LOWER MANAGEMENT ZONE (SDI = 172)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
11.0	218	205	190	15.2	144	135	125	81	145	137	126	18.6	96	90	83	74
11.5	202	190	176	15.8	146	137	127	82	135	127	117	19.3	97	91	84	75
12.0	187	176	163	16.4	147	139	128	82	125	118	109	20.1	98	92	85	75
12.5	175	164	152	17.0	149	140	130	82	116	110	101	20.8	99	93	86	75
13.0	163	154	142	17.6	150	142	131	82	109	102	95	21.5	100	94	87	75
13.5	153	144	133	18.1	152	143	132	82	102	96	89	22.2	101	95	88	75
14.0	144	135	125	18.7	153	144	134	82	96	90	83	22.9	102	96	89	75
14.5	135	127	118	19.3	155	146	135	83	90	85	78	23.6	103	97	90	76
15.0	127	120	111	19.9	156	147	136	83	85	80	74	24.3	104	98	91	76
15.5	120	113	105	20.4	158	149	137	83	80	76	70	25.0	105	99	92	76
16.0	114	107	99	21.0	159	150	139	83	76	72	66	25.7	106	100	92	76
16.5	108	102	94	21.6	160	151	140	83	72	68	63	26.4	107	101	93	76
17.0	103	97	89	22.1	162	152	141	83	68	64	60	27.1	108	102	94	76
17.5	98	92	85	22.7	163	153	142	84	65	61	57	27.8	109	102	95	76
18.0	93	88	81	23.3	164	155	143	84	62	58	54	28.5	110	103	95	77
18.5	89	83	77	23.8	165	156	144	84	59	56	51	29.2	110	104	96	77
19.0	85	80	74	24.4	167	157	145	84	56	53	49	29.9	111	105	97	77
19.5	81	76	70	24.9	168	158	146	84	54	51	47	30.5	112	105	97	77
20.0	77	73	67	25.5	169	159	147	84	52	49	45	31.2	113	106	98	77
20.5	74	70	65	26.0	170	160	148	84	49	47	43	31.9	113	107	99	77
21.0	71	67	62	26.6	171	161	149	84	47	45	41	32.6	114	107	99	77
21.5	68	64	60	27.1	172	162	150	85	46	43	40	33.2	115	108	100	77
22.0	66	62	57	27.7	173	163	151	85	44	41	38	33.9	116	109	101	78
22.5	63	59	55	28.2	174	164	152	85	42	40	37	34.6	116	109	101	78
23.0	61	57	53	28.8	175	165	153	85	41	38	35	35.2	117	110	102	78
23.5	59	55	51	29.3	177	166	154	85	39	37	34	35.9	118	111	102	78
24.0	57	53	49	29.8	178	167	155	85	38	35	33	36.5	118	111	103	78
24.5	55	51	47	30.4	179	168	155	85	36	34	32	37.2	119	112	104	78
25.0	53	50	46	30.9	179	169	156	85	35	33	31	37.9	120	113	104	78
25.5	51	48	44	31.4	180	170	157	85	34	32	30	38.5	120	113	105	78
26.0	49	46	43	32.0	181	171	158	85	33	31	29	39.2	121	114	105	78
26.5	48	45	41	32.5	182	172	159	86	32	30	28	39.8	122	114	106	78
27.0	46	43	40	33.0	183	173	160	86	31	29	27	40.5	122	115	106	79
27.5	45	42	39	33.6	184	173	160	86	30	28	26	41.1	123	116	107	79
28.0	43	41	38	34.1	185	174	161	86	29	27	25	41.8	123	116	107	79
28.5	42	40	37	34.6	186	175	162	86	28	26	24	42.4	124	117	108	79
29.0	41	38	35	35.1	187	176	163	86	27	26	24	43.0	125	117	108	79
30.0	38	36	33	36.2	189	178	164	86	26	24	22	44.3	126	118	109	79

**Column headings are:**

- QMD Quadratic mean diameter (the diameter of the tree of average basal area).
- EA Even aged, showing the trees/acre, or basal area/acre, associated with an even-aged stand structure.
- IS Irregular structure; even-aged SDIs were reduced by 6% for an irregular stand structure (from Long 1995).
- UA Uneven aged; even-aged SDIs were reduced by 13% for an uneven-aged structure (from Long 1995).
- ES Equilateral spacing, in feet, that the trees per acre associated with an even-aged stand structure (EA columns) would have when spaced equilaterally apart; also referred to as triangular spacing.
- CC Canopy cover; based on the "CE" equation from Dealy (1985) and the basal area per acre for an irregular structure (IS columns).

**Table 10:** Stocking levels for subalpine fir in the ABLA2/TRCA3 plant association  
(full stocking = 382).

QMD	UPPER MANAGEMENT ZONE (SDI = 287)								LOWER MANAGEMENT ZONE (SDI = 191)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
1.0	15323	14426	13340	1.8	84	79	73	72	10215	9618	8893	2.2	56	52	49	65
1.2	11178	10524	9731	2.1	88	83	76	73	7452	7016	6488	2.6	59	55	51	66
1.4	8561	8060	7453	2.4	92	86	80	73	5707	5374	4969	3.0	61	57	53	66
1.6	6795	6398	5916	2.7	95	89	83	74	4530	4265	3944	3.3	63	60	55	67
1.8	5543	5218	4825	3.0	98	92	85	75	3695	3479	3217	3.7	65	61	57	68
2.0	4619	4349	4021	3.3	101	95	88	75	3079	2899	2681	4.0	67	63	58	68
2.2	3917	3688	3410	3.6	103	97	90	76	2611	2459	2273	4.4	69	65	60	69
2.4	3370	3172	2934	3.9	106	100	92	76	2246	2115	1956	4.7	71	66	61	69
2.6	2934	2762	2554	4.1	108	102	94	76	1956	1841	1703	5.1	72	68	63	69
2.8	2581	2430	2247	4.4	110	104	96	77	1721	1620	1498	5.4	74	69	64	70
3.0	2290	2156	1994	4.7	112	106	98	77	1527	1438	1329	5.7	75	71	65	70
3.2	2048	1929	1783	5.0	114	108	100	77	1366	1286	1189	6.1	76	72	66	70
3.4	1844	1737	1606	5.2	116	109	101	78	1230	1158	1071	6.4	78	73	67	71
3.6	1671	1573	1455	5.5	118	111	103	78	1114	1049	970	6.7	79	74	69	71
3.8	1522	1433	1325	5.7	120	113	104	78	1014	955	883	7.0	80	75	70	71
4.0	1392	1311	1212	6.0	122	114	106	78	928	874	808	7.4	81	76	71	71
4.2	1280	1205	1114	6.3	123	116	107	79	853	803	743	7.7	82	77	71	72
4.4	1181	1112	1028	6.5	125	117	109	79	787	741	685	8.0	83	78	72	72
4.6	1093	1029	952	6.8	126	119	110	79	729	686	635	8.3	84	79	73	72
4.8	1016	956	884	7.0	128	120	111	79	677	638	590	8.6	85	80	74	72
5.0	946	891	824	7.3	129	122	112	79	631	594	549	8.9	86	81	75	72
5.2	884	833	770	7.5	130	123	114	80	590	555	513	9.2	87	82	76	73
5.4	828	780	721	7.8	132	124	115	80	552	520	481	9.5	88	83	76	73
5.6	778	732	677	8.0	133	125	116	80	519	488	452	9.8	89	84	77	73
5.8	732	689	637	8.3	134	126	117	80	488	460	425	10.2	90	84	78	73
6.0	690	650	601	8.5	136	128	118	80	460	433	401	10.5	90	85	79	73
6.2	652	614	568	8.8	137	129	119	80	435	409	379	10.8	91	86	79	73
6.4	618	581	538	9.0	138	130	120	81	412	388	358	11.1	92	87	80	74
6.6	585	551	510	9.3	139	131	121	81	390	367	340	11.4	93	87	81	74
6.8	556	523	484	9.5	140	132	122	81	371	349	323	11.6	93	88	81	74
7.0	529	498	460	9.8	141	133	123	81	353	332	307	11.9	94	89	82	74
7.2	504	474	438	10.0	142	134	124	81	336	316	292	12.2	95	89	83	74
7.4	480	452	418	10.2	143	135	125	81	320	302	279	12.5	96	90	83	74
7.6	459	432	399	10.5	145	136	126	81	306	288	266	12.8	96	91	84	74
7.8	439	413	382	10.7	146	137	127	82	292	275	255	13.1	97	91	84	75
8.0	420	395	365	10.9	147	138	128	82	280	263	244	13.4	98	92	85	75
8.2	402	379	350	11.2	147	139	128	82	268	252	233	13.7	98	93	86	75
8.4	386	363	336	11.4	148	140	129	82	257	242	224	14.0	99	93	86	75
8.6	370	349	322	11.7	149	141	130	82	247	232	215	14.3	100	94	87	75
8.8	356	335	310	11.9	150	142	131	82	237	223	207	14.6	100	94	87	75
9.0	342	322	298	12.1	151	142	132	82	228	215	199	14.8	101	95	88	75
9.2	330	310	287	12.4	152	143	132	82	220	207	191	15.1	101	96	88	75
9.4	318	299	276	12.6	153	144	133	82	212	199	184	15.4	102	96	89	75
9.6	306	288	267	12.8	154	145	134	83	204	192	178	15.7	103	97	89	75
9.8	295	278	257	13.0	155	146	135	83	197	185	171	16.0	103	97	90	76
10.0	285	269	248	13.3	156	147	135	83	190	179	166	16.3	104	98	90	76

10.5 | 262 | 247 | 228 | 13.8 | 158 | 148 | 137 | 83 | 175 | 165 | 152 | 17.0 | 105 | 99 | 92 | 76

**Table 10:** Stocking levels for subalpine fir in the ABLA2/TRCA3 plant association  
(full stocking = 382).

QMD	UPPER MANAGEMENT ZONE (SDI = 287)								LOWER MANAGEMENT ZONE (SDI = 191)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
11.0	242	228	211	14.4	160	150	139	83	161	152	140	17.7	106	100	93	76
11.5	224	211	195	15.0	162	152	141	83	149	141	130	18.4	108	101	94	76
12.0	208	196	181	15.5	163	154	142	84	139	131	121	19.0	109	103	95	77
12.5	194	183	169	16.1	165	156	144	84	129	122	113	19.7	110	104	96	77
13.0	181	171	158	16.7	167	157	145	84	121	114	105	20.4	111	105	97	77
13.5	170	160	148	17.2	169	159	147	84	113	107	99	21.1	113	106	98	77
14.0	159	150	139	17.8	170	160	148	84	106	100	93	21.8	114	107	99	77
14.5	150	141	131	18.3	172	162	150	84	100	94	87	22.4	115	108	100	77
15.0	141	133	123	18.9	174	163	151	85	94	89	82	23.1	116	109	101	78
15.5	134	126	116	19.4	175	165	152	85	89	84	78	23.8	117	110	102	78
16.0	127	119	110	19.9	177	166	154	85	84	79	73	24.4	118	111	103	78
16.5	120	113	104	20.5	178	168	155	85	80	75	70	25.1	119	112	103	78
17.0	114	107	99	21.0	180	169	156	85	76	72	66	25.7	120	113	104	78
17.5	108	102	94	21.5	181	170	158	85	72	68	63	26.4	121	114	105	78
18.0	103	97	90	22.1	182	172	159	86	69	65	60	27.0	122	114	106	78
18.5	98	93	86	22.6	184	173	160	86	66	62	57	27.7	122	115	107	79
19.0	94	88	82	23.1	185	174	161	86	63	59	55	28.3	123	116	107	79
19.5	90	85	78	23.7	186	175	162	86	60	56	52	29.0	124	117	108	79
20.0	86	81	75	24.2	188	177	163	86	57	54	50	29.6	125	118	109	79
20.5	82	78	72	24.7	189	178	164	86	55	52	48	30.3	126	119	110	79
21.0	79	74	69	25.2	190	179	166	86	53	50	46	30.9	127	119	110	79
21.5	76	71	66	25.7	191	180	167	86	51	48	44	31.5	128	120	111	79
22.0	73	69	63	26.3	193	181	168	86	49	46	42	32.2	128	121	112	79
22.5	70	66	61	26.8	194	182	169	87	47	44	41	32.8	129	122	112	79
23.0	68	64	59	27.3	195	183	170	87	45	42	39	33.4	130	122	113	80
23.5	65	61	57	27.8	196	185	171	87	43	41	38	34.1	131	123	114	80
24.0	63	59	55	28.3	197	186	172	87	42	39	36	34.7	131	124	114	80
24.5	61	57	53	28.8	198	187	173	87	40	38	35	35.3	132	124	115	80
25.0	58	55	51	29.3	199	188	174	87	39	37	34	35.9	133	125	116	80
25.5	56	53	49	29.8	200	189	174	87	38	35	33	36.5	134	126	116	80
26.0	55	51	48	30.3	201	190	175	87	36	34	32	37.2	134	126	117	80
26.5	53	50	46	30.8	202	191	176	87	35	33	31	37.8	135	127	118	80
27.0	51	48	45	31.4	203	192	177	87	34	32	30	38.4	136	128	118	80
27.5	50	47	43	31.9	204	193	178	88	33	31	29	39.0	136	128	119	80
28.0	48	45	42	32.4	205	193	179	88	32	30	28	39.6	137	129	119	81
28.5	47	44	41	32.9	206	194	180	88	31	29	27	40.2	138	130	120	81
29.0	45	43	39	33.3	207	195	181	88	30	28	26	40.8	138	130	120	81
30.0	43	40	37	34.3	209	197	182	88	28	27	25	42.1	140	131	122	81

**Column headings are:**

QMD Quadratic mean diameter (the diameter of the tree of average basal area).

EA Even aged, showing the trees/acre, or basal area/acre, associated with an even-aged stand structure.

IS Irregular structure; even-aged SDIs were reduced by 6% for an irregular stand structure (from Long 1995).

UA Uneven aged; even-aged SDIs were reduced by 13% for an uneven-aged stand structure (from Long 1995).

ES Equilateral spacing, in feet, that the trees per acre associated with an even-aged stand structure (EA columns) would have when spaced equilaterally apart; also referred to as triangular spacing.

CC Canopy cover; based on the "CE" equation from Dealy (1985) and the basal area per acre for an irregular structure (IS columns).



**Table 11:** Stocking levels for western larch in the ABLA2/CLUN plant association  
(full stocking = 410).

QMD	UPPER MANAGEMENT ZONE (SDI = 308)								LOWER MANAGEMENT ZONE (SDI = 205)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
1.0	16520	15553	14382	1.7	90	85	78	62	11013	10369	9588	2.1	60	57	52	54
1.2	12051	11346	10492	2.0	95	89	82	63	8034	7564	6994	2.5	63	59	55	55
1.4	9230	8690	8036	2.3	99	93	86	63	6153	5793	5357	2.9	66	62	57	56
1.6	7326	6898	6378	2.6	102	96	89	64	4884	4598	4252	3.2	68	64	59	57
1.8	5976	5626	5202	2.9	106	99	92	64	3984	3751	3468	3.6	70	66	61	57
2.0	4980	4689	4336	3.2	109	102	95	65	3320	3126	2890	3.9	72	68	63	58
2.2	4223	3976	3676	3.5	111	105	97	65	2815	2651	2451	4.2	74	70	65	58
2.4	3633	3420	3163	3.7	114	107	99	66	2422	2280	2108	4.6	76	72	66	59
2.6	3163	2978	2754	4.0	117	110	102	66	2109	1985	1836	4.9	78	73	68	59
2.8	2782	2620	2422	4.3	119	112	104	67	1855	1746	1615	5.2	79	75	69	59
3.0	2469	2325	2150	4.5	121	114	106	67	1646	1550	1433	5.5	81	76	70	60
3.2	2208	2079	1923	4.8	123	116	107	67	1472	1386	1282	5.8	82	77	72	60
3.4	1989	1872	1731	5.0	125	118	109	68	1326	1248	1154	6.2	84	79	73	60
3.6	1801	1696	1568	5.3	127	120	111	68	1201	1131	1046	6.5	85	80	74	61
3.8	1641	1545	1428	5.5	129	122	112	68	1094	1030	952	6.8	86	81	75	61
4.0	1501	1413	1307	5.8	131	123	114	68	1001	942	871	7.1	87	82	76	61
4.2	1380	1299	1201	6.0	133	125	116	69	920	866	801	7.4	88	83	77	61
4.4	1273	1199	1108	6.3	134	127	117	69	849	799	739	7.7	90	84	78	62
4.6	1179	1110	1026	6.5	136	128	118	69	786	740	684	8.0	91	85	79	62
4.8	1095	1031	953	6.8	138	130	120	69	730	687	636	8.3	92	86	80	62
5.0	1020	961	888	7.0	139	131	121	69	680	640	592	8.6	93	87	81	62
5.2	953	898	830	7.3	141	132	122	70	636	598	553	8.9	94	88	82	62
5.4	893	841	778	7.5	142	134	124	70	595	561	518	9.2	95	89	82	63
5.6	839	790	730	7.7	143	135	125	70	559	526	487	9.5	96	90	83	63
5.8	789	743	687	8.0	145	136	126	70	526	495	458	9.8	97	91	84	63
6.0	744	701	648	8.2	146	138	127	70	496	467	432	10.1	97	92	85	63
6.2	703	662	612	8.5	147	139	128	70	469	441	408	10.4	98	93	86	63
6.4	666	627	580	8.7	149	140	129	71	444	418	386	10.6	99	93	86	63
6.6	631	594	550	8.9	150	141	131	71	421	396	366	10.9	100	94	87	63
6.8	599	564	522	9.2	151	142	132	71	400	376	348	11.2	101	95	88	64
7.0	570	537	496	9.4	152	143	133	71	380	358	331	11.5	102	96	88	64
7.2	543	511	473	9.6	154	145	134	71	362	341	315	11.8	102	96	89	64
7.4	518	488	451	9.9	155	146	135	71	345	325	301	12.1	103	97	90	64
7.6	495	466	431	10.1	156	147	136	71	330	310	287	12.4	104	98	90	64
7.8	473	445	412	10.3	157	148	137	72	315	297	274	12.6	105	98	91	64
8.0	453	426	394	10.5	158	149	138	72	302	284	263	12.9	105	99	92	64
8.2	434	408	378	10.8	159	150	138	72	289	272	252	13.2	106	100	92	65
8.4	416	392	362	11.0	160	151	139	72	277	261	241	13.5	107	100	93	65
8.6	399	376	348	11.2	161	152	140	72	266	251	232	13.7	107	101	93	65
8.8	384	361	334	11.4	162	153	141	72	256	241	223	14.0	108	102	94	65
9.0	369	348	321	11.7	163	154	142	72	246	232	214	14.3	109	102	95	65
9.2	355	335	309	11.9	164	154	143	72	237	223	206	14.6	109	103	95	65
9.4	342	322	298	12.1	165	155	144	73	228	215	199	14.8	110	104	96	65
9.6	330	311	287	12.3	166	156	144	73	220	207	192	15.1	111	104	96	65
9.8	319	300	277	12.6	167	157	145	73	212	200	185	15.4	111	105	97	65
10.0	308	290	268	12.8	168	158	146	73	205	193	179	15.7	112	105	97	66

10.5	283	266	246	13.3	170	160	148	73	188	177	164	16.3	113	107	99	66
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**Table 11:** Stocking levels for western larch in the ABLA2/CLUN plant association  
(full stocking = 410).

QMD	UPPER MANAGEMENT ZONE (SDI = 308)								LOWER MANAGEMENT ZONE (SDI = 205)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
11.0	261	246	227	13.9	172	162	150	73	174	164	151	17.0	115	108	100	66
11.5	242	227	210	14.4	174	164	152	73	161	152	140	17.7	116	109	101	66
12.0	224	211	195	15.0	176	166	153	74	150	141	130	18.3	117	111	102	66
12.5	209	197	182	15.5	178	168	155	74	139	131	121	19.0	119	112	103	67
13.0	195	184	170	16.0	180	170	157	74	130	123	113	19.7	120	113	105	67
13.5	183	172	159	16.6	182	171	158	74	122	115	106	20.3	121	114	106	67
14.0	172	162	150	17.1	184	173	160	74	115	108	100	21.0	122	115	107	67
14.5	162	152	141	17.6	185	175	161	75	108	102	94	21.6	124	116	108	67
15.0	153	144	133	18.2	187	176	163	75	102	96	89	22.2	125	117	109	67
15.5	144	136	125	18.7	189	178	164	75	96	90	84	22.9	126	119	110	68
16.0	136	128	119	19.2	190	179	166	75	91	86	79	23.5	127	120	111	68
16.5	129	122	113	19.7	192	181	167	75	86	81	75	24.2	128	121	111	68
17.0	123	116	107	20.2	194	182	169	75	82	77	71	24.8	129	122	112	68
17.5	117	110	102	20.7	195	184	170	76	78	73	68	25.4	130	122	113	68
18.0	111	105	97	21.3	197	185	171	76	74	70	65	26.0	131	123	114	68
18.5	106	100	92	21.8	198	187	172	76	71	67	62	26.7	132	124	115	68
19.0	101	95	88	22.3	200	188	174	76	68	64	59	27.3	133	125	116	69
19.5	97	91	84	22.8	201	189	175	76	65	61	56	27.9	134	126	117	69
20.0	93	87	81	23.3	202	190	176	76	62	58	54	28.5	135	127	117	69
20.5	89	84	77	23.8	204	192	177	76	59	56	52	29.1	136	128	118	69
21.0	85	80	74	24.3	205	193	178	76	57	53	49	29.8	137	129	119	69
21.5	82	77	71	24.8	206	194	180	77	55	51	47	30.4	138	129	120	69
22.0	79	74	68	25.3	208	195	181	77	52	49	46	31.0	138	130	120	69
22.5	76	71	66	25.8	209	197	182	77	50	47	44	31.6	139	131	121	69
23.0	73	69	63	26.3	210	198	183	77	49	46	42	32.2	140	132	122	70
23.5	70	66	61	26.8	211	199	184	77	47	44	41	32.8	141	133	123	70
24.0	68	64	59	27.3	213	200	185	77	45	42	39	33.4	142	133	123	70
24.5	65	61	57	27.8	214	201	186	77	44	41	38	34.0	142	134	124	70
25.0	63	59	55	28.2	215	202	187	77	42	40	37	34.6	143	135	125	70
25.5	61	57	53	28.7	216	203	188	77	41	38	35	35.2	144	136	125	70
26.0	59	55	51	29.2	217	204	189	77	39	37	34	35.8	145	136	126	70
26.5	57	54	50	29.7	218	206	190	78	38	36	33	36.4	146	137	127	70
27.0	55	52	48	30.2	219	207	191	78	37	35	32	37.0	146	138	127	70
27.5	53	50	47	30.7	220	208	192	78	36	34	31	37.6	147	138	128	70
28.0	52	49	45	31.2	222	209	193	78	35	33	30	38.2	148	139	129	71
28.5	50	47	44	31.6	223	210	194	78	33	32	29	38.7	148	140	129	71
29.0	49	46	42	32.1	224	211	195	78	33	31	28	39.3	149	140	130	71
30.0	46	43	40	33.1	226	213	197	78	31	29	27	40.5	150	142	131	71

**Column headings are:**

QMD Quadratic mean diameter (the diameter of the tree of average basal area).

EA Even aged, showing the trees/acre, or basal area/acre, associated with an even-aged stand structure.

IS Irregular structure; even-aged SDIs were reduced by 6% for an irregular stand structure (from Long 1995).

UA Uneven aged; even-aged SDIs were reduced by 13% for an uneven-aged stand structure (from Long 1995).

ES Equilateral spacing, in feet, that the trees per acre associated with an even-aged stand structure (EA columns) would have when spaced equilaterally apart; also referred to as triangular spacing.

CC Canopy cover; based on the "CL" equation from Dealy (1985) and the basal area per acre for an even-aged structure (EA columns).

**Table 12:** Stocking levels for Engelmann spruce in the ABLA2/CLUN plant association  
(full stocking = 469).

QMD	UPPER MANAGEMENT ZONE (SDI = 352)								LOWER MANAGEMENT ZONE (SDI = 235)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
1.0	18813	17713	16379	1.6	103	97	89	75	12542	11808	10919	2.0	68	64	60	68
1.2	13724	12921	11948	1.9	108	101	94	76	9149	8614	7965	2.3	72	68	63	69
1.4	10511	9897	9151	2.2	112	106	98	77	7008	6598	6101	2.7	75	71	65	70
1.6	8343	7855	7264	2.5	116	110	101	78	5562	5237	4842	3.0	78	73	68	71
1.8	6805	6407	5925	2.7	120	113	105	78	4537	4271	3950	3.3	80	75	70	71
2.0	5671	5340	4937	3.0	124	116	108	79	3781	3560	3292	3.6	82	78	72	72
2.2	4809	4528	4187	3.2	127	120	111	79	3206	3019	2791	4.0	85	80	74	72
2.4	4137	3895	3602	3.5	130	122	113	80	2758	2597	2401	4.3	87	82	75	73
2.6	3602	3391	3136	3.7	133	125	116	80	2401	2261	2091	4.6	89	83	77	73
2.8	3169	2983	2759	4.0	135	128	118	80	2112	1989	1839	4.9	90	85	79	73
3.0	2812	2648	2448	4.2	138	130	120	81	1875	1765	1632	5.2	92	87	80	74
3.2	2515	2368	2190	4.5	140	132	122	81	1677	1579	1460	5.5	94	88	82	74
3.4	2265	2132	1972	4.7	143	134	124	81	1510	1421	1314	5.8	95	90	83	74
3.6	2051	1931	1786	5.0	145	137	126	82	1368	1288	1191	6.1	97	91	84	74
3.8	1868	1759	1627	5.2	147	139	128	82	1246	1173	1084	6.4	98	92	85	75
4.0	1710	1610	1488	5.4	149	140	130	82	1140	1073	992	6.6	99	94	87	75
4.2	1571	1479	1368	5.7	151	142	132	82	1047	986	912	6.9	101	95	88	75
4.4	1450	1365	1262	5.9	153	144	133	82	966	910	841	7.2	102	96	89	75
4.6	1342	1264	1169	6.1	155	146	135	83	895	843	779	7.5	103	97	90	76
4.8	1247	1174	1086	6.4	157	148	136	83	831	783	724	7.8	104	98	91	76
5.0	1162	1094	1012	6.6	158	149	138	83	775	729	674	8.1	106	99	92	76
5.2	1086	1022	945	6.8	160	151	139	83	724	682	630	8.3	107	101	93	76
5.4	1017	958	886	7.0	162	152	141	83	678	638	590	8.6	108	102	94	76
5.6	955	899	832	7.3	163	154	142	84	637	600	554	8.9	109	103	95	77
5.8	899	846	783	7.5	165	155	144	84	599	564	522	9.2	110	104	96	77
6.0	848	798	738	7.7	166	157	145	84	565	532	492	9.4	111	104	97	77
6.2	801	754	697	7.9	168	158	146	84	534	503	465	9.7	112	105	97	77
6.4	758	714	660	8.1	169	159	147	84	505	476	440	10.0	113	106	98	77
6.6	719	677	626	8.4	171	161	149	84	479	451	417	10.2	114	107	99	77
6.8	683	643	594	8.6	172	162	150	85	455	429	396	10.5	115	108	100	77
7.0	649	611	565	8.8	174	163	151	85	433	408	377	10.8	116	109	101	78
7.2	618	582	538	9.0	175	165	152	85	412	388	359	11.0	117	110	101	78
7.4	590	555	513	9.2	176	166	153	85	393	370	342	11.3	117	111	102	78
7.6	563	530	490	9.5	177	167	154	85	375	353	327	11.6	118	111	103	78
7.8	538	507	469	9.7	179	168	156	85	359	338	313	11.8	119	112	104	78
8.0	515	485	449	9.9	180	169	157	85	344	323	299	12.1	120	113	104	78
8.2	494	465	430	10.1	181	171	158	85	329	310	287	12.4	121	114	105	78
8.4	474	446	412	10.3	182	172	159	86	316	297	275	12.6	122	114	106	78
8.6	455	428	396	10.5	183	173	160	86	303	285	264	12.9	122	115	106	79
8.8	437	411	380	10.7	185	174	161	86	291	274	254	13.1	123	116	107	79
9.0	420	396	366	10.9	186	175	162	86	280	264	244	13.4	124	117	108	79
9.2	405	381	352	11.1	187	176	163	86	270	254	235	13.7	125	117	108	79
9.4	390	367	339	11.4	188	177	164	86	260	245	226	13.9	125	118	109	79
9.6	376	354	327	11.6	189	178	165	86	251	236	218	14.2	126	119	110	79
9.8	363	342	316	11.8	190	179	165	86	242	228	211	14.4	127	119	110	79
10.0	350	330	305	12.0	191	180	166	86	234	220	203	14.7	127	120	111	79

10.5	322	303	280	12.5	194	182	169	87	215	202	187	15.3	129	122	112	79
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**Table 12:** Stocking levels for Engelmann spruce in the ABLA2/CLUN plant association  
(full stocking = 469).

QMD	UPPER MANAGEMENT ZONE (SDI = 352)								LOWER MANAGEMENT ZONE (SDI = 235)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
11.0	297	280	259	13.0	196	185	171	87	198	186	172	15.9	131	123	114	80
11.5	275	259	239	13.5	198	187	173	87	183	173	160	16.6	132	125	115	80
12.0	256	241	222	14.0	201	189	175	87	170	160	148	17.2	134	126	116	80
12.5	238	224	207	14.5	203	191	177	87	159	149	138	17.8	135	127	118	80
13.0	223	209	194	15.0	205	193	179	88	148	140	129	18.4	137	129	119	80
13.5	208	196	181	15.5	207	195	180	88	139	131	121	19.0	138	130	120	81
14.0	196	184	170	16.0	209	197	182	88	130	123	114	19.6	139	131	121	81
14.5	184	173	160	16.5	211	199	184	88	123	116	107	20.2	141	133	123	81
15.0	174	164	151	17.0	213	201	186	88	116	109	101	20.8	142	134	124	81
15.5	164	155	143	17.5	215	202	187	88	109	103	95	21.4	143	135	125	81
16.0	155	146	135	18.0	217	204	189	89	104	98	90	22.0	145	136	126	81
16.5	147	139	128	18.5	219	206	190	89	98	92	85	22.6	146	137	127	82
17.0	140	132	122	19.0	221	208	192	89	93	88	81	23.2	147	138	128	82
17.5	133	125	116	19.4	222	209	193	89	89	84	77	23.8	148	139	129	82
18.0	127	119	110	19.9	224	211	195	89	84	80	74	24.4	149	141	130	82
18.5	121	114	105	20.4	226	212	196	89	81	76	70	25.0	150	142	131	82
19.0	115	109	100	20.9	227	214	198	89	77	72	67	25.6	151	143	132	82
19.5	110	104	96	21.4	229	215	199	89	74	69	64	26.2	153	144	133	82
20.0	106	99	92	21.8	230	217	201	90	70	66	61	26.7	154	145	134	83
20.5	101	95	88	22.3	232	218	202	90	67	64	59	27.3	155	146	135	83
21.0	97	91	84	22.8	233	220	203	90	65	61	56	27.9	156	147	135	83
21.5	93	88	81	23.2	235	221	205	90	62	58	54	28.5	157	147	136	83
22.0	90	84	78	23.7	236	223	206	90	60	56	52	29.0	158	148	137	83
22.5	86	81	75	24.2	238	224	207	90	57	54	50	29.6	159	149	138	83
23.0	83	78	72	24.6	239	225	208	90	55	52	48	30.2	160	150	139	83
23.5	80	75	70	25.1	241	227	210	90	53	50	46	30.7	160	151	140	83
24.0	77	73	67	25.6	242	228	211	90	51	48	45	31.3	161	152	140	83
24.5	74	70	65	26.0	243	229	212	91	50	47	43	31.9	162	153	141	83
25.0	72	68	62	26.5	245	230	213	91	48	45	42	32.4	163	154	142	84
25.5	69	65	60	26.9	246	232	214	91	46	44	40	33.0	164	154	143	84
26.0	67	63	58	27.4	247	233	215	91	45	42	39	33.5	165	155	144	84
26.5	65	61	57	27.8	249	234	216	91	43	41	38	34.1	166	156	144	84
27.0	63	59	55	28.3	250	235	218	91	42	39	36	34.7	167	157	145	84
27.5	61	57	53	28.7	251	236	219	91	41	38	35	35.2	167	158	146	84
28.0	59	56	51	29.2	252	238	220	91	39	37	34	35.8	168	158	146	84
28.5	57	54	50	29.6	254	239	221	91	38	36	33	36.3	169	159	147	84
29.0	56	52	48	30.1	255	240	222	91	37	35	32	36.9	170	160	148	84
30.0	52	49	46	31.0	257	242	224	92	35	33	30	38.0	171	161	149	84

**Column headings are:**

QMD Quadratic mean diameter (the diameter of the tree of average basal area).

EA Even aged, showing the trees/acre, or basal area/acre, associated with an even-aged stand structure.

IS Irregular structure; even-aged SDIs were reduced by 6% for an irregular stand structure (from Long 1995).

UA Uneven aged; even-aged SDIs were reduced by 13% for an uneven-aged stand structure (from Long 1995).

ES Equilateral spacing, in feet, that the trees per acre associated with an even-aged stand structure (EA columns) would have when spaced equilaterally apart; also referred to as triangular spacing.

CC Canopy cover; based on the "CE" equation from Dealy (1985) and the basal area per acre for an irregular structure (IS columns).

**Table 13:** Stocking levels for subalpine fir in the ABLA2/CLUN plant association (full stocking = 416).

QMD	UPPER MANAGEMENT ZONE (SDI = 312)								LOWER MANAGEMENT ZONE (SDI = 208)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
1.0	16686	15710	14527	1.7	91	86	79	73	11124	10473	9684	2.1	61	57	53	66
1.2	12172	11460	10597	2.0	96	90	83	74	8115	7640	7065	2.5	64	60	55	67
1.4	9323	8777	8116	2.3	100	94	87	75	6215	5852	5411	2.8	66	63	58	68
1.6	7400	6967	6442	2.6	103	97	90	76	4933	4645	4295	3.2	69	65	60	69
1.8	6036	5683	5255	2.9	107	100	93	76	4024	3788	3503	3.5	71	67	62	69
2.0	5030	4736	4379	3.2	110	103	96	77	3353	3157	2919	3.9	73	69	64	70
2.2	4265	4016	3713	3.4	113	106	98	77	2844	2677	2476	4.2	75	71	65	70
2.4	3669	3455	3194	3.7	115	109	100	78	2446	2303	2130	4.5	77	72	67	70
2.6	3195	3008	2781	4.0	118	111	103	78	2130	2005	1854	4.9	79	74	68	71
2.8	2810	2646	2447	4.2	120	113	105	78	1874	1764	1631	5.2	80	75	70	71
3.0	2494	2348	2171	4.5	122	115	107	79	1663	1566	1448	5.5	82	77	71	72
3.2	2231	2100	1942	4.7	125	117	108	79	1487	1400	1295	5.8	83	78	72	72
3.4	2009	1891	1749	5.0	127	119	110	79	1339	1261	1166	6.1	84	79	74	72
3.6	1819	1713	1584	5.3	129	121	112	79	1213	1142	1056	6.4	86	81	75	72
3.8	1657	1560	1443	5.5	131	123	114	80	1105	1040	962	6.7	87	82	76	73
4.0	1516	1428	1320	5.8	132	125	115	80	1011	952	880	7.1	88	83	77	73
4.2	1394	1312	1213	6.0	134	126	117	80	929	875	809	7.4	89	84	78	73
4.4	1286	1211	1119	6.3	136	128	118	80	857	807	746	7.7	91	85	79	73
4.6	1191	1121	1037	6.5	137	129	120	81	794	747	691	8.0	92	86	80	74
4.8	1106	1041	963	6.7	139	131	121	81	737	694	642	8.3	93	87	81	74
5.0	1031	970	897	7.0	141	132	122	81	687	647	598	8.6	94	88	82	74
5.2	963	907	838	7.2	142	134	124	81	642	604	559	8.9	95	89	82	74
5.4	902	849	785	7.5	143	135	125	81	601	566	524	9.1	96	90	83	74
5.6	847	798	738	7.7	145	136	126	81	565	532	492	9.4	97	91	84	74
5.8	797	751	694	7.9	146	138	127	82	532	500	463	9.7	98	92	85	75
6.0	752	708	655	8.2	148	139	129	82	501	472	436	10.0	98	93	86	75
6.2	710	669	618	8.4	149	140	130	82	474	446	412	10.3	99	93	86	75
6.4	672	633	585	8.6	150	141	131	82	448	422	390	10.6	100	94	87	75
6.6	638	600	555	8.9	151	143	132	82	425	400	370	10.9	101	95	88	75
6.8	605	570	527	9.1	153	144	133	82	404	380	351	11.2	102	96	89	75
7.0	576	542	501	9.3	154	145	134	83	384	361	334	11.4	103	97	89	75
7.2	548	516	478	9.6	155	146	135	83	366	344	318	11.7	103	97	90	76
7.4	523	492	455	9.8	156	147	136	83	349	328	304	12.0	104	98	91	76
7.6	500	470	435	10.0	157	148	137	83	333	314	290	12.3	105	99	91	76
7.8	478	450	416	10.3	158	149	138	83	318	300	277	12.6	106	99	92	76
8.0	457	430	398	10.5	160	150	139	83	305	287	265	12.8	106	100	93	76
8.2	438	412	381	10.7	161	151	140	83	292	275	254	13.1	107	101	93	76
8.4	420	396	366	10.9	162	152	141	83	280	264	244	13.4	108	101	94	76
8.6	403	380	351	11.2	163	153	142	84	269	253	234	13.7	108	102	94	76
8.8	388	365	337	11.4	164	154	143	84	258	243	225	14.0	109	103	95	77
9.0	373	351	325	11.6	165	155	143	84	249	234	216	14.2	110	103	96	77
9.2	359	338	312	11.8	166	156	144	84	239	225	208	14.5	110	104	96	77
9.4	346	326	301	12.1	167	157	145	84	231	217	201	14.8	111	105	97	77
9.6	333	314	290	12.3	168	158	146	84	222	209	194	15.0	112	105	97	77
9.8	322	303	280	12.5	169	159	147	84	215	202	187	15.3	112	106	98	77
10.0	311	293	271	12.7	169	160	148	84	207	195	180	15.6	113	106	98	77
10.5	286	269	249	13.3	172	162	149	84	190	179	166	16.3	114	108	100	77

**Table 13:** Stocking levels for subalpine fir in the ABLA2/CLUN plant association (full stocking = 416).

QMD	UPPER MANAGEMENT ZONE (SDI = 312)								LOWER MANAGEMENT ZONE (SDI = 208)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
11.0	263	248	229	13.8	174	164	151	85	176	165	153	16.9	116	109	101	78
11.5	244	230	212	14.4	176	166	153	85	163	153	142	17.6	117	110	102	78
12.0	227	213	197	14.9	178	168	155	85	151	142	132	18.2	119	112	103	78
12.5	211	199	184	15.4	180	169	157	85	141	133	123	18.9	120	113	104	78
13.0	197	186	172	16.0	182	171	158	85	132	124	115	19.6	121	114	106	78
13.5	185	174	161	16.5	184	173	160	86	123	116	107	20.2	123	115	107	79
14.0	174	163	151	17.0	186	175	162	86	116	109	101	20.8	124	116	108	79
14.5	163	154	142	17.5	187	176	163	86	109	103	95	21.5	125	118	109	79
15.0	154	145	134	18.1	189	178	165	86	103	97	89	22.1	126	119	110	79
15.5	146	137	127	18.6	191	180	166	86	97	91	84	22.8	127	120	111	79
16.0	138	130	120	19.1	192	181	167	86	92	86	80	23.4	128	121	112	79
16.5	131	123	114	19.6	194	183	169	87	87	82	76	24.0	129	122	113	80
17.0	124	117	108	20.1	196	184	170	87	83	78	72	24.7	130	123	114	80
17.5	118	111	103	20.6	197	186	172	87	79	74	68	25.3	131	124	114	80
18.0	112	106	98	21.2	199	187	173	87	75	71	65	25.9	132	125	115	80
18.5	107	101	93	21.7	200	188	174	87	71	67	62	26.5	133	126	116	80
19.0	102	96	89	22.2	202	190	175	87	68	64	59	27.2	134	126	117	80
19.5	98	92	85	22.7	203	191	177	87	65	61	57	27.8	135	127	118	80
20.0	94	88	82	23.2	204	192	178	87	62	59	54	28.4	136	128	119	80
20.5	90	84	78	23.7	206	194	179	88	60	56	52	29.0	137	129	119	81
21.0	86	81	75	24.2	207	195	180	88	57	54	50	29.6	138	130	120	81
21.5	83	78	72	24.7	208	196	181	88	55	52	48	30.2	139	131	121	81
22.0	79	75	69	25.2	210	197	183	88	53	50	46	30.8	140	132	122	81
22.5	76	72	67	25.7	211	199	184	88	51	48	44	31.4	141	132	122	81
23.0	74	69	64	26.2	212	200	185	88	49	46	43	32.0	141	133	123	81
23.5	71	67	62	26.6	213	201	186	88	47	44	41	32.6	142	134	124	81
24.0	68	64	59	27.1	215	202	187	88	46	43	40	33.2	143	135	125	81
24.5	66	62	57	27.6	216	203	188	88	44	41	38	33.8	144	135	125	81
25.0	64	60	55	28.1	217	204	189	89	42	40	37	34.4	145	136	126	81
25.5	62	58	54	28.6	218	205	190	89	41	39	36	35.0	145	137	127	82
26.0	59	56	52	29.1	219	207	191	89	40	37	35	35.6	146	138	127	82
26.5	58	54	50	29.6	220	208	192	89	38	36	33	36.2	147	138	128	82
27.0	56	52	49	30.0	222	209	193	89	37	35	32	36.8	148	139	129	82
27.5	54	51	47	30.5	223	210	194	89	36	34	31	37.4	148	140	129	82
28.0	52	49	46	31.0	224	211	195	89	35	33	30	38.0	149	140	130	82
28.5	51	48	44	31.5	225	212	196	89	34	32	29	38.6	150	141	131	82
29.0	49	46	43	32.0	226	213	197	89	33	31	29	39.1	151	142	131	82
30.0	46	44	40	32.9	228	215	198	89	31	29	27	40.3	152	143	132	82

**Column headings are:**

- QMD Quadratic mean diameter (the diameter of the tree of average basal area).
- EA Even aged, showing the trees/acre, or basal area/acre, associated with an even-aged stand structure.
- IS Irregular structure; even-aged SDIs were reduced by 6% for an irregular stand structure (from Long 1995).
- UA Uneven aged; even-aged SDIs were reduced by 13% for an uneven-aged stand structure (from Long 1995).
- ES Equilateral spacing, in feet, that the trees per acre associated with an even-aged stand structure (EA columns) would have when spaced equilaterally apart; also referred to as triangular spacing.
- CC Canopy cover; based on the “CE” equation from Dealy (1985) and the basal area per acre for an irregular structure (IS columns).

**Table 14:** Stocking levels for western larch in the ABLA2/LIBO2 plant association  
(full stocking = 410).

QMD	UPPER MANAGEMENT ZONE (SDI = 308)								LOWER MANAGEMENT ZONE (SDI = 205)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
1.0	16520	15553	14382	1.7	90	85	78	62	11013	10369	9588	2.1	60	57	52	54
1.2	12051	11346	10492	2.0	95	89	82	63	8034	7564	6994	2.5	63	59	55	55
1.4	9230	8690	8036	2.3	99	93	86	63	6153	5793	5357	2.9	66	62	57	56
1.6	7326	6898	6378	2.6	102	96	89	64	4884	4598	4252	3.2	68	64	59	57
1.8	5976	5626	5202	2.9	106	99	92	64	3984	3751	3468	3.6	70	66	61	57
2.0	4980	4689	4336	3.2	109	102	95	65	3320	3126	2890	3.9	72	68	63	58
2.2	4223	3976	3676	3.5	111	105	97	65	2815	2651	2451	4.2	74	70	65	58
2.4	3633	3420	3163	3.7	114	107	99	66	2422	2280	2108	4.6	76	72	66	59
2.6	3163	2978	2754	4.0	117	110	102	66	2109	1985	1836	4.9	78	73	68	59
2.8	2782	2620	2422	4.3	119	112	104	67	1855	1746	1615	5.2	79	75	69	59
3.0	2469	2325	2150	4.5	121	114	106	67	1646	1550	1433	5.5	81	76	70	60
3.2	2208	2079	1923	4.8	123	116	107	67	1472	1386	1282	5.8	82	77	72	60
3.4	1989	1872	1731	5.0	125	118	109	68	1326	1248	1154	6.2	84	79	73	60
3.6	1801	1696	1568	5.3	127	120	111	68	1201	1131	1046	6.5	85	80	74	61
3.8	1641	1545	1428	5.5	129	122	112	68	1094	1030	952	6.8	86	81	75	61
4.0	1501	1413	1307	5.8	131	123	114	68	1001	942	871	7.1	87	82	76	61
4.2	1380	1299	1201	6.0	133	125	116	69	920	866	801	7.4	88	83	77	61
4.4	1273	1199	1108	6.3	134	127	117	69	849	799	739	7.7	90	84	78	62
4.6	1179	1110	1026	6.5	136	128	118	69	786	740	684	8.0	91	85	79	62
4.8	1095	1031	953	6.8	138	130	120	69	730	687	636	8.3	92	86	80	62
5.0	1020	961	888	7.0	139	131	121	69	680	640	592	8.6	93	87	81	62
5.2	953	898	830	7.3	141	132	122	70	636	598	553	8.9	94	88	82	62
5.4	893	841	778	7.5	142	134	124	70	595	561	518	9.2	95	89	82	63
5.6	839	790	730	7.7	143	135	125	70	559	526	487	9.5	96	90	83	63
5.8	789	743	687	8.0	145	136	126	70	526	495	458	9.8	97	91	84	63
6.0	744	701	648	8.2	146	138	127	70	496	467	432	10.1	97	92	85	63
6.2	703	662	612	8.5	147	139	128	70	469	441	408	10.4	98	93	86	63
6.4	666	627	580	8.7	149	140	129	71	444	418	386	10.6	99	93	86	63
6.6	631	594	550	8.9	150	141	131	71	421	396	366	10.9	100	94	87	63
6.8	599	564	522	9.2	151	142	132	71	400	376	348	11.2	101	95	88	64
7.0	570	537	496	9.4	152	143	133	71	380	358	331	11.5	102	96	88	64
7.2	543	511	473	9.6	154	145	134	71	362	341	315	11.8	102	96	89	64
7.4	518	488	451	9.9	155	146	135	71	345	325	301	12.1	103	97	90	64
7.6	495	466	431	10.1	156	147	136	71	330	310	287	12.4	104	98	90	64
7.8	473	445	412	10.3	157	148	137	72	315	297	274	12.6	105	98	91	64
8.0	453	426	394	10.5	158	149	138	72	302	284	263	12.9	105	99	92	64
8.2	434	408	378	10.8	159	150	138	72	289	272	252	13.2	106	100	92	65
8.4	416	392	362	11.0	160	151	139	72	277	261	241	13.5	107	100	93	65
8.6	399	376	348	11.2	161	152	140	72	266	251	232	13.7	107	101	93	65
8.8	384	361	334	11.4	162	153	141	72	256	241	223	14.0	108	102	94	65
9.0	369	348	321	11.7	163	154	142	72	246	232	214	14.3	109	102	95	65
9.2	355	335	309	11.9	164	154	143	72	237	223	206	14.6	109	103	95	65
9.4	342	322	298	12.1	165	155	144	73	228	215	199	14.8	110	104	96	65
9.6	330	311	287	12.3	166	156	144	73	220	207	192	15.1	111	104	96	65
9.8	319	300	277	12.6	167	157	145	73	212	200	185	15.4	111	105	97	65
10.0	308	290	268	12.8	168	158	146	73	205	193	179	15.7	112	105	97	66

10.5	283	266	246	13.3	170	160	148	73	188	177	164	16.3	113	107	99	66
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**Table 14:** Stocking levels for western larch in the ABLA2/LIBO2 plant association  
(full stocking = 410).

QMD	UPPER MANAGEMENT ZONE (SDI = 308)								LOWER MANAGEMENT ZONE (SDI = 205)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
11.0	261	246	227	13.9	172	162	150	73	174	164	151	17.0	115	108	100	66
11.5	242	227	210	14.4	174	164	152	73	161	152	140	17.7	116	109	101	66
12.0	224	211	195	15.0	176	166	153	74	150	141	130	18.3	117	111	102	66
12.5	209	197	182	15.5	178	168	155	74	139	131	121	19.0	119	112	103	67
13.0	195	184	170	16.0	180	170	157	74	130	123	113	19.7	120	113	105	67
13.5	183	172	159	16.6	182	171	158	74	122	115	106	20.3	121	114	106	67
14.0	172	162	150	17.1	184	173	160	74	115	108	100	21.0	122	115	107	67
14.5	162	152	141	17.6	185	175	161	75	108	102	94	21.6	124	116	108	67
15.0	153	144	133	18.2	187	176	163	75	102	96	89	22.2	125	117	109	67
15.5	144	136	125	18.7	189	178	164	75	96	90	84	22.9	126	119	110	68
16.0	136	128	119	19.2	190	179	166	75	91	86	79	23.5	127	120	111	68
16.5	129	122	113	19.7	192	181	167	75	86	81	75	24.2	128	121	111	68
17.0	123	116	107	20.2	194	182	169	75	82	77	71	24.8	129	122	112	68
17.5	117	110	102	20.7	195	184	170	76	78	73	68	25.4	130	122	113	68
18.0	111	105	97	21.3	197	185	171	76	74	70	65	26.0	131	123	114	68
18.5	106	100	92	21.8	198	187	172	76	71	67	62	26.7	132	124	115	68
19.0	101	95	88	22.3	200	188	174	76	68	64	59	27.3	133	125	116	69
19.5	97	91	84	22.8	201	189	175	76	65	61	56	27.9	134	126	117	69
20.0	93	87	81	23.3	202	190	176	76	62	58	54	28.5	135	127	117	69
20.5	89	84	77	23.8	204	192	177	76	59	56	52	29.1	136	128	118	69
21.0	85	80	74	24.3	205	193	178	76	57	53	49	29.8	137	129	119	69
21.5	82	77	71	24.8	206	194	180	77	55	51	47	30.4	138	129	120	69
22.0	79	74	68	25.3	208	195	181	77	52	49	46	31.0	138	130	120	69
22.5	76	71	66	25.8	209	197	182	77	50	47	44	31.6	139	131	121	69
23.0	73	69	63	26.3	210	198	183	77	49	46	42	32.2	140	132	122	70
23.5	70	66	61	26.8	211	199	184	77	47	44	41	32.8	141	133	123	70
24.0	68	64	59	27.3	213	200	185	77	45	42	39	33.4	142	133	123	70
24.5	65	61	57	27.8	214	201	186	77	44	41	38	34.0	142	134	124	70
25.0	63	59	55	28.2	215	202	187	77	42	40	37	34.6	143	135	125	70
25.5	61	57	53	28.7	216	203	188	77	41	38	35	35.2	144	136	125	70
26.0	59	55	51	29.2	217	204	189	77	39	37	34	35.8	145	136	126	70
26.5	57	54	50	29.7	218	206	190	78	38	36	33	36.4	146	137	127	70
27.0	55	52	48	30.2	219	207	191	78	37	35	32	37.0	146	138	127	70
27.5	53	50	47	30.7	220	208	192	78	36	34	31	37.6	147	138	128	70
28.0	52	49	45	31.2	222	209	193	78	35	33	30	38.2	148	139	129	71
28.5	50	47	44	31.6	223	210	194	78	33	32	29	38.7	148	140	129	71
29.0	49	46	42	32.1	224	211	195	78	33	31	28	39.3	149	140	130	71
30.0	46	43	40	33.1	226	213	197	78	31	29	27	40.5	150	142	131	71

**Column headings are:**

QMD Quadratic mean diameter (the diameter of the tree of average basal area).

EA Even aged, showing the trees/acre, or basal area/acre, associated with an even-aged stand structure.

IS Irregular structure; even-aged SDIs were reduced by 6% for an irregular stand structure (from Long 1995).

UA Uneven aged; even-aged SDIs were reduced by 13% for an uneven-aged stand structure (from Long 1995).

ES Equilateral spacing, in feet, that the trees per acre associated with an even-aged stand structure (EA columns) would have when spaced equilaterally apart; also referred to as triangular spacing.

CC Canopy cover; based on the "CL" equation from Dealy (1985) and the basal area per acre for an even-aged structure (EA columns).



**Table 15:** Stocking levels for Engelmann spruce in the ABLA2/LIBO2 plant association  
(full stocking = 379).

QMD	UPPER MANAGEMENT ZONE (SDI = 284)								LOWER MANAGEMENT ZONE (SDI = 190)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
1.0	15203	14314	13236	1.8	83	78	72	72	10135	9542	8824	2.2	55	52	48	65
1.2	11090	10442	9655	2.1	87	82	76	73	7394	6961	6437	2.6	58	55	51	66
1.4	8494	7997	7395	2.4	91	85	79	73	5663	5332	4930	3.0	61	57	53	66
1.6	6742	6348	5870	2.7	94	89	82	74	4495	4232	3913	3.3	63	59	55	67
1.8	5499	5178	4788	3.0	97	91	85	75	3666	3452	3192	3.7	65	61	56	68
2.0	4583	4315	3990	3.3	100	94	87	75	3055	2877	2660	4.1	67	63	58	68
2.2	3886	3659	3383	3.6	103	97	89	75	2591	2439	2256	4.4	68	64	60	68
2.4	3343	3148	2911	3.9	105	99	91	76	2229	2098	1940	4.8	70	66	61	69
2.6	2911	2741	2534	4.2	107	101	93	76	1941	1827	1689	5.1	72	67	62	69
2.8	2561	2411	2229	4.4	109	103	95	77	1707	1607	1486	5.4	73	69	64	70
3.0	2273	2140	1978	4.7	112	105	97	77	1515	1426	1319	5.8	74	70	65	70
3.2	2032	1914	1769	5.0	114	107	99	77	1355	1276	1180	6.1	76	71	66	70
3.4	1830	1723	1593	5.2	115	109	100	78	1220	1149	1062	6.4	77	72	67	70
3.6	1658	1561	1443	5.5	117	110	102	78	1105	1041	962	6.7	78	74	68	71
3.8	1510	1421	1314	5.8	119	112	104	78	1006	948	876	7.1	79	75	69	71
4.0	1382	1301	1203	6.0	121	114	105	78	921	867	802	7.4	80	76	70	71
4.2	1270	1195	1105	6.3	122	115	106	79	846	797	737	7.7	81	77	71	71
4.4	1172	1103	1020	6.6	124	116	108	79	781	735	680	8.0	82	78	72	72
4.6	1085	1021	944	6.8	125	118	109	79	723	681	630	8.3	83	79	73	72
4.8	1008	949	877	7.1	127	119	110	79	672	633	585	8.7	84	79	74	72
5.0	939	884	818	7.3	128	121	111	79	626	589	545	9.0	85	80	74	72
5.2	877	826	764	7.6	129	122	113	80	585	551	509	9.3	86	81	75	72
5.4	822	774	716	7.8	131	123	114	80	548	516	477	9.6	87	82	76	73
5.6	772	727	672	8.1	132	124	115	80	515	484	448	9.9	88	83	77	73
5.8	726	684	632	8.3	133	125	116	80	484	456	422	10.2	89	84	77	73
6.0	685	645	596	8.6	135	127	117	80	457	430	398	10.5	90	84	78	73
6.2	647	609	564	8.8	136	128	118	80	432	406	376	10.8	90	85	79	73
6.4	613	577	533	9.1	137	129	119	81	408	385	356	11.1	91	86	79	73
6.6	581	547	506	9.3	138	130	120	81	387	365	337	11.4	92	87	80	74
6.8	552	519	480	9.5	139	131	121	81	368	346	320	11.7	93	87	81	74
7.0	525	494	457	9.8	140	132	122	81	350	329	305	12.0	93	88	81	74
7.2	500	471	435	10.0	141	133	123	81	333	314	290	12.3	94	89	82	74
7.4	477	449	415	10.3	142	134	124	81	318	299	277	12.6	95	89	83	74
7.6	455	428	396	10.5	143	135	125	81	303	286	264	12.9	96	90	83	74
7.8	435	410	379	10.8	144	136	126	81	290	273	253	13.2	96	91	84	74
8.0	416	392	363	11.0	145	137	127	82	278	261	242	13.5	97	91	84	74
8.2	399	376	347	11.2	146	138	127	82	266	250	232	13.8	98	92	85	75
8.4	383	360	333	11.5	147	139	128	82	255	240	222	14.0	98	92	85	75
8.6	367	346	320	11.7	148	140	129	82	245	231	213	14.3	99	93	86	75
8.8	353	333	307	11.9	149	140	130	82	235	222	205	14.6	99	94	87	75
9.0	340	320	296	12.2	150	141	131	82	226	213	197	14.9	100	94	87	75
9.2	327	308	285	12.4	151	142	131	82	218	205	190	15.2	101	95	88	75
9.4	315	297	274	12.6	152	143	132	82	210	198	183	15.5	101	95	88	75
9.6	304	286	264	12.9	153	144	133	82	203	191	176	15.8	102	96	89	75
9.8	293	276	255	13.1	154	145	134	83	195	184	170	16.0	102	96	89	75
10.0	283	267	246	13.3	154	145	134	83	189	178	164	16.3	103	97	90	76

10.5 | 260 245 227 | 13.9 | 156 147 136 | 83 | 173 163 151 | 17.0 | 104 98 91 | 76

**Table 15:** Stocking levels for Engelmann spruce in the ABLA2/LIBO2 plant association  
(full stocking = 379).

QMD	UPPER MANAGEMENT ZONE (SDI = 284)								LOWER MANAGEMENT ZONE (SDI = 190)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
11.0	240	226	209	14.5	158	149	138	83	160	151	139	17.7	106	99	92	76
11.5	222	209	194	15.0	160	151	140	83	148	140	129	18.4	107	101	93	76
12.0	207	194	180	15.6	162	153	141	83	138	130	120	19.1	108	102	94	76
12.5	192	181	168	16.2	164	154	143	84	128	121	112	19.8	109	103	95	77
13.0	180	169	157	16.7	166	156	144	84	120	113	104	20.5	110	104	96	77
13.5	168	159	147	17.3	167	158	146	84	112	106	98	21.2	112	105	97	77
14.0	158	149	138	17.8	169	159	147	84	105	99	92	21.8	113	106	98	77
14.5	149	140	130	18.4	171	161	149	84	99	93	86	22.5	114	107	99	77
15.0	140	132	122	18.9	172	162	150	85	94	88	81	23.2	115	108	100	77
15.5	133	125	115	19.5	174	164	151	85	88	83	77	23.9	116	109	101	78
16.0	126	118	109	20.0	175	165	153	85	84	79	73	24.5	117	110	102	78
16.5	119	112	104	20.6	177	166	154	85	79	75	69	25.2	118	111	103	78
17.0	113	106	98	21.1	178	168	155	85	75	71	66	25.8	119	112	103	78
17.5	108	101	94	21.6	180	169	156	85	72	67	62	26.5	120	113	104	78
18.0	102	96	89	22.2	181	170	158	85	68	64	59	27.1	121	114	105	78
18.5	98	92	85	22.7	182	172	159	86	65	61	57	27.8	122	114	106	78
19.0	93	88	81	23.2	184	173	160	86	62	59	54	28.4	122	115	107	79
19.5	89	84	78	23.8	185	174	161	86	59	56	52	29.1	123	116	107	79
20.0	85	80	74	24.3	186	175	162	86	57	54	50	29.7	124	117	108	79
20.5	82	77	71	24.8	187	176	163	86	55	51	47	30.4	125	118	109	79
21.0	78	74	68	25.3	189	178	164	86	52	49	46	31.0	126	118	109	79
21.5	75	71	66	25.8	190	179	165	86	50	47	44	31.7	127	119	110	79
22.0	72	68	63	26.4	191	180	166	86	48	45	42	32.3	127	120	111	79
22.5	70	66	61	26.9	192	181	167	86	46	44	40	32.9	128	121	112	79
23.0	67	63	58	27.4	193	182	168	87	45	42	39	33.6	129	121	112	79
23.5	65	61	56	27.9	194	183	169	87	43	41	37	34.2	130	122	113	80
24.0	62	59	54	28.4	196	184	170	87	42	39	36	34.8	130	123	114	80
24.5	60	57	52	28.9	197	185	171	87	40	38	35	35.4	131	123	114	80
25.0	58	55	51	29.4	198	186	172	87	39	36	34	36.1	132	124	115	80
25.5	56	53	49	30.0	199	187	173	87	37	35	33	36.7	133	125	115	80
26.0	54	51	47	30.5	200	188	174	87	36	34	31	37.3	133	125	116	80
26.5	52	49	46	31.0	201	189	175	87	35	33	30	37.9	134	126	117	80
27.0	51	48	44	31.5	202	190	176	87	34	32	29	38.5	135	127	117	80
27.5	49	46	43	32.0	203	191	177	87	33	31	29	39.2	135	127	118	80
28.0	48	45	42	32.5	204	192	178	87	32	30	28	39.8	136	128	118	80
28.5	46	44	40	33.0	205	193	178	88	31	29	27	40.4	137	129	119	80
29.0	45	42	39	33.5	206	194	179	88	30	28	26	41.0	137	129	119	81
30.0	42	40	37	34.5	208	196	181	88	28	27	25	42.2	138	130	121	81

**Column headings are:**

- QMD Quadratic mean diameter (the diameter of the tree of average basal area).  
EA Even aged, showing the trees/acre, or basal area/acre, associated with an even-aged stand structure.  
IS Irregular structure; even-aged SDIs were reduced by 6% for an irregular stand structure (from Long 1995).  
UA Uneven aged; even-aged SDIs were reduced by 13% for an uneven-aged stand structure (from Long 1995).  
ES Equilateral spacing, in feet, that the trees per acre associated with an even-aged stand structure (EA columns) would have when spaced equilaterally apart; also referred to as triangular spacing.  
CC Canopy cover; based on the "CE" equation from Dealy (1985) and the basal area per acre for an irregular structure (IS columns).

**Table 16:** Stocking levels for subalpine fir in the ABLA2/LIBO2 plant association (full stocking = 335).

QMD	UPPER MANAGEMENT ZONE (SDI = 251)								LOWER MANAGEMENT ZONE (SDI = 168)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
1.0	13437	12651	11698	1.9	73	69	64	70	8958	8434	7799	2.4	49	46	43	63
1.2	9802	9229	8534	2.3	77	72	67	70	6535	6153	5689	2.8	51	48	45	63
1.4	7508	7068	6536	2.6	80	76	70	71	5005	4712	4357	3.2	54	50	47	64
1.6	5959	5610	5188	2.9	83	78	72	72	3973	3740	3459	3.6	55	52	48	65
1.8	4861	4576	4232	3.2	86	81	75	72	3240	3051	2821	3.9	57	54	50	65
2.0	4051	3814	3526	3.5	88	83	77	73	2700	2542	2351	4.3	59	55	51	66
2.2	3435	3234	2990	3.8	91	85	79	73	2290	2156	1994	4.7	60	57	53	66
2.4	2955	2782	2573	4.1	93	87	81	74	1970	1855	1715	5.1	62	58	54	67
2.6	2573	2422	2240	4.4	95	89	83	74	1715	1615	1493	5.4	63	60	55	67
2.8	2263	2131	1970	4.7	97	91	84	74	1509	1421	1314	5.8	65	61	56	67
3.0	2009	1891	1749	5.0	99	93	86	75	1339	1261	1166	6.1	66	62	57	68
3.2	1796	1691	1564	5.3	100	94	87	75	1198	1128	1043	6.5	67	63	58	68
3.4	1618	1523	1408	5.6	102	96	89	75	1078	1015	939	6.8	68	64	59	68
3.6	1465	1380	1276	5.9	104	98	90	76	977	920	850	7.2	69	65	60	69
3.8	1334	1256	1162	6.1	105	99	91	76	890	838	774	7.5	70	66	61	69
4.0	1221	1150	1063	6.4	107	100	93	76	814	766	709	7.9	71	67	62	69
4.2	1122	1057	977	6.7	108	102	94	76	748	704	651	8.2	72	68	63	69
4.4	1035	975	901	7.0	109	103	95	77	690	650	601	8.5	73	69	63	70
4.6	959	903	835	7.2	111	104	96	77	639	602	556	8.9	74	69	64	70
4.8	891	839	775	7.5	112	105	97	77	594	559	517	9.2	75	70	65	70
5.0	830	781	723	7.8	113	107	99	77	553	521	482	9.5	75	71	66	70
5.2	776	730	675	8.1	114	108	100	77	517	487	450	9.9	76	72	66	70
5.4	727	684	633	8.3	116	109	101	78	484	456	422	10.2	77	73	67	71
5.6	682	642	594	8.6	117	110	102	78	455	428	396	10.5	78	73	68	71
5.8	642	605	559	8.9	118	111	103	78	428	403	373	10.8	79	74	68	71
6.0	605	570	527	9.1	119	112	104	78	404	380	351	11.2	79	75	69	71
6.2	572	539	498	9.4	120	113	104	78	381	359	332	11.5	80	75	70	71
6.4	542	510	471	9.6	121	114	105	78	361	340	314	11.8	81	76	70	71
6.6	513	483	447	9.9	122	115	106	78	342	322	298	12.1	81	77	71	71
6.8	488	459	425	10.2	123	116	107	79	325	306	283	12.4	82	77	71	72
7.0	464	437	404	10.4	124	117	108	79	309	291	269	12.8	83	78	72	72
7.2	442	416	385	10.7	125	118	109	79	294	277	256	13.1	83	78	72	72
7.4	421	397	367	10.9	126	118	110	79	281	264	244	13.4	84	79	73	72
7.6	402	379	350	11.2	127	119	110	79	268	252	233	13.7	84	80	74	72
7.8	385	362	335	11.4	128	120	111	79	256	241	223	14.0	85	80	74	72
8.0	368	347	320	11.7	128	121	112	79	245	231	214	14.3	86	81	75	72
8.2	353	332	307	11.9	129	122	113	80	235	221	205	14.6	86	81	75	72
8.4	338	319	295	12.2	130	123	113	80	226	212	196	14.9	87	82	76	73
8.6	325	306	283	12.4	131	123	114	80	217	204	189	15.2	87	82	76	73
8.8	312	294	272	12.7	132	124	115	80	208	196	181	15.5	88	83	77	73
9.0	300	283	261	12.9	133	125	115	80	200	188	174	15.9	88	83	77	73
9.2	289	272	252	13.2	133	126	116	80	193	181	168	16.2	89	84	77	73
9.4	278	262	242	13.4	134	126	117	80	186	175	162	16.5	89	84	78	73
9.6	269	253	234	13.7	135	127	118	80	179	169	156	16.8	90	85	78	73
9.8	259	244	226	13.9	136	128	118	80	173	163	150	17.1	90	85	79	73
10.0	250	236	218	14.2	136	128	119	80	167	157	145	17.4	91	86	79	73
10.5	230	217	200	14.8	138	130	120	81	153	144	133	18.1	92	87	80	74

**Table 16:** Stocking levels for subalpine fir in the ABLA2/LIBO2 plant association (full stocking = 335).

QMD	UPPER MANAGEMENT ZONE (SDI = 251)								LOWER MANAGEMENT ZONE (SDI = 168)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
11.0	212	200	185	15.4	140	132	122	81	141	133	123	18.9	93	88	81	74
11.5	196	185	171	16.0	142	133	123	81	131	123	114	19.6	94	89	82	74
12.0	183	172	159	16.6	143	135	125	81	122	115	106	20.3	96	90	83	74
12.5	170	160	148	17.2	145	136	126	82	113	107	99	21.1	97	91	84	74
13.0	159	150	138	17.8	146	138	128	82	106	100	92	21.8	98	92	85	75
13.5	149	140	130	18.4	148	139	129	82	99	93	86	22.5	99	93	86	75
14.0	140	132	122	19.0	149	141	130	82	93	88	81	23.2	100	94	87	75
14.5	132	124	115	19.6	151	142	131	82	88	83	76	23.9	101	95	88	75
15.0	124	117	108	20.1	152	143	133	82	83	78	72	24.7	102	96	88	75
15.5	117	110	102	20.7	154	145	134	83	78	74	68	25.4	102	96	89	75
16.0	111	104	97	21.3	155	146	135	83	74	70	64	26.1	103	97	90	76
16.5	105	99	92	21.9	156	147	136	83	70	66	61	26.8	104	98	91	76
17.0	100	94	87	22.4	157	148	137	83	67	63	58	27.5	105	99	91	76
17.5	95	89	83	23.0	159	149	138	83	63	60	55	28.2	106	100	92	76
18.0	91	85	79	23.6	160	151	139	83	60	57	53	28.9	107	100	93	76
18.5	86	81	75	24.1	161	152	140	83	58	54	50	29.6	107	101	94	76
19.0	82	78	72	24.7	162	153	141	83	55	52	48	30.3	108	102	94	76
19.5	79	74	69	25.3	163	154	142	84	53	49	46	30.9	109	103	95	77
20.0	75	71	66	25.8	165	155	143	84	50	47	44	31.6	110	103	96	77
20.5	72	68	63	26.4	166	156	144	84	48	45	42	32.3	110	104	96	77
21.0	69	65	60	26.9	167	157	145	84	46	44	40	33.0	111	105	97	77
21.5	67	63	58	27.5	168	158	146	84	44	42	39	33.7	112	105	97	77
22.0	64	60	56	28.0	169	159	147	84	43	40	37	34.3	113	106	98	77
22.5	62	58	54	28.6	170	160	148	84	41	39	36	35.0	113	107	99	77
23.0	59	56	52	29.1	171	161	149	84	39	37	34	35.7	114	107	99	77
23.5	57	54	50	29.7	172	162	150	84	38	36	33	36.4	115	108	100	77
24.0	55	52	48	30.2	173	163	150	85	37	35	32	37.0	115	108	100	78
24.5	53	50	46	30.8	174	164	151	85	35	33	31	37.7	116	109	101	78
25.0	51	48	45	31.3	175	165	152	85	34	32	30	38.4	117	110	101	78
25.5	50	47	43	31.9	176	165	153	85	33	31	29	39.0	117	110	102	78
26.0	48	45	42	32.4	177	166	154	85	32	30	28	39.7	118	111	103	78
26.5	46	44	40	32.9	178	167	155	85	31	29	27	40.3	118	111	103	78
27.0	45	42	39	33.5	178	168	155	85	30	28	26	41.0	119	112	104	78
27.5	43	41	38	34.0	179	169	156	85	29	27	25	41.7	120	113	104	78
28.0	42	40	37	34.5	180	170	157	85	28	26	24	42.3	120	113	105	78
28.5	41	38	36	35.1	181	170	158	85	27	26	24	43.0	121	114	105	78
29.0	40	37	35	35.6	182	171	158	85	26	25	23	43.6	121	114	106	78
30.0	37	35	33	36.7	184	173	160	86	25	23	22	44.9	122	115	107	79

**Column headings are:**

- QMD Quadratic mean diameter (the diameter of the tree of average basal area).
- EA Even aged, showing the trees/acre, or basal area/acre, associated with an even-aged stand structure.
- IS Irregular structure; even-aged SDIs were reduced by 6% for an irregular stand structure (from Long 1995).
- UA Uneven aged; even-aged SDIs were reduced by 13% for an uneven-aged stand structure (from Long 1995).
- ES Equilateral spacing, in feet, that the trees per acre associated with an even-aged stand structure (EA columns) would have when spaced equilaterally apart; also referred to as triangular spacing.
- CC Canopy cover; based on the “CE” equation from Dealy (1985) and the basal area per acre for an irregular structure (IS columns).

**Table 17:** Stocking levels for subalpine fir in the ABLA2/MEFE plant association (full stocking = 416).

QMD	UPPER MANAGEMENT ZONE (SDI = 312)								LOWER MANAGEMENT ZONE (SDI = 208)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
1.0	16686	15710	14527	1.7	91	86	79	73	11124	10473	9684	2.1	61	57	53	66
1.2	12172	11460	10597	2.0	96	90	83	74	8115	7640	7065	2.5	64	60	55	67
1.4	9323	8777	8116	2.3	100	94	87	75	6215	5852	5411	2.8	66	63	58	68
1.6	7400	6967	6442	2.6	103	97	90	76	4933	4645	4295	3.2	69	65	60	69
1.8	6036	5683	5255	2.9	107	100	93	76	4024	3788	3503	3.5	71	67	62	69
2.0	5030	4736	4379	3.2	110	103	96	77	3353	3157	2919	3.9	73	69	64	70
2.2	4265	4016	3713	3.4	113	106	98	77	2844	2677	2476	4.2	75	71	65	70
2.4	3669	3455	3194	3.7	115	109	100	78	2446	2303	2130	4.5	77	72	67	70
2.6	3195	3008	2781	4.0	118	111	103	78	2130	2005	1854	4.9	79	74	68	71
2.8	2810	2646	2447	4.2	120	113	105	78	1874	1764	1631	5.2	80	75	70	71
3.0	2494	2348	2171	4.5	122	115	107	79	1663	1566	1448	5.5	82	77	71	72
3.2	2231	2100	1942	4.7	125	117	108	79	1487	1400	1295	5.8	83	78	72	72
3.4	2009	1891	1749	5.0	127	119	110	79	1339	1261	1166	6.1	84	79	74	72
3.6	1819	1713	1584	5.3	129	121	112	79	1213	1142	1056	6.4	86	81	75	72
3.8	1657	1560	1443	5.5	131	123	114	80	1105	1040	962	6.7	87	82	76	73
4.0	1516	1428	1320	5.8	132	125	115	80	1011	952	880	7.1	88	83	77	73
4.2	1394	1312	1213	6.0	134	126	117	80	929	875	809	7.4	89	84	78	73
4.4	1286	1211	1119	6.3	136	128	118	80	857	807	746	7.7	91	85	79	73
4.6	1191	1121	1037	6.5	137	129	120	81	794	747	691	8.0	92	86	80	74
4.8	1106	1041	963	6.7	139	131	121	81	737	694	642	8.3	93	87	81	74
5.0	1031	970	897	7.0	141	132	122	81	687	647	598	8.6	94	88	82	74
5.2	963	907	838	7.2	142	134	124	81	642	604	559	8.9	95	89	82	74
5.4	902	849	785	7.5	143	135	125	81	601	566	524	9.1	96	90	83	74
5.6	847	798	738	7.7	145	136	126	81	565	532	492	9.4	97	91	84	74
5.8	797	751	694	7.9	146	138	127	82	532	500	463	9.7	98	92	85	75
6.0	752	708	655	8.2	148	139	129	82	501	472	436	10.0	98	93	86	75
6.2	710	669	618	8.4	149	140	130	82	474	446	412	10.3	99	93	86	75
6.4	672	633	585	8.6	150	141	131	82	448	422	390	10.6	100	94	87	75
6.6	638	600	555	8.9	151	143	132	82	425	400	370	10.9	101	95	88	75
6.8	605	570	527	9.1	153	144	133	82	404	380	351	11.2	102	96	89	75
7.0	576	542	501	9.3	154	145	134	83	384	361	334	11.4	103	97	89	75
7.2	548	516	478	9.6	155	146	135	83	366	344	318	11.7	103	97	90	76
7.4	523	492	455	9.8	156	147	136	83	349	328	304	12.0	104	98	91	76
7.6	500	470	435	10.0	157	148	137	83	333	314	290	12.3	105	99	91	76
7.8	478	450	416	10.3	158	149	138	83	318	300	277	12.6	106	99	92	76
8.0	457	430	398	10.5	160	150	139	83	305	287	265	12.8	106	100	93	76
8.2	438	412	381	10.7	161	151	140	83	292	275	254	13.1	107	101	93	76
8.4	420	396	366	10.9	162	152	141	83	280	264	244	13.4	108	101	94	76
8.6	403	380	351	11.2	163	153	142	84	269	253	234	13.7	108	102	94	76
8.8	388	365	337	11.4	164	154	143	84	258	243	225	14.0	109	103	95	77
9.0	373	351	325	11.6	165	155	143	84	249	234	216	14.2	110	103	96	77
9.2	359	338	312	11.8	166	156	144	84	239	225	208	14.5	110	104	96	77
9.4	346	326	301	12.1	167	157	145	84	231	217	201	14.8	111	105	97	77
9.6	333	314	290	12.3	168	158	146	84	222	209	194	15.0	112	105	97	77
9.8	322	303	280	12.5	169	159	147	84	215	202	187	15.3	112	106	98	77
10.0	311	293	271	12.7	169	160	148	84	207	195	180	15.6	113	106	98	77

10.5 | 286 | 269 | 249 | 13.3 | 172 | 162 | 149 | 84 | 190 | 179 | 166 | 16.3 | 114 | 108 | 100 | 77

**Table 17:** Stocking levels for subalpine fir in the ABLA2/MEFE plant association (full stocking = 416).

QMD	UPPER MANAGEMENT ZONE (SDI = 312)								LOWER MANAGEMENT ZONE (SDI = 208)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
11.0	263	248	229	13.8	174	164	151	85	176	165	153	16.9	116	109	101	78
11.5	244	230	212	14.4	176	166	153	85	163	153	142	17.6	117	110	102	78
12.0	227	213	197	14.9	178	168	155	85	151	142	132	18.2	119	112	103	78
12.5	211	199	184	15.4	180	169	157	85	141	133	123	18.9	120	113	104	78
13.0	197	186	172	16.0	182	171	158	85	132	124	115	19.6	121	114	106	78
13.5	185	174	161	16.5	184	173	160	86	123	116	107	20.2	123	115	107	79
14.0	174	163	151	17.0	186	175	162	86	116	109	101	20.8	124	116	108	79
14.5	163	154	142	17.5	187	176	163	86	109	103	95	21.5	125	118	109	79
15.0	154	145	134	18.1	189	178	165	86	103	97	89	22.1	126	119	110	79
15.5	146	137	127	18.6	191	180	166	86	97	91	84	22.8	127	120	111	79
16.0	138	130	120	19.1	192	181	167	86	92	86	80	23.4	128	121	112	79
16.5	131	123	114	19.6	194	183	169	87	87	82	76	24.0	129	122	113	80
17.0	124	117	108	20.1	196	184	170	87	83	78	72	24.7	130	123	114	80
17.5	118	111	103	20.6	197	186	172	87	79	74	68	25.3	131	124	114	80
18.0	112	106	98	21.2	199	187	173	87	75	71	65	25.9	132	125	115	80
18.5	107	101	93	21.7	200	188	174	87	71	67	62	26.5	133	126	116	80
19.0	102	96	89	22.2	202	190	175	87	68	64	59	27.2	134	126	117	80
19.5	98	92	85	22.7	203	191	177	87	65	61	57	27.8	135	127	118	80
20.0	94	88	82	23.2	204	192	178	87	62	59	54	28.4	136	128	119	80
20.5	90	84	78	23.7	206	194	179	88	60	56	52	29.0	137	129	119	81
21.0	86	81	75	24.2	207	195	180	88	57	54	50	29.6	138	130	120	81
21.5	83	78	72	24.7	208	196	181	88	55	52	48	30.2	139	131	121	81
22.0	79	75	69	25.2	210	197	183	88	53	50	46	30.8	140	132	122	81
22.5	76	72	67	25.7	211	199	184	88	51	48	44	31.4	141	132	122	81
23.0	74	69	64	26.2	212	200	185	88	49	46	43	32.0	141	133	123	81
23.5	71	67	62	26.6	213	201	186	88	47	44	41	32.6	142	134	124	81
24.0	68	64	59	27.1	215	202	187	88	46	43	40	33.2	143	135	125	81
24.5	66	62	57	27.6	216	203	188	88	44	41	38	33.8	144	135	125	81
25.0	64	60	55	28.1	217	204	189	89	42	40	37	34.4	145	136	126	81
25.5	62	58	54	28.6	218	205	190	89	41	39	36	35.0	145	137	127	82
26.0	59	56	52	29.1	219	207	191	89	40	37	35	35.6	146	138	127	82
26.5	58	54	50	29.6	220	208	192	89	38	36	33	36.2	147	138	128	82
27.0	56	52	49	30.0	222	209	193	89	37	35	32	36.8	148	139	129	82
27.5	54	51	47	30.5	223	210	194	89	36	34	31	37.4	148	140	129	82
28.0	52	49	46	31.0	224	211	195	89	35	33	30	38.0	149	140	130	82
28.5	51	48	44	31.5	225	212	196	89	34	32	29	38.6	150	141	131	82
29.0	49	46	43	32.0	226	213	197	89	33	31	29	39.1	151	142	131	82
30.0	46	44	40	32.9	228	215	198	89	31	29	27	40.3	152	143	132	82

**Column headings are:**

- QMD Quadratic mean diameter (the diameter of the tree of average basal area).
- EA Even aged, showing the trees/acre, or basal area/acre, associated with an even-aged stand structure.
- IS Irregular structure; even-aged SDIs were reduced by 6% for an irregular stand structure (from Long 1995).
- UA Uneven aged; even-aged SDIs were reduced by 13% for an uneven-aged stand structure (from Long 1995).
- ES Equilateral spacing, in feet, that the trees per acre associated with an even-aged stand structure (EA columns) would have when spaced equilaterally apart; also referred to as triangular spacing.
- CC Canopy cover; based on the “CE” equation from Dealy (1985) and the basal area per acre for an irregular structure (IS columns).

**Table 18:** Stocking levels for western larch in the ABLA2/VAME plant association  
(full stocking = 382).

QMD	UPPER MANAGEMENT ZONE (SDI = 287)								LOWER MANAGEMENT ZONE (SDI = 191)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
1.0	15392	14491	13400	1.8	84	79	73	60	10261	9661	8933	2.2	56	53	49	53
1.2	11228	10571	9775	2.1	88	83	77	61	7485	7047	6517	2.6	59	55	51	54
1.4	8600	8097	7487	2.4	92	87	80	62	5733	5398	4991	3.0	61	58	53	55
1.6	6826	6427	5943	2.7	95	90	83	63	4551	4284	3962	3.3	64	60	55	55
1.8	5568	5242	4847	3.0	98	93	86	63	3712	3495	3231	3.7	66	62	57	56
2.0	4640	4368	4039	3.3	101	95	88	64	3093	2912	2693	4.0	67	64	59	56
2.2	3935	3704	3425	3.6	104	98	90	64	2623	2470	2284	4.4	69	65	60	57
2.4	3385	3187	2947	3.9	106	100	93	65	2256	2124	1964	4.7	71	67	62	57
2.6	2947	2775	2566	4.1	109	102	95	65	1965	1850	1710	5.1	72	68	63	58
2.8	2592	2441	2257	4.4	111	104	97	65	1728	1627	1505	5.4	74	70	64	58
3.0	2301	2166	2003	4.7	113	106	98	66	1534	1444	1335	5.7	75	71	66	58
3.2	2058	1937	1791	4.9	115	108	100	66	1372	1292	1194	6.1	77	72	67	59
3.4	1853	1744	1613	5.2	117	110	102	66	1235	1163	1075	6.4	78	73	68	59
3.6	1678	1580	1461	5.5	119	112	103	67	1119	1053	974	6.7	79	74	69	59
3.8	1528	1439	1331	5.7	120	113	105	67	1019	959	887	7.0	80	76	70	60
4.0	1399	1317	1218	6.0	122	115	106	67	932	878	812	7.3	81	77	71	60
4.2	1285	1210	1119	6.3	124	116	108	67	857	807	746	7.7	82	78	72	60
4.4	1186	1117	1033	6.5	125	118	109	68	791	744	688	8.0	83	79	73	60
4.6	1098	1034	956	6.8	127	119	110	68	732	689	637	8.3	85	80	74	60
4.8	1020	961	888	7.0	128	121	112	68	680	640	592	8.6	85	80	74	61
5.0	951	895	828	7.3	130	122	113	68	634	597	552	8.9	86	81	75	61
5.2	888	836	773	7.5	131	123	114	68	592	558	516	9.2	87	82	76	61
5.4	832	784	725	7.8	132	125	115	69	555	522	483	9.5	88	83	77	61
5.6	781	736	680	8.0	134	126	116	69	521	491	454	9.8	89	84	78	61
5.8	735	692	640	8.3	135	127	117	69	490	462	427	10.1	90	85	78	62
6.0	694	653	604	8.5	136	128	119	69	462	435	403	10.4	91	85	79	62
6.2	655	617	571	8.8	137	129	120	69	437	411	380	10.7	92	86	80	62
6.4	620	584	540	9.0	139	130	121	69	414	389	360	11.0	92	87	80	62
6.6	588	554	512	9.2	140	132	122	70	392	369	341	11.3	93	88	81	62
6.8	559	526	486	9.5	141	133	123	70	372	351	324	11.6	94	88	82	62
7.0	531	500	462	9.7	142	134	124	70	354	333	308	11.9	95	89	82	63
7.2	506	476	440	10.0	143	135	125	70	337	318	294	12.2	95	90	83	63
7.4	483	454	420	10.2	144	136	125	70	322	303	280	12.5	96	90	84	63
7.6	461	434	401	10.4	145	137	126	70	307	289	267	12.8	97	91	84	63
7.8	441	415	384	10.7	146	138	127	70	294	276	256	13.1	97	92	85	63
8.0	422	397	367	10.9	147	139	128	70	281	265	245	13.4	98	92	85	63
8.2	404	380	352	11.2	148	139	129	71	269	254	234	13.7	99	93	86	63
8.4	388	365	337	11.4	149	140	130	71	258	243	225	14.0	99	94	87	63
8.6	372	350	324	11.6	150	141	131	71	248	234	216	14.2	100	94	87	64
8.8	358	337	311	11.9	151	142	131	71	238	224	208	14.5	101	95	88	64
9.0	344	324	299	12.1	152	143	132	71	229	216	200	14.8	101	95	88	64
9.2	331	312	288	12.3	153	144	133	71	221	208	192	15.1	102	96	89	64
9.4	319	300	278	12.6	154	145	134	71	213	200	185	15.4	102	96	89	64
9.6	308	290	268	12.8	155	146	135	71	205	193	179	15.7	103	97	90	64
9.8	297	279	258	13.0	155	146	135	71	198	186	172	15.9	104	98	90	64
10.0	287	270	250	13.2	156	147	136	72	191	180	166	16.2	104	98	91	64

10.5 | 263 | 248 | 229 | 13.8 | 158 | 149 | 138 | 72 | 176 | 165 | 153 | 16.9 | 106 | 99 | 92 | 64

**Table 18:** Stocking levels for western larch in the ABLA2/VAME plant association  
(full stocking = 382).

QMD	UPPER MANAGEMENT ZONE (SDI = 287)								LOWER MANAGEMENT ZONE (SDI = 191)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
11.0	243	229	212	14.4	160	151	140	72	162	153	141	17.6	107	101	93	65
11.5	225	212	196	15.0	162	153	141	72	150	141	131	18.3	108	102	94	65
12.0	209	197	182	15.5	164	155	143	72	139	131	121	19.0	109	103	95	65
12.5	195	183	170	16.1	166	156	145	73	130	122	113	19.7	111	104	96	65
13.0	182	171	158	16.6	168	158	146	73	121	114	106	20.4	112	105	97	66
13.5	171	161	148	17.2	170	160	148	73	114	107	99	21.0	113	106	98	66
14.0	160	151	139	17.7	171	161	149	73	107	101	93	21.7	114	107	99	66
14.5	151	142	131	18.3	173	163	150	73	100	95	87	22.4	115	108	100	66
15.0	142	134	124	18.8	174	164	152	74	95	89	82	23.0	116	109	101	66
15.5	134	126	117	19.4	176	166	153	74	90	84	78	23.7	117	110	102	66
16.0	127	120	111	19.9	177	167	155	74	85	80	74	24.4	118	111	103	67
16.5	121	113	105	20.4	179	168	156	74	80	76	70	25.0	119	112	104	67
17.0	114	108	100	21.0	180	170	157	74	76	72	66	25.7	120	113	105	67
17.5	109	102	95	21.5	182	171	158	74	73	68	63	26.3	121	114	106	67
18.0	104	98	90	22.0	183	172	159	74	69	65	60	27.0	122	115	106	67
18.5	99	93	86	22.6	185	174	161	75	66	62	57	27.6	123	116	107	67
19.0	94	89	82	23.1	186	175	162	75	63	59	55	28.3	124	117	108	67
19.5	90	85	79	23.6	187	176	163	75	60	57	52	28.9	125	118	109	67
20.0	86	81	75	24.1	188	177	164	75	58	54	50	29.6	126	118	109	68
20.5	83	78	72	24.6	190	179	165	75	55	52	48	30.2	127	119	110	68
21.0	79	75	69	25.2	191	180	166	75	53	50	46	30.8	127	120	111	68
21.5	76	72	66	25.7	192	181	167	75	51	48	44	31.5	128	121	112	68
22.0	73	69	64	26.2	193	182	168	75	49	46	43	32.1	129	121	112	68
22.5	70	66	61	26.7	195	183	169	75	47	44	41	32.7	130	122	113	68
23.0	68	64	59	27.2	196	184	170	76	45	43	39	33.3	130	123	114	68
23.5	65	62	57	27.7	197	185	171	76	44	41	38	34.0	131	124	114	68
24.0	63	59	55	28.3	198	186	172	76	42	40	37	34.6	132	124	115	68
24.5	61	57	53	28.8	199	187	173	76	41	38	35	35.2	133	125	116	69
25.0	59	55	51	29.3	200	188	174	76	39	37	34	35.8	133	126	116	69
25.5	57	53	49	29.8	201	189	175	76	38	36	33	36.5	134	126	117	69
26.0	55	52	48	30.3	202	190	176	76	37	34	32	37.1	135	127	117	69
26.5	53	50	46	30.8	203	191	177	76	35	33	31	37.7	136	128	118	69
27.0	51	48	45	31.3	204	192	178	76	34	32	30	38.3	136	128	119	69
27.5	50	47	43	31.8	205	193	179	76	33	31	29	38.9	137	129	119	69
28.0	48	45	42	32.3	206	194	180	77	32	30	28	39.5	138	130	120	69
28.5	47	44	41	32.8	207	195	181	77	31	29	27	40.1	138	130	120	69
29.0	45	43	40	33.3	208	196	181	77	30	29	26	40.8	139	131	121	69
30.0	43	40	37	34.3	210	198	183	77	29	27	25	42.0	140	132	122	70

**Column headings are:**

- QMD Quadratic mean diameter (the diameter of the tree of average basal area).
- EA Even aged, showing the trees/acre, or basal area/acre, associated with an even-aged stand structure.
- IS Irregular structure; even-aged SDIs were reduced by 6% for an irregular stand structure (from Long 1995).
- UA Uneven aged; even-aged SDIs were reduced by 13% for an uneven-aged stand structure (from Long 1995).
- ES Equilateral spacing, in feet, that the trees per acre associated with an even-aged stand structure (EA columns) would have when spaced equilaterally apart; also referred to as triangular spacing.
- CC Canopy cover; based on the "CL" equation from Dealy (1985) and the basal area per acre for an even-aged structure (EA columns).



**Table 19:** Stocking levels for lodgepole pine in the ABLA2/VAME plant association  
(full stocking = 255).

QMD	UPPER MANAGEMENT ZONE (SDI = 170)								LOWER MANAGEMENT ZONE (SDI = 114)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	ES	SS	EA	IS	UC	MC	EA	IS	ES	SS	EA	IS	UC	MC
1.0	9337	8791	2.3	2.2	51	48	51	78	6256	5890	2.8	2.6	34	32	44	59
1.2	6799	6401	2.7	2.5	53	50	52	78	4555	4289	3.3	3.1	36	34	45	59
1.4	5199	4895	3.1	2.9	56	52	53	78	3484	3280	3.8	3.5	37	35	46	59
1.6	4121	3880	3.5	3.3	58	54	54	78	2761	2600	4.3	4.0	39	36	46	59
1.8	3358	3161	3.9	3.6	59	56	54	78	2250	2118	4.7	4.4	40	37	47	59
2.0	2795	2632	4.2	3.9	61	57	55	78	1873	1763	5.2	4.8	41	38	48	59
2.2	2368	2230	4.6	4.3	63	59	55	78	1587	1494	5.6	5.2	42	39	48	59
2.4	2035	1916	5.0	4.6	64	60	55	78	1364	1284	6.1	5.7	43	40	48	59
2.6	1771	1667	5.3	5.0	65	61	56	78	1186	1117	6.5	6.1	44	41	49	59
2.8	1557	1465	5.7	5.3	67	63	56	78	1043	982	6.9	6.5	45	42	49	59
3.0	1380	1300	6.0	5.6	68	64	57	78	925	871	7.4	6.9	45	43	49	59
3.2	1234	1162	6.4	5.9	69	65	57	78	827	778	7.8	7.3	46	43	50	59
3.4	1110	1045	6.7	6.3	70	66	57	78	744	700	8.2	7.7	47	44	50	59
3.6	1005	946	7.1	6.6	71	67	57	78	673	634	8.6	8.0	48	45	50	59
3.8	915	861	7.4	6.9	72	68	58	78	613	577	9.1	8.4	48	45	50	59
4.0	837	788	7.8	7.2	73	69	58	78	561	528	9.5	8.8	49	46	51	59
4.2	769	724	8.1	7.5	74	70	58	78	515	485	9.9	9.2	50	47	51	59
4.4	709	667	8.4	7.8	75	70	58	78	475	447	10.3	9.6	50	47	51	59
4.6	656	618	8.8	8.1	76	71	59	78	440	414	10.7	10.0	51	48	51	59
4.8	609	574	9.1	8.5	77	72	59	78	408	384	11.1	10.3	51	48	52	59
5.0	568	534	9.4	8.8	77	73	59	78	380	358	11.5	10.7	52	49	52	59
5.2	530	499	9.7	9.1	78	74	59	78	355	334	11.9	11.1	52	49	52	59
5.4	496	467	10.1	9.4	79	74	59	78	333	313	12.3	11.4	53	50	52	59
5.6	466	439	10.4	9.7	80	75	59	78	312	294	12.7	11.8	53	50	52	59
5.8	438	413	10.7	10.0	80	76	60	78	294	277	13.1	12.2	54	51	52	59
6.0	413	389	11.0	10.3	81	76	60	78	277	261	13.5	12.5	54	51	53	59
6.2	390	368	11.4	10.6	82	77	60	78	262	246	13.9	12.9	55	52	53	59
6.4	369	348	11.7	10.9	83	78	60	78	247	233	14.3	13.3	55	52	53	59
6.6	350	330	12.0	11.2	83	78	60	78	235	221	14.6	13.6	56	52	53	59
6.8	332	313	12.3	11.4	84	79	60	78	223	210	15.0	14.0	56	53	53	59
7.0	316	298	12.6	11.7	84	80	60	78	212	199	15.4	14.3	57	53	53	59
7.2	301	283	12.9	12.0	85	80	61	78	202	190	15.8	14.7	57	54	53	59
7.4	287	270	13.2	12.3	86	81	61	78	192	181	16.2	15.1	57	54	54	59
7.6	274	258	13.6	12.6	86	81	61	78	184	173	16.6	15.4	58	54	54	59
7.8	262	246	13.9	12.9	87	82	61	78	175	165	16.9	15.8	58	55	54	59
8.0	251	236	14.2	13.2	87	82	61	78	168	158	17.3	16.1	59	55	54	59
8.2	240	226	14.5	13.5	88	83	61	78	161	151	17.7	16.5	59	56	54	59
8.4	230	217	14.8	13.8	89	83	61	78	154	145	18.1	16.8	59	56	54	59
8.6	221	208	15.1	14.0	89	84	61	78	148	139	18.4	17.2	60	56	54	59
8.8	212	200	15.4	14.3	90	84	62	78	142	134	18.8	17.5	60	57	54	59
9.0	204	192	15.7	14.6	90	85	62	78	137	129	19.2	17.8	60	57	54	59
9.2	196	185	16.0	14.9	91	85	62	78	132	124	19.5	18.2	61	57	55	59
9.4	189	178	16.3	15.2	91	86	62	78	127	119	19.9	18.5	61	58	55	59
9.6	182	172	16.6	15.5	92	86	62	78	122	115	20.3	18.9	61	58	55	59
9.8	176	166	16.9	15.7	92	87	62	78	118	111	20.7	19.2	62	58	55	59
10.0	170	160	17.2	16.0	93	87	62	78	114	107	21.0	19.6	62	58	55	59
10.5	156	147	18.0	16.7	94	88	62	78	105	98	21.9	20.4	63	59	55	59
11.0	144	136	18.7	17.4	95	89	63	78	96	91	22.8	21.3	64	60	55	59

**Table 19:** Stocking levels for lodgepole pine in the ABLA2/VAME plant association  
(full stocking = 255).

QMD	UPPER MANAGEMENT ZONE (SDI = 170)								LOWER MANAGEMENT ZONE (SDI = 114)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	ES	SS	EA	IS	UC	MC	EA	IS	ES	SS	EA	IS	UC	MC
11.5	133	125	19.4	18.1	96	90	63	78	89	84	23.7	22.1	64	61	56	59
12.0	124	116	20.2	18.8	97	91	63	78	83	78	24.6	22.9	65	61	56	59
12.5	115	108	20.9	19.4	98	92	63	78	77	73	25.5	23.8	66	62	56	59
13.0	108	101	21.6	20.1	99	93	63	78	72	68	26.4	24.6	66	63	56	59
13.5	101	95	22.3	20.8	100	94	64	78	68	64	27.3	25.4	67	63	56	59
14.0	95	89	23.1	21.5	101	95	64	78	63	60	28.2	26.2	68	64	57	59
14.5	89	84	23.8	22.1	102	96	64	78	60	56	29.0	27.0	68	64	57	59
15.0	84	79	24.5	22.8	103	97	64	78	56	53	29.9	27.8	69	65	57	59
15.5	79	75	25.2	23.4	104	98	64	78	53	50	30.8	28.6	70	66	57	59
16.0	75	71	25.9	24.1	105	99	64	78	50	47	31.6	29.4	70	66	57	59
16.5	71	67	26.6	24.8	106	99	64	78	48	45	32.5	30.2	71	67	57	59
17.0	67	64	27.3	25.4	106	100	65	78	45	43	33.4	31.0	71	67	57	59
17.5	64	60	28.0	26.1	107	101	65	78	43	40	34.2	31.8	72	68	58	59
18.0	61	58	28.7	26.7	108	102	65	78	41	39	35.1	32.6	72	68	58	59
18.5	58	55	29.4	27.3	109	102	65	78	39	37	35.9	33.4	73	69	58	59
19.0	56	52	30.1	28.0	110	103	65	78	37	35	36.7	34.2	73	69	58	59
19.5	53	50	30.8	28.6	110	104	65	78	36	34	37.6	35.0	74	70	58	59
20.0	51	48	31.4	29.3	111	104	65	78	34	32	38.4	35.8	74	70	58	59
20.5	49	46	32.1	29.9	112	105	65	78	33	31	39.3	36.5	75	70	58	59
21.0	47	44	32.8	30.5	112	106	66	78	31	29	40.1	37.3	75	71	58	59
21.5	45	42	33.5	31.2	113	106	66	78	30	28	40.9	38.1	76	71	59	59
22.0	43	41	34.2	31.8	114	107	66	78	29	27	41.7	38.8	76	72	59	59
22.5	41	39	34.8	32.4	114	108	66	78	28	26	42.6	39.6	77	72	59	59
23.0	40	38	35.5	33.0	115	108	66	78	27	25	43.4	40.4	77	73	59	59
23.5	38	36	36.2	33.7	116	109	66	78	26	24	44.2	41.1	78	73	59	59
24.0	37	35	36.9	34.3	116	110	66	78	25	23	45.0	41.9	78	73	59	59
24.5	36	34	37.5	34.9	117	110	66	78	24	23	45.8	42.7	78	74	59	59
25.0	34	32	38.2	35.5	118	111	66	78	23	22	46.6	43.4	79	74	59	59
25.5	33	31	38.8	36.2	118	111	66	78	22	21	47.5	44.2	79	75	59	59
26.0	32	30	39.5	36.8	119	112	67	78	22	20	48.3	44.9	80	75	59	59
26.5	31	29	40.2	37.4	119	112	67	78	21	20	49.1	45.7	80	75	59	59
27.0	30	28	40.8	38.0	120	113	67	78	20	19	49.9	46.4	80	76	60	59
27.5	29	28	41.5	38.6	121	113	67	78	20	18	50.7	47.2	81	76	60	59
28.0	28	27	42.1	39.2	121	114	67	78	19	18	51.5	47.9	81	76	60	59
28.5	27	26	42.8	39.8	122	115	67	78	18	17	52.3	48.7	82	77	60	59
29.0	27	25	43.4	40.4	122	115	67	78	18	17	53.1	49.4	82	77	60	59
30.0	25	24	44.7	41.6	123	116	67	78	17	16	54.7	50.9	83	78	60	59

**Column headings are:**

- QMD Quadratic mean diameter (the diameter of the tree of average basal area).
- EA Even aged, showing the trees/acre, or basal area/acre, associated with an even-aged stand structure.
- IS Irregular structure; even-aged SDIs were reduced by 6% for an irregular stand structure (from Long 1995).
- ES Equilateral spacing, in feet, that the trees per acre associated with an even-aged stand structure (EA columns) would have when spaced equilaterally apart; also referred to as triangular spacing.
- SS Square spacing; distance between trees (feet) when spaced on a square grid pattern, rather than equilaterally.
- UC Unmanaged canopy cover; based on the “CL” equation from Dealy (1985) and the basal area/acre for an even-aged structure (EA columns). Pertains to unthinned stands, or those thinned after a mean height of 9 feet.
- MC Managed canopy cover; based on Cochran and Dahms (1998). Pertains to stands thinned early in life (< 9’).

**Table 20:** Stocking levels for Engelmann spruce in the ABLA2/VAME plant association  
(full stocking = 382).

QMD	UPPER MANAGEMENT ZONE (SDI = 287)								LOWER MANAGEMENT ZONE (SDI = 191)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
1.0	15323	14427	13341	1.8	84	79	73	72	10216	9618	8894	2.2	56	52	49	65
1.2	11178	10524	9732	2.1	88	83	76	73	7452	7016	6488	2.6	59	55	51	66
1.4	8562	8061	7454	2.4	92	86	80	73	5708	5374	4969	3.0	61	57	53	66
1.6	6796	6398	5916	2.7	95	89	83	74	4530	4265	3944	3.3	63	60	55	67
1.8	5543	5219	4826	3.0	98	92	85	75	3695	3479	3217	3.7	65	61	57	68
2.0	4619	4349	4022	3.3	101	95	88	75	3080	2899	2681	4.0	67	63	58	68
2.2	3917	3688	3410	3.6	103	97	90	76	2611	2459	2273	4.4	69	65	60	69
2.4	3370	3173	2934	3.9	106	100	92	76	2246	2115	1956	4.7	71	66	61	69
2.6	2934	2762	2554	4.1	108	102	94	76	1956	1842	1703	5.1	72	68	63	69
2.8	2581	2430	2247	4.4	110	104	96	77	1721	1620	1498	5.4	74	69	64	70
3.0	2291	2157	1994	4.7	112	106	98	77	1527	1438	1329	5.7	75	71	65	70
3.2	2049	1929	1783	5.0	114	108	100	77	1366	1286	1189	6.1	76	72	66	70
3.4	1845	1737	1606	5.2	116	109	101	78	1230	1158	1071	6.4	78	73	68	71
3.6	1671	1573	1455	5.5	118	111	103	78	1114	1049	970	6.7	79	74	69	71
3.8	1522	1433	1325	5.7	120	113	104	78	1014	955	883	7.0	80	75	70	71
4.0	1392	1311	1212	6.0	122	114	106	78	928	874	808	7.4	81	76	71	71
4.2	1280	1205	1114	6.3	123	116	107	79	853	803	743	7.7	82	77	71	72
4.4	1181	1112	1028	6.5	125	117	109	79	787	741	685	8.0	83	78	72	72
4.6	1093	1029	952	6.8	126	119	110	79	729	686	635	8.3	84	79	73	72
4.8	1016	956	884	7.0	128	120	111	79	677	638	590	8.6	85	80	74	72
5.0	947	891	824	7.3	129	122	112	79	631	594	549	8.9	86	81	75	72
5.2	884	833	770	7.5	130	123	114	80	590	555	513	9.2	87	82	76	73
5.4	829	780	721	7.8	132	124	115	80	552	520	481	9.5	88	83	76	73
5.6	778	733	677	8.0	133	125	116	80	519	488	452	9.8	89	84	77	73
5.8	732	689	637	8.3	134	126	117	80	488	460	425	10.2	90	84	78	73
6.0	690	650	601	8.5	136	128	118	80	460	433	401	10.5	90	85	79	73
6.2	652	614	568	8.8	137	129	119	80	435	409	379	10.8	91	86	79	73
6.4	618	581	538	9.0	138	130	120	81	412	388	358	11.1	92	87	80	74
6.6	586	551	510	9.3	139	131	121	81	390	368	340	11.4	93	87	81	74
6.8	556	524	484	9.5	140	132	122	81	371	349	323	11.6	93	88	81	74
7.0	529	498	460	9.8	141	133	123	81	353	332	307	11.9	94	89	82	74
7.2	504	474	439	10.0	142	134	124	81	336	316	292	12.2	95	89	83	74
7.4	480	452	418	10.2	143	135	125	81	320	302	279	12.5	96	90	83	74
7.6	459	432	399	10.5	145	136	126	81	306	288	266	12.8	96	91	84	74
7.8	439	413	382	10.7	146	137	127	82	292	275	255	13.1	97	91	84	75
8.0	420	395	365	10.9	147	138	128	82	280	263	244	13.4	98	92	85	75
8.2	402	379	350	11.2	148	139	128	82	268	252	233	13.7	98	93	86	75
8.4	386	363	336	11.4	148	140	129	82	257	242	224	14.0	99	93	86	75
8.6	370	349	322	11.7	149	141	130	82	247	232	215	14.3	100	94	87	75
8.8	356	335	310	11.9	150	142	131	82	237	223	207	14.6	100	94	87	75
9.0	342	322	298	12.1	151	142	132	82	228	215	199	14.8	101	95	88	75
9.2	330	310	287	12.4	152	143	132	82	220	207	191	15.1	101	96	88	75
9.4	318	299	276	12.6	153	144	133	82	212	199	184	15.4	102	96	89	75
9.6	306	288	267	12.8	154	145	134	83	204	192	178	15.7	103	97	89	75
9.8	295	278	257	13.0	155	146	135	83	197	185	171	16.0	103	97	90	76
10.0	285	269	248	13.3	156	147	135	83	190	179	166	16.3	104	98	90	76

10.5	262	247	228	13.8	158	148	137	83	175	165	152	17.0	105	99	92	76
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**Table 20:** Stocking levels for Engelmann spruce in the ABLA2/VAME plant association  
(full stocking = 382).

QMD	UPPER MANAGEMENT ZONE (SDI = 287)								LOWER MANAGEMENT ZONE (SDI = 191)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
11.0	242	228	211	14.4	160	150	139	83	161	152	140	17.7	106	100	93	76
11.5	224	211	195	15.0	162	152	141	83	149	141	130	18.4	108	101	94	76
12.0	208	196	181	15.5	163	154	142	84	139	131	121	19.0	109	103	95	77
12.5	194	183	169	16.1	165	156	144	84	129	122	113	19.7	110	104	96	77
13.0	181	171	158	16.7	167	157	145	84	121	114	105	20.4	111	105	97	77
13.5	170	160	148	17.2	169	159	147	84	113	107	99	21.1	113	106	98	77
14.0	159	150	139	17.8	170	160	148	84	106	100	93	21.8	114	107	99	77
14.5	150	141	131	18.3	172	162	150	84	100	94	87	22.4	115	108	100	77
15.0	141	133	123	18.9	174	163	151	85	94	89	82	23.1	116	109	101	78
15.5	134	126	116	19.4	175	165	153	85	89	84	78	23.8	117	110	102	78
16.0	127	119	110	19.9	177	166	154	85	84	79	73	24.4	118	111	103	78
16.5	120	113	104	20.5	178	168	155	85	80	75	70	25.1	119	112	103	78
17.0	114	107	99	21.0	180	169	156	85	76	72	66	25.7	120	113	104	78
17.5	108	102	94	21.5	181	170	158	85	72	68	63	26.4	121	114	105	78
18.0	103	97	90	22.1	182	172	159	86	69	65	60	27.0	122	114	106	78
18.5	98	93	86	22.6	184	173	160	86	66	62	57	27.7	122	115	107	79
19.0	94	88	82	23.1	185	174	161	86	63	59	55	28.3	123	116	107	79
19.5	90	85	78	23.7	186	175	162	86	60	56	52	29.0	124	117	108	79
20.0	86	81	75	24.2	188	177	163	86	57	54	50	29.6	125	118	109	79
20.5	82	78	72	24.7	189	178	164	86	55	52	48	30.3	126	119	110	79
21.0	79	74	69	25.2	190	179	166	86	53	50	46	30.9	127	119	110	79
21.5	76	71	66	25.7	191	180	167	86	51	48	44	31.5	128	120	111	79
22.0	73	69	64	26.3	193	181	168	86	49	46	42	32.2	128	121	112	79
22.5	70	66	61	26.8	194	182	169	87	47	44	41	32.8	129	122	112	79
23.0	68	64	59	27.3	195	183	170	87	45	42	39	33.4	130	122	113	80
23.5	65	61	57	27.8	196	185	171	87	43	41	38	34.1	131	123	114	80
24.0	63	59	55	28.3	197	186	172	87	42	39	36	34.7	131	124	114	80
24.5	61	57	53	28.8	198	187	173	87	40	38	35	35.3	132	124	115	80
25.0	58	55	51	29.3	199	188	174	87	39	37	34	35.9	133	125	116	80
25.5	56	53	49	29.8	200	189	174	87	38	35	33	36.5	134	126	116	80
26.0	55	51	48	30.3	201	190	175	87	36	34	32	37.2	134	126	117	80
26.5	53	50	46	30.8	202	191	176	87	35	33	31	37.8	135	127	118	80
27.0	51	48	45	31.3	203	192	177	87	34	32	30	38.4	136	128	118	80
27.5	50	47	43	31.9	205	193	178	88	33	31	29	39.0	136	128	119	80
28.0	48	45	42	32.4	206	193	179	88	32	30	28	39.6	137	129	119	81
28.5	47	44	41	32.9	206	194	180	88	31	29	27	40.2	138	130	120	81
29.0	45	43	39	33.3	207	195	181	88	30	28	26	40.8	138	130	120	81
30.0	43	40	37	34.3	209	197	182	88	28	27	25	42.1	140	131	122	81

**Column headings are:**

QMD Quadratic mean diameter (the diameter of the tree of average basal area).

EA Even aged, showing the trees/acre, or basal area/acre, associated with an even-aged stand structure.

IS Irregular structure; even-aged SDIs were reduced by 6% for an irregular stand structure (from Long 1995).

UA Uneven aged; even-aged SDIs were reduced by 13% for an uneven-aged stand structure (from Long 1995).

ES Equilateral spacing, in feet, that the trees per acre associated with an even-aged stand structure (EA columns) would have when spaced equilaterally apart; also referred to as triangular spacing.

CC Canopy cover; based on the "CE" equation from Dealy (1985) and the basal area per acre for an irregular structure (IS columns).

**Table 21:** Stocking levels for subalpine fir in the ABLA2/VAME plant association  
(full stocking = 265).

QMD	UPPER MANAGEMENT ZONE (SDI = 199)								LOWER MANAGEMENT ZONE (SDI = 133)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
1.0	10629	10007	9254	2.2	58	55	50	66	7086	6671	6169	2.7	39	36	34	59
1.2	7754	7300	6750	2.5	61	57	53	66	5169	4867	4500	3.1	41	38	35	59
1.4	5939	5591	5170	2.9	63	60	55	67	3959	3727	3447	3.6	42	40	37	60
1.6	4714	4438	4104	3.3	66	62	57	68	3142	2959	2736	4.0	44	41	38	61
1.8	3845	3620	3347	3.6	68	64	59	68	2563	2413	2231	4.4	45	43	39	61
2.0	3204	3017	2789	4.0	70	66	61	69	2136	2011	1860	4.9	47	44	41	62
2.2	2717	2558	2365	4.3	72	68	62	69	1811	1705	1577	5.3	48	45	42	62
2.4	2337	2201	2035	4.6	73	69	64	70	1558	1467	1357	5.7	49	46	43	63
2.6	2035	1916	1772	5.0	75	71	65	70	1357	1277	1181	6.1	50	47	44	63
2.8	1790	1685	1559	5.3	77	72	67	70	1193	1124	1039	6.5	51	48	44	63
3.0	1589	1496	1383	5.6	78	73	68	71	1059	997	922	6.9	52	49	45	64
3.2	1421	1338	1237	5.9	79	75	69	71	947	892	825	7.3	53	50	46	64
3.4	1279	1205	1114	6.3	81	76	70	71	853	803	743	7.7	54	51	47	64
3.6	1159	1091	1009	6.6	82	77	71	72	773	727	673	8.1	55	51	48	65
3.8	1056	994	919	6.9	83	78	72	72	704	663	613	8.5	55	52	48	65
4.0	966	909	841	7.2	84	79	73	72	644	606	561	8.8	56	53	49	65
4.2	888	836	773	7.5	85	80	74	72	592	557	515	9.2	57	54	50	65
4.4	819	771	713	7.8	86	81	75	73	546	514	475	9.6	58	54	50	65
4.6	758	714	660	8.1	88	82	76	73	506	476	440	10.0	58	55	51	66
4.8	705	663	613	8.4	89	83	77	73	470	442	409	10.3	59	56	51	66
5.0	657	618	572	8.8	90	84	78	73	438	412	381	10.7	60	56	52	66
5.2	613	578	534	9.1	90	85	79	73	409	385	356	11.1	60	57	53	66
5.4	575	541	500	9.4	91	86	80	73	383	361	334	11.5	61	57	53	66
5.6	540	508	470	9.7	92	87	80	74	360	339	313	11.8	62	58	54	67
5.8	508	478	442	10.0	93	88	81	74	339	319	295	12.2	62	58	54	67
6.0	479	451	417	10.2	94	89	82	74	319	301	278	12.6	63	59	55	67
6.2	453	426	394	10.5	95	89	83	74	302	284	263	12.9	63	60	55	67
6.4	428	403	373	10.8	96	90	83	74	286	269	249	13.3	64	60	56	67
6.6	406	382	354	11.1	96	91	84	74	271	255	236	13.6	64	61	56	67
6.8	386	363	336	11.4	97	92	85	75	257	242	224	14.0	65	61	56	68
7.0	367	345	319	11.7	98	92	85	75	245	230	213	14.3	65	62	57	68
7.2	349	329	304	12.0	99	93	86	75	233	219	203	14.7	66	62	57	68
7.4	333	314	290	12.3	100	94	87	75	222	209	193	15.0	66	62	58	68
7.6	318	300	277	12.6	100	94	87	75	212	200	185	15.4	67	63	58	68
7.8	304	286	265	12.9	101	95	88	75	203	191	177	15.7	67	63	59	68
8.0	291	274	253	13.1	102	96	88	75	194	183	169	16.1	68	64	59	68
8.2	279	263	243	13.4	102	96	89	75	186	175	162	16.4	68	64	59	68
8.4	268	252	233	13.7	103	97	90	76	178	168	155	16.8	69	65	60	69
8.6	257	242	224	14.0	104	98	90	76	171	161	149	17.1	69	65	60	69
8.8	247	232	215	14.3	104	98	91	76	165	155	143	17.5	70	65	61	69
9.0	237	224	207	14.6	105	99	91	76	158	149	138	17.8	70	66	61	69
9.2	229	215	199	14.8	106	99	92	76	152	144	133	18.2	70	66	61	69
9.4	220	207	192	15.1	106	100	92	76	147	138	128	18.5	71	67	62	69
9.6	212	200	185	15.4	107	101	93	76	142	133	123	18.8	71	67	62	69
9.8	205	193	178	15.7	107	101	93	76	137	129	119	19.2	72	67	62	69
10.0	198	186	172	15.9	108	102	94	76	132	124	115	19.5	72	68	63	69

10.5	182	171	158	16.6	109	103	95	77	121	114	106	20.4	73	69	63	70
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**Table 21:** Stocking levels for subalpine fir in the ABLA2/VAME plant association  
(full stocking = 265).

QMD	UPPER MANAGEMENT ZONE (SDI = 199)								LOWER MANAGEMENT ZONE (SDI = 133)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
11.0	168	158	146	17.3	111	104	96	77	112	105	97	21.2	74	70	64	70
11.5	155	146	135	18.0	112	106	98	77	104	98	90	22.0	75	70	65	70
12.0	144	136	126	18.7	113	107	99	77	96	91	84	22.9	76	71	66	70
12.5	135	127	117	19.3	115	108	100	77	90	84	78	23.7	76	72	67	70
13.0	126	118	109	20.0	116	109	101	78	84	79	73	24.5	77	73	67	71
13.5	118	111	103	20.7	117	110	102	78	79	74	68	25.3	78	73	68	71
14.0	111	104	96	21.3	118	111	103	78	74	69	64	26.1	79	74	69	71
14.5	104	98	91	22.0	119	112	104	78	69	65	60	26.9	80	75	69	71
15.0	98	92	85	22.6	120	113	105	78	65	62	57	27.7	80	76	70	71
15.5	93	87	81	23.3	122	114	106	78	62	58	54	28.5	81	76	71	71
16.0	88	83	76	23.9	123	115	107	79	59	55	51	29.3	82	77	71	72
16.5	83	78	72	24.6	124	116	108	79	55	52	48	30.1	82	78	72	72
17.0	79	74	69	25.2	125	117	108	79	53	50	46	30.9	83	78	72	72
17.5	75	71	65	25.9	126	118	109	79	50	47	44	31.7	84	79	73	72
18.0	72	67	62	26.5	127	119	110	79	48	45	42	32.5	84	79	73	72
18.5	68	64	59	27.1	127	120	111	79	46	43	40	33.2	85	80	74	72
19.0	65	61	57	27.8	128	121	112	79	43	41	38	34.0	86	81	75	72
19.5	62	59	54	28.4	129	122	113	80	42	39	36	34.8	86	81	75	72
20.0	60	56	52	29.0	130	123	113	80	40	37	35	35.6	87	82	76	73
20.5	57	54	50	29.7	131	123	114	80	38	36	33	36.3	87	82	76	73
21.0	55	52	48	30.3	132	124	115	80	37	34	32	37.1	88	83	77	73
21.5	53	50	46	30.9	133	125	116	80	35	33	31	37.9	88	83	77	73
22.0	51	48	44	31.5	134	126	116	80	34	32	29	38.6	89	84	78	73
22.5	49	46	42	32.1	134	127	117	80	32	31	28	39.4	90	84	78	73
23.0	47	44	41	32.8	135	127	118	80	31	29	27	40.1	90	85	78	73
23.5	45	42	39	33.4	136	128	118	80	30	28	26	40.9	91	85	79	73
24.0	44	41	38	34.0	137	129	119	80	29	27	25	41.6	91	86	79	73
24.5	42	40	37	34.6	137	129	120	81	28	26	24	42.4	92	86	80	74
25.0	41	38	35	35.2	138	130	120	81	27	25	24	43.1	92	87	80	74
25.5	39	37	34	35.8	139	131	121	81	26	25	23	43.9	93	87	81	74
26.0	38	36	33	36.4	140	132	122	81	25	24	22	44.6	93	88	81	74
26.5	37	35	32	37.0	140	132	122	81	24	23	21	45.4	94	88	82	74
27.0	36	33	31	37.6	141	133	123	81	24	22	21	46.1	94	89	82	74
27.5	34	32	30	38.2	142	134	123	81	23	22	20	46.8	95	89	82	74
28.0	33	31	29	38.8	143	134	124	81	22	21	19	47.6	95	89	83	74
28.5	32	30	28	39.4	143	135	125	81	22	20	19	48.3	95	90	83	74
29.0	31	30	27	40.0	144	135	125	81	21	20	18	49.0	96	90	84	74
30.0	30	28	26	41.2	145	137	126	82	20	19	17	50.5	97	91	84	74

**Column headings are:**

QMD Quadratic mean diameter (the diameter of the tree of average basal area).

EA Even aged, showing the trees/acre, or basal area/acre, associated with an even-aged stand structure.

IS Irregular structure; even-aged SDIs were reduced by 6% for an irregular stand structure (from Long 1995).

UA Uneven aged; even-aged SDIs were reduced by 13% for an uneven-aged stand structure (from Long 1995).

ES Equilateral spacing, in feet, that the trees per acre associated with an even-aged stand structure (EA columns) would have when spaced equilaterally apart; also referred to as triangular spacing.

CC Canopy cover; based on the "CE" equation from Dealy (1985) and the basal area per acre for an irregular structure (IS columns).

**Table 22:** Stocking levels for Douglas-fir in the ABLA2/VASC and ABLA2/VASC/POPU plant associations (full stocking = 366).

QMD	UPPER MANAGEMENT ZONE (SDI = 275)								LOWER MANAGEMENT ZONE (SDI = 183)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
1.0	8909	8388	7756	2.4	49	46	42	61	5939	5592	5171	2.9	32	30	28	55
1.2	6765	6369	5890	2.7	53	50	46	62	4510	4246	3926	3.3	35	33	31	56
1.4	5360	5047	4667	3.1	57	54	50	64	3573	3364	3111	3.8	38	36	33	57
1.6	4381	4125	3814	3.4	61	58	53	65	2921	2750	2543	4.1	41	38	36	58
1.8	3668	3453	3193	3.7	65	61	56	66	2445	2302	2129	4.5	43	41	38	59
2.0	3128	2945	2723	4.0	68	64	59	66	2085	1963	1816	4.9	45	43	40	60
2.2	2709	2550	2358	4.3	72	67	62	67	1806	1700	1572	5.3	48	45	42	61
2.4	2375	2236	2068	4.6	75	70	65	68	1584	1491	1379	5.6	50	47	43	61
2.6	2105	1982	1832	4.9	78	73	68	69	1403	1321	1222	6.0	52	49	45	62
2.8	1882	1772	1638	5.2	80	76	70	69	1255	1181	1092	6.3	54	51	47	63
3.0	1696	1597	1476	5.4	83	78	72	70	1131	1064	984	6.7	55	52	48	63
3.2	1538	1448	1339	5.7	86	81	75	70	1026	966	893	7.0	57	54	50	64
3.4	1404	1322	1222	6.0	89	83	77	71	936	881	815	7.3	59	56	51	64
3.6	1288	1212	1121	6.2	91	86	79	71	858	808	747	7.7	61	57	53	65
3.8	1187	1117	1033	6.5	93	88	81	72	791	745	689	8.0	62	59	54	65
4.0	1098	1034	956	6.8	96	90	83	72	732	689	637	8.3	64	60	56	65
4.2	1020	961	888	7.0	98	92	85	72	680	640	592	8.6	65	62	57	66
4.4	951	895	828	7.3	100	95	87	73	634	597	552	8.9	67	63	58	66
4.6	889	837	774	7.5	103	97	89	73	593	558	516	9.2	68	64	60	67
4.8	834	785	726	7.8	105	99	91	73	556	523	484	9.5	70	66	61	67
5.0	784	738	683	8.0	107	101	93	74	523	492	455	9.8	71	67	62	67
5.2	739	696	643	8.2	109	103	95	74	493	464	429	10.1	73	68	63	67
5.4	698	657	608	8.5	111	105	97	74	465	438	405	10.4	74	70	64	68
5.6	661	622	575	8.7	113	106	98	75	441	415	384	10.7	75	71	66	68
5.8	627	590	546	9.0	115	108	100	75	418	393	364	11.0	77	72	67	68
6.0	595	561	518	9.2	117	110	102	75	397	374	346	11.3	78	73	68	69
6.2	567	534	493	9.4	119	112	103	75	378	356	329	11.5	79	75	69	69
6.4	540	509	470	9.7	121	114	105	76	360	339	313	11.8	80	76	70	69
6.6	516	485	449	9.9	122	115	107	76	344	324	299	12.1	82	77	71	69
6.8	493	464	429	10.1	124	117	108	76	329	309	286	12.4	83	78	72	70
7.0	472	444	411	10.3	126	119	110	76	315	296	274	12.6	84	79	73	70
7.2	452	426	394	10.5	128	120	111	77	301	284	262	12.9	85	80	74	70
7.4	434	408	378	10.8	130	122	113	77	289	272	252	13.2	86	81	75	70
7.6	417	392	363	11.0	131	124	114	77	278	262	242	13.5	88	82	76	70
7.8	401	377	349	11.2	133	125	116	77	267	251	233	13.7	89	83	77	71
8.0	386	363	336	11.4	135	127	117	77	257	242	224	14.0	90	84	78	71
8.2	372	350	323	11.6	136	128	119	78	248	233	216	14.3	91	86	79	71
8.4	358	337	312	11.8	138	130	120	78	239	225	208	14.5	92	87	80	71
8.6	346	326	301	12.1	139	131	121	78	230	217	201	14.8	93	88	81	71
8.8	334	314	291	12.3	141	133	123	78	223	210	194	15.0	94	89	82	72
9.0	323	304	281	12.5	143	134	124	78	215	203	187	15.3	95	90	83	72
9.2	312	294	272	12.7	144	136	125	78	208	196	181	15.5	96	90	84	72
9.4	302	285	263	12.9	146	137	127	79	202	190	175	15.8	97	91	85	72
9.6	293	276	255	13.1	147	139	128	79	195	184	170	16.1	98	92	85	72
9.8	284	267	247	13.3	149	140	129	79	189	178	165	16.3	99	93	86	72
10.0	275	259	240	13.5	150	141	131	79	184	173	160	16.6	100	94	87	73

10.5 | 256 | 241 | 223 | 14.0 | 154 | 145 | 134 | 80 | 171 | 161 | 148 | 17.2 | 103 | 97 | 89 | 73

**Table 22:** Stocking levels for Douglas-fir in the ABLA2/VASC and ABLA2/VASC/POPU plant associations (full stocking = 366).

QMD	UPPER MANAGEMENT ZONE (SDI = 275)								LOWER MANAGEMENT ZONE (SDI = 183)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
11.0	238	224	208	14.5	157	148	137	80	159	150	138	17.8	105	99	91	73
11.5	223	210	194	15.0	161	151	140	80	149	140	129	18.4	107	101	93	74
12.0	209	197	182	15.5	164	155	143	81	139	131	121	19.0	109	103	95	74
12.5	197	185	171	16.0	168	158	146	81	131	123	114	19.6	112	105	97	74
13.0	185	174	161	16.5	171	161	149	81	124	116	108	20.2	114	107	99	75
13.5	175	165	152	17.0	174	164	151	81	117	110	102	20.8	116	109	101	75
14.0	166	156	144	17.4	177	167	154	82	110	104	96	21.3	118	111	103	75
14.5	157	148	137	17.9	180	170	157	82	105	99	91	21.9	120	113	105	76
15.0	149	141	130	18.4	183	172	159	82	100	94	87	22.5	122	115	106	76
15.5	142	134	124	18.8	186	175	162	83	95	89	82	23.0	124	117	108	76
16.0	135	127	118	19.3	189	178	165	83	90	85	79	23.6	126	119	110	76
16.5	129	122	113	19.7	192	181	167	83	86	81	75	24.2	128	120	111	77
17.0	124	116	108	20.2	195	183	170	83	82	78	72	24.7	130	122	113	77
17.5	118	111	103	20.6	198	186	172	84	79	74	69	25.3	132	124	115	77
18.0	113	107	99	21.1	200	189	174	84	76	71	66	25.8	134	126	116	77
18.5	109	102	95	21.5	203	191	177	84	72	68	63	26.3	135	127	118	77
19.0	104	98	91	21.9	206	194	179	84	70	66	61	26.9	137	129	119	78
19.5	100	95	87	22.4	208	196	181	84	67	63	58	27.4	139	131	121	78
20.0	97	91	84	22.8	211	199	184	85	64	61	56	27.9	141	132	122	78
20.5	93	88	81	23.2	213	201	186	85	62	58	54	28.5	142	134	124	78
21.0	90	85	78	23.7	216	203	188	85	60	56	52	29.0	144	136	125	78
21.5	87	82	75	24.1	219	206	190	85	58	54	50	29.5	146	137	127	79
22.0	84	79	73	24.5	221	208	192	85	56	53	49	30.0	147	139	128	79
22.5	81	76	70	24.9	223	210	195	86	54	51	47	30.5	149	140	130	79
23.0	78	74	68	25.3	226	213	197	86	52	49	45	31.0	151	142	131	79
23.5	76	71	66	25.8	228	215	199	86	51	48	44	31.6	152	143	132	79
24.0	73	69	64	26.2	231	217	201	86	49	46	43	32.1	154	145	134	79
24.5	71	67	62	26.6	233	219	203	86	47	45	41	32.6	155	146	135	80
25.0	69	65	60	27.0	235	221	205	86	46	43	40	33.1	157	148	137	80
25.5	67	63	58	27.4	238	224	207	87	45	42	39	33.6	158	149	138	80
26.0	65	61	57	27.8	240	226	209	87	43	41	38	34.1	160	151	139	80
26.5	63	60	55	28.2	242	228	211	87	42	40	37	34.6	161	152	141	80
27.0	61	58	53	28.6	244	230	213	87	41	39	36	35.0	163	153	142	80
27.5	60	56	52	29.0	247	232	215	87	40	38	35	35.5	164	155	143	81
28.0	58	55	51	29.4	249	234	217	87	39	37	34	36.0	166	156	144	81
28.5	57	53	49	29.8	251	236	218	87	38	36	33	36.5	167	157	146	81
29.0	55	52	48	30.2	253	238	220	88	37	35	32	37.0	169	159	147	81
30.0	52	49	46	31.0	257	242	224	88	35	33	30	37.9	171	161	149	81

**Column headings are:**

- QMD Quadratic mean diameter (the diameter of the tree of average basal area).
- EA Even aged, showing the trees/acre, or basal area/acre, associated with an even-aged stand structure.
- IS Irregular structure; even-aged SDIs were reduced by 6% for an irregular stand structure (from Long 1995).
- UA Uneven aged. Even-aged SDIs were reduced by 13% for an uneven-aged stand structure (from Long 1995).
- ES Equilateral spacing, in feet, that the trees per acre associated with an even-aged stand structure (EA columns) would have when spaced equilaterally apart; also referred to as triangular spacing.
- CC Canopy cover; based on the “CD” equation from Dealy (1985) and the basal area per acre for an irregular structure (IS columns).



**Table 23:** Stocking levels for western larch in the ABLA2/VASC and ABLA2/VASC/POPU plant associations (full stocking = 380).

QMD	UPPER MANAGEMENT ZONE (SDI = 285)								LOWER MANAGEMENT ZONE (SDI = 190)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
1.0	15311	14415	13329	1.8	84	79	73	60	10207	9610	8886	2.2	56	52	48	53
1.2	11169	10515	9724	2.1	88	83	76	61	7446	7010	6482	2.6	58	55	51	54
1.4	8554	8054	7447	2.4	91	86	80	62	5703	5369	4965	3.0	61	57	53	55
1.6	6790	6393	5911	2.7	95	89	83	63	4527	4262	3941	3.3	63	60	55	55
1.8	5538	5214	4822	3.0	98	92	85	63	3692	3476	3214	3.7	65	61	57	56
2.0	4615	4345	4018	3.3	101	95	88	64	3077	2897	2679	4.0	67	63	58	56
2.2	3914	3685	3407	3.6	103	97	90	64	2609	2457	2272	4.4	69	65	60	57
2.4	3367	3170	2931	3.9	106	100	92	64	2245	2113	1954	4.7	71	66	61	57
2.6	2931	2760	2552	4.1	108	102	94	65	1954	1840	1701	5.1	72	68	63	58
2.8	2579	2428	2245	4.4	110	104	96	65	1719	1619	1497	5.4	74	69	64	58
3.0	2289	2155	1992	4.7	112	106	98	66	1526	1436	1328	5.7	75	71	65	58
3.2	2047	1927	1782	5.0	114	108	100	66	1365	1285	1188	6.1	76	72	66	59
3.4	1843	1735	1605	5.2	116	109	101	66	1229	1157	1070	6.4	77	73	67	59
3.6	1670	1572	1453	5.5	118	111	103	66	1113	1048	969	6.7	79	74	68	59
3.8	1520	1431	1324	5.8	120	113	104	67	1014	954	882	7.0	80	75	70	59
4.0	1391	1310	1211	6.0	121	114	106	67	928	873	808	7.4	81	76	70	60
4.2	1279	1204	1113	6.3	123	116	107	67	852	803	742	7.7	82	77	71	60
4.4	1180	1111	1027	6.5	125	117	108	67	787	741	685	8.0	83	78	72	60
4.6	1092	1029	951	6.8	126	119	110	68	728	686	634	8.3	84	79	73	60
4.8	1015	956	884	7.0	128	120	111	68	677	637	589	8.6	85	80	74	61
5.0	946	890	823	7.3	129	121	112	68	630	594	549	8.9	86	81	75	61
5.2	884	832	769	7.5	130	123	113	68	589	555	513	9.2	87	82	76	61
5.4	828	779	721	7.8	132	124	115	68	552	520	480	9.5	88	83	76	61
5.6	777	732	677	8.0	133	125	116	69	518	488	451	9.9	89	83	77	61
5.8	732	689	637	8.3	134	126	117	69	488	459	425	10.2	89	84	78	61
6.0	690	650	601	8.5	135	128	118	69	460	433	400	10.5	90	85	79	62
6.2	652	614	568	8.8	137	129	119	69	435	409	378	10.8	91	86	79	62
6.4	617	581	537	9.0	138	130	120	69	411	387	358	11.1	92	87	80	62
6.6	585	551	509	9.3	139	131	121	69	390	367	340	11.4	93	87	81	62
6.8	556	523	484	9.5	140	132	122	70	370	349	322	11.7	93	88	81	62
7.0	528	497	460	9.8	141	133	123	70	352	332	307	11.9	94	89	82	62
7.2	503	474	438	10.0	142	134	124	70	336	316	292	12.2	95	89	83	63
7.4	480	452	418	10.2	143	135	125	70	320	301	279	12.5	96	90	83	63
7.6	458	432	399	10.5	144	136	126	70	306	288	266	12.8	96	91	84	63
7.8	438	413	381	10.7	145	137	127	70	292	275	254	13.1	97	91	84	63
8.0	419	395	365	11.0	146	138	127	70	280	263	243	13.4	98	92	85	63
8.2	402	378	350	11.2	147	139	128	70	268	252	233	13.7	98	93	86	63
8.4	385	363	336	11.4	148	140	129	71	257	242	224	14.0	99	93	86	63
8.6	370	348	322	11.7	149	141	130	71	247	232	215	14.3	100	94	87	63
8.8	356	335	310	11.9	150	141	131	71	237	223	206	14.6	100	94	87	64
9.0	342	322	298	12.1	151	142	132	71	228	215	199	14.9	101	95	88	64
9.2	329	310	287	12.4	152	143	132	71	220	207	191	15.1	101	95	88	64
9.4	317	299	276	12.6	153	144	133	71	212	199	184	15.4	102	96	89	64
9.6	306	288	266	12.8	154	145	134	71	204	192	178	15.7	103	97	89	64
9.8	295	278	257	13.1	155	146	135	71	197	185	171	16.0	103	97	90	64
10.0	285	268	248	13.3	155	146	135	71	190	179	165	16.3	104	98	90	64

10.5 | 262 247 228 | 13.9 | 158 148 137 | 72 | 175 164 152 | 17.0 | 105 99 91 | 64

**Table 23:** Stocking levels for western larch in the ABLA2/VASC and ABLA2/VASC/POPU plant associations (full stocking = 380).

QMD	UPPER MANAGEMENT ZONE (SDI = 285)								LOWER MANAGEMENT ZONE (SDI = 190)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
11.0	242	228	210	14.4	160	150	139	72	161	152	140	17.7	106	100	93	65
11.5	224	211	195	15.0	161	152	141	72	149	141	130	18.4	108	101	94	65
12.0	208	196	181	15.6	163	154	142	72	139	131	121	19.0	109	103	95	65
12.5	194	182	169	16.1	165	155	144	73	129	122	112	19.7	110	104	96	65
13.0	181	170	158	16.7	167	157	145	73	121	114	105	20.4	111	105	97	65
13.5	170	160	148	17.2	169	159	147	73	113	106	98	21.1	112	106	98	66
14.0	159	150	139	17.8	170	160	148	73	106	100	92	21.8	114	107	99	66
14.5	150	141	131	18.3	172	162	150	73	100	94	87	22.4	115	108	100	66
15.0	141	133	123	18.9	173	163	151	73	94	89	82	23.1	116	109	101	66
15.5	134	126	116	19.4	175	165	152	74	89	84	78	23.8	117	110	102	66
16.0	126	119	110	19.9	177	166	154	74	84	79	73	24.4	118	111	102	66
16.5	120	113	104	20.5	178	168	155	74	80	75	70	25.1	119	112	103	67
17.0	114	107	99	21.0	179	169	156	74	76	71	66	25.7	120	113	104	67
17.5	108	102	94	21.6	181	170	157	74	72	68	63	26.4	121	114	105	67
18.0	103	97	90	22.1	182	172	159	74	69	65	60	27.0	121	114	106	67
18.5	98	93	86	22.6	184	173	160	74	66	62	57	27.7	122	115	107	67
19.0	94	88	82	23.1	185	174	161	75	63	59	55	28.3	123	116	107	67
19.5	90	85	78	23.7	186	175	162	75	60	56	52	29.0	124	117	108	67
20.0	86	81	75	24.2	187	177	163	75	57	54	50	29.6	125	118	109	68
20.5	82	78	72	24.7	189	178	164	75	55	52	48	30.3	126	118	110	68
21.0	79	74	69	25.2	190	179	165	75	53	50	46	30.9	127	119	110	68
21.5	76	71	66	25.8	191	180	166	75	51	48	44	31.5	127	120	111	68
22.0	73	69	63	26.3	192	181	167	75	49	46	42	32.2	128	121	112	68
22.5	70	66	61	26.8	194	182	169	75	47	44	41	32.8	129	121	112	68
23.0	67	64	59	27.3	195	183	170	75	45	42	39	33.4	130	122	113	68
23.5	65	61	57	27.8	196	184	171	76	43	41	38	34.1	131	123	114	68
24.0	63	59	55	28.3	197	185	171	76	42	39	36	34.7	131	124	114	68
24.5	60	57	53	28.8	198	186	172	76	40	38	35	35.3	132	124	115	68
25.0	58	55	51	29.3	199	187	173	76	39	37	34	35.9	133	125	116	69
25.5	56	53	49	29.9	200	188	174	76	38	35	33	36.6	133	126	116	69
26.0	55	51	48	30.4	201	189	175	76	36	34	32	37.2	134	126	117	69
26.5	53	50	46	30.9	202	190	176	76	35	33	31	37.8	135	127	117	69
27.0	51	48	45	31.4	203	191	177	76	34	32	30	38.4	136	128	118	69
27.5	50	47	43	31.9	204	192	178	76	33	31	29	39.0	136	128	119	69
28.0	48	45	42	32.4	205	193	179	76	32	30	28	39.6	137	129	119	69
28.5	47	44	41	32.9	206	194	180	77	31	29	27	40.3	138	129	120	69
29.0	45	43	39	33.4	207	195	180	77	30	28	26	40.9	138	130	120	69
30.0	43	40	37	34.4	209	197	182	77	28	27	25	42.1	139	131	121	69

**Column headings are:**

- QMD Quadratic mean diameter (the diameter of the tree of average basal area).
- EA Even aged, showing the trees/acre, or basal area/acre, associated with an even-aged stand structure.
- IS Irregular structure; even-aged SDIs were reduced by 6% for an irregular stand structure (from Long 1995).
- UA Uneven aged; even-aged SDIs were reduced by 13% for an uneven-aged stand structure (from Long 1995).
- ES Equilateral spacing, in feet, that the trees per acre associated with an even-aged stand structure (EA columns) would have when spaced equilaterally apart; also referred to as triangular spacing.
- CC Canopy cover; based on the "CL" equation from Dealy (1985) and the basal area per acre for an even-aged structure (EA columns).

**Table 24:** Stocking levels for lodgepole pine in the ABLA2/VASC and ABLA2/VASC/POPU plant associations (full stocking = 277).

QMD	UPPER MANAGEMENT ZONE (SDI = 170)								LOWER MANAGEMENT ZONE (SDI = 114)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	ES	SS	EA	IS	UC	MC	EA	IS	ES	SS	EA	IS	UC	MC
1.0	9337	8791	2.3	2.2	51	48	51	78	6256	5890	2.8	2.6	34	32	44	59
1.2	6799	6401	2.7	2.5	53	50	52	78	4555	4289	3.3	3.1	36	34	45	59
1.4	5199	4895	3.1	2.9	56	52	53	78	3484	3280	3.8	3.5	37	35	46	59
1.6	4121	3880	3.5	3.3	58	54	54	78	2761	2600	4.3	4.0	39	36	46	59
1.8	3358	3161	3.9	3.6	59	56	54	78	2250	2118	4.7	4.4	40	37	47	59
2.0	2795	2632	4.2	3.9	61	57	55	78	1873	1763	5.2	4.8	41	38	48	59
2.2	2368	2230	4.6	4.3	63	59	55	78	1587	1494	5.6	5.2	42	39	48	59
2.4	2035	1916	5.0	4.6	64	60	55	78	1364	1284	6.1	5.7	43	40	48	59
2.6	1771	1667	5.3	5.0	65	61	56	78	1186	1117	6.5	6.1	44	41	49	59
2.8	1557	1465	5.7	5.3	67	63	56	78	1043	982	6.9	6.5	45	42	49	59
3.0	1380	1300	6.0	5.6	68	64	57	78	925	871	7.4	6.9	45	43	49	59
3.2	1234	1162	6.4	5.9	69	65	57	78	827	778	7.8	7.3	46	43	50	59
3.4	1110	1045	6.7	6.3	70	66	57	78	744	700	8.2	7.7	47	44	50	59
3.6	1005	946	7.1	6.6	71	67	57	78	673	634	8.6	8.0	48	45	50	59
3.8	915	861	7.4	6.9	72	68	58	78	613	577	9.1	8.4	48	45	50	59
4.0	837	788	7.8	7.2	73	69	58	78	561	528	9.5	8.8	49	46	51	59
4.2	769	724	8.1	7.5	74	70	58	78	515	485	9.9	9.2	50	47	51	59
4.4	709	667	8.4	7.8	75	70	58	78	475	447	10.3	9.6	50	47	51	59
4.6	656	618	8.8	8.1	76	71	59	78	440	414	10.7	10.0	51	48	51	59
4.8	609	574	9.1	8.5	77	72	59	78	408	384	11.1	10.3	51	48	52	59
5.0	568	534	9.4	8.8	77	73	59	78	380	358	11.5	10.7	52	49	52	59
5.2	530	499	9.7	9.1	78	74	59	78	355	334	11.9	11.1	52	49	52	59
5.4	496	467	10.1	9.4	79	74	59	78	333	313	12.3	11.4	53	50	52	59
5.6	466	439	10.4	9.7	80	75	59	78	312	294	12.7	11.8	53	50	52	59
5.8	438	413	10.7	10.0	80	76	60	78	294	277	13.1	12.2	54	51	52	59
6.0	413	389	11.0	10.3	81	76	60	78	277	261	13.5	12.5	54	51	53	59
6.2	390	368	11.4	10.6	82	77	60	78	262	246	13.9	12.9	55	52	53	59
6.4	369	348	11.7	10.9	83	78	60	78	247	233	14.3	13.3	55	52	53	59
6.6	350	330	12.0	11.2	83	78	60	78	235	221	14.6	13.6	56	52	53	59
6.8	332	313	12.3	11.4	84	79	60	78	223	210	15.0	14.0	56	53	53	59
7.0	316	298	12.6	11.7	84	80	60	78	212	199	15.4	14.3	57	53	53	59
7.2	301	283	12.9	12.0	85	80	61	78	202	190	15.8	14.7	57	54	53	59
7.4	287	270	13.2	12.3	86	81	61	78	192	181	16.2	15.1	57	54	54	59
7.6	274	258	13.6	12.6	86	81	61	78	184	173	16.6	15.4	58	54	54	59
7.8	262	246	13.9	12.9	87	82	61	78	175	165	16.9	15.8	58	55	54	59
8.0	251	236	14.2	13.2	87	82	61	78	168	158	17.3	16.1	59	55	54	59
8.2	240	226	14.5	13.5	88	83	61	78	161	151	17.7	16.5	59	56	54	59
8.4	230	217	14.8	13.8	89	83	61	78	154	145	18.1	16.8	59	56	54	59
8.6	221	208	15.1	14.0	89	84	61	78	148	139	18.4	17.2	60	56	54	59
8.8	212	200	15.4	14.3	90	84	62	78	142	134	18.8	17.5	60	57	54	59
9.0	204	192	15.7	14.6	90	85	62	78	137	129	19.2	17.8	60	57	54	59
9.2	196	185	16.0	14.9	91	85	62	78	132	124	19.5	18.2	61	57	55	59
9.4	189	178	16.3	15.2	91	86	62	78	127	119	19.9	18.5	61	58	55	59
9.6	182	172	16.6	15.5	92	86	62	78	122	115	20.3	18.9	61	58	55	59
9.8	176	166	16.9	15.7	92	87	62	78	118	111	20.7	19.2	62	58	55	59
10.0	170	160	17.2	16.0	93	87	62	78	114	107	21.0	19.6	62	58	55	59
10.5	156	147	18.0	16.7	94	88	62	78	105	98	21.9	20.4	63	59	55	59
11.0	144	136	18.7	17.4	95	89	63	78	96	91	22.8	21.3	64	60	55	59

**Table 24:** Stocking levels for lodgepole pine in the ABLA2/VASC and ABLA2/VASC/POPU plant associations (full stocking = 277).

QMD	UPPER MANAGEMENT ZONE (SDI = 170)								LOWER MANAGEMENT ZONE (SDI = 114)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	ES	SS	EA	IS	UC	MC	EA	IS	ES	SS	EA	IS	UC	MC
11.5	133	125	19.4	18.1	96	90	63	78	89	84	23.7	22.1	64	61	56	59
12.0	124	116	20.2	18.8	97	91	63	78	83	78	24.6	22.9	65	61	56	59
12.5	115	108	20.9	19.4	98	92	63	78	77	73	25.5	23.8	66	62	56	59
13.0	108	101	21.6	20.1	99	93	63	78	72	68	26.4	24.6	66	63	56	59
13.5	101	95	22.3	20.8	100	94	64	78	68	64	27.3	25.4	67	63	56	59
14.0	95	89	23.1	21.5	101	95	64	78	63	60	28.2	26.2	68	64	57	59
14.5	89	84	23.8	22.1	102	96	64	78	60	56	29.0	27.0	68	64	57	59
15.0	84	79	24.5	22.8	103	97	64	78	56	53	29.9	27.8	69	65	57	59
15.5	79	75	25.2	23.4	104	98	64	78	53	50	30.8	28.6	70	66	57	59
16.0	75	71	25.9	24.1	105	99	64	78	50	47	31.6	29.4	70	66	57	59
16.5	71	67	26.6	24.8	106	99	64	78	48	45	32.5	30.2	71	67	57	59
17.0	67	64	27.3	25.4	106	100	65	78	45	43	33.4	31.0	71	67	57	59
17.5	64	60	28.0	26.1	107	101	65	78	43	40	34.2	31.8	72	68	58	59
18.0	61	58	28.7	26.7	108	102	65	78	41	39	35.1	32.6	72	68	58	59
18.5	58	55	29.4	27.3	109	102	65	78	39	37	35.9	33.4	73	69	58	59
19.0	56	52	30.1	28.0	110	103	65	78	37	35	36.7	34.2	73	69	58	59
19.5	53	50	30.8	28.6	110	104	65	78	36	34	37.6	35.0	74	70	58	59
20.0	51	48	31.4	29.3	111	104	65	78	34	32	38.4	35.8	74	70	58	59
20.5	49	46	32.1	29.9	112	105	65	78	33	31	39.3	36.5	75	70	58	59
21.0	47	44	32.8	30.5	112	106	66	78	31	29	40.1	37.3	75	71	58	59
21.5	45	42	33.5	31.2	113	106	66	78	30	28	40.9	38.1	76	71	59	59
22.0	43	41	34.2	31.8	114	107	66	78	29	27	41.7	38.8	76	72	59	59
22.5	41	39	34.8	32.4	114	108	66	78	28	26	42.6	39.6	77	72	59	59
23.0	40	38	35.5	33.0	115	108	66	78	27	25	43.4	40.4	77	73	59	59
23.5	38	36	36.2	33.7	116	109	66	78	26	24	44.2	41.1	78	73	59	59
24.0	37	35	36.9	34.3	116	110	66	78	25	23	45.0	41.9	78	73	59	59
24.5	36	34	37.5	34.9	117	110	66	78	24	23	45.8	42.7	78	74	59	59
25.0	34	32	38.2	35.5	118	111	66	78	23	22	46.6	43.4	79	74	59	59
25.5	33	31	38.8	36.2	118	111	66	78	22	21	47.5	44.2	79	75	59	59
26.0	32	30	39.5	36.8	119	112	67	78	22	20	48.3	44.9	80	75	59	59
26.5	31	29	40.2	37.4	119	112	67	78	21	20	49.1	45.7	80	75	59	59
27.0	30	28	40.8	38.0	120	113	67	78	20	19	49.9	46.4	80	76	60	59
27.5	29	28	41.5	38.6	121	113	67	78	20	18	50.7	47.2	81	76	60	59
28.0	28	27	42.1	39.2	121	114	67	78	19	18	51.5	47.9	81	76	60	59
28.5	27	26	42.8	39.8	122	115	67	78	18	17	52.3	48.7	82	77	60	59
29.0	27	25	43.4	40.4	122	115	67	78	18	17	53.1	49.4	82	77	60	59
30.0	25	24	44.7	41.6	123	116	67	78	17	16	54.7	50.9	83	78	60	59

**Column headings are:**

- QMD Quadratic mean diameter (the diameter of the tree of average basal area).
- EA Even aged, showing the trees/acre, or basal area/acre, associated with an even-aged stand structure.
- IS Irregular structure; even-aged SDIs were reduced by 6% for an irregular stand structure (from Long 1995).
- ES Equilateral spacing, in feet, that the trees per acre associated with an even-aged stand structure (EA columns) would have when spaced equilaterally apart; also referred to as triangular spacing.
- SS Square spacing; distance between trees (feet) when spaced on a square grid pattern, rather than equilaterally.
- UC Unmanaged canopy cover; based on the “CL” equation from Dealy (1985) and the basal area/acre for an even-aged structure (EA columns). Pertains to unthinned stands, or those thinned after a mean height of 9 feet.
- MC Managed canopy cover; based on Cochran and Dahms (1998). Pertains to stands thinned early in life (< 9’).

**Table 25:** Stocking levels for Engelmann spruce in the ABLA2/VASC and ABLA2/VASC/POPU plant associations (full stocking = 366).

QMD	UPPER MANAGEMENT ZONE (SDI = 275)								LOWER MANAGEMENT ZONE (SDI = 183)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
1.0	14682	13823	12782	1.9	80	75	70	71	9788	9215	8521	2.3	53	50	46	64
1.2	10710	10084	9324	2.2	84	79	73	72	7140	6722	6216	2.7	56	53	49	65
1.4	8203	7723	7142	2.5	88	83	76	73	5469	5149	4761	3.0	58	55	51	66
1.6	6511	6130	5669	2.8	91	86	79	73	4341	4087	3779	3.4	61	57	53	66
1.8	5311	5000	4624	3.1	94	88	82	74	3541	3333	3082	3.8	63	59	54	67
2.0	4426	4167	3853	3.4	97	91	84	74	2951	2778	2569	4.1	64	61	56	67
2.2	3753	3534	3267	3.7	99	93	86	75	2502	2356	2178	4.5	66	62	58	68
2.4	3229	3040	2811	3.9	101	95	88	75	2152	2026	1874	4.8	68	64	59	68
2.6	2811	2647	2447	4.2	104	98	90	76	1874	1764	1632	5.2	69	65	60	69
2.8	2473	2328	2153	4.5	106	100	92	76	1649	1552	1435	5.5	70	66	61	69
3.0	2195	2066	1911	4.8	108	101	94	76	1463	1377	1274	5.9	72	68	63	69
3.2	1963	1848	1709	5.1	110	103	95	77	1309	1232	1139	6.2	73	69	64	70
3.4	1767	1664	1539	5.3	111	105	97	77	1178	1109	1026	6.5	74	70	65	70
3.6	1601	1507	1394	5.6	113	107	99	77	1067	1005	929	6.9	75	71	66	70
3.8	1458	1373	1269	5.9	115	108	100	77	972	915	846	7.2	77	72	67	70
4.0	1334	1256	1162	6.1	116	110	101	78	889	837	774	7.5	78	73	68	71
4.2	1226	1154	1068	6.4	118	111	103	78	817	770	712	7.8	79	74	68	71
4.4	1131	1065	985	6.7	119	112	104	78	754	710	657	8.2	80	75	69	71
4.6	1048	986	912	6.9	121	114	105	78	698	658	608	8.5	81	76	70	71
4.8	973	916	847	7.2	122	115	106	79	649	611	565	8.8	82	77	71	71
5.0	907	854	790	7.4	124	116	108	79	605	569	526	9.1	82	78	72	72
5.2	847	798	738	7.7	125	118	109	79	565	532	492	9.4	83	78	73	72
5.4	794	747	691	8.0	126	119	110	79	529	498	461	9.7	84	79	73	72
5.6	745	702	649	8.2	128	120	111	79	497	468	433	10.1	85	80	74	72
5.8	702	660	611	8.5	129	121	112	79	468	440	407	10.4	86	81	75	72
6.0	662	623	576	8.7	130	122	113	80	441	415	384	10.7	87	82	75	73
6.2	625	589	544	9.0	131	123	114	80	417	392	363	11.0	87	82	76	73
6.4	592	557	515	9.2	132	124	115	80	394	371	343	11.3	88	83	77	73
6.6	561	528	488	9.5	133	125	116	80	374	352	326	11.6	89	84	77	73
6.8	533	502	464	9.7	134	127	117	80	355	334	309	11.9	90	84	78	73
7.0	507	477	441	10.0	135	127	118	80	338	318	294	12.2	90	85	79	73
7.2	483	454	420	10.2	136	128	119	80	322	303	280	12.5	91	86	79	73
7.4	460	433	401	10.5	137	129	120	81	307	289	267	12.8	92	86	80	74
7.6	440	414	383	10.7	138	130	121	81	293	276	255	13.1	92	87	80	74
7.8	420	396	366	10.9	139	131	121	81	280	264	244	13.4	93	88	81	74
8.0	402	379	350	11.2	140	132	122	81	268	252	233	13.7	94	88	81	74
8.2	385	363	336	11.4	141	133	123	81	257	242	224	14.0	94	89	82	74
8.4	370	348	322	11.7	142	134	124	81	246	232	215	14.3	95	89	83	74
8.6	355	334	309	11.9	143	135	125	81	237	223	206	14.6	95	90	83	74
8.8	341	321	297	12.1	144	136	125	81	227	214	198	14.9	96	90	84	74
9.0	328	309	286	12.4	145	136	126	81	219	206	190	15.2	97	91	84	74
9.2	316	297	275	12.6	146	137	127	82	211	198	183	15.5	97	92	85	75
9.4	304	286	265	12.9	147	138	128	82	203	191	177	15.7	98	92	85	75
9.6	293	276	255	13.1	147	139	128	82	196	184	170	16.0	98	93	86	75
9.8	283	267	246	13.3	148	140	129	82	189	178	164	16.3	99	93	86	75
10.0	273	257	238	13.6	149	140	130	82	182	172	159	16.6	99	94	87	75

10.5 | 251 | 237 | 219 | 14.1 | 151 | 142 | 132 | 82 | 168 | 158 | 146 | 17.3 | 101 | 95 | 88 | 75

**Table 25:** Stocking levels for Engelmann spruce in the ABLA2/VASC and ABLA2/VASC/POPU plant associations (full stocking = 366).

QMD	UPPER MANAGEMENT ZONE (SDI = 275)								LOWER MANAGEMENT ZONE (SDI = 183)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
11.0	232	218	202	14.7	153	144	133	82	155	146	135	18.0	102	96	89	75
11.5	215	202	187	15.3	155	146	135	83	143	135	125	18.7	103	97	90	76
12.0	199	188	174	15.9	157	147	136	83	133	125	116	19.5	104	98	91	76
12.5	186	175	162	16.5	158	149	138	83	124	117	108	20.1	106	99	92	76
13.0	174	163	151	17.0	160	151	139	83	116	109	101	20.8	107	100	93	76
13.5	163	153	142	17.6	162	152	141	83	108	102	94	21.5	108	101	94	76
14.0	153	144	133	18.1	163	154	142	84	102	96	89	22.2	109	102	95	77
14.5	144	135	125	18.7	165	155	144	84	96	90	83	22.9	110	103	96	77
15.0	136	128	118	19.3	166	157	145	84	90	85	79	23.6	111	104	97	77
15.5	128	121	112	19.8	168	158	146	84	85	80	74	24.3	112	105	97	77
16.0	121	114	106	20.4	169	159	147	84	81	76	70	24.9	113	106	98	77
16.5	115	108	100	20.9	171	161	149	84	77	72	67	25.6	114	107	99	77
17.0	109	103	95	21.5	172	162	150	84	73	69	63	26.3	115	108	100	77
17.5	104	98	90	22.0	173	163	151	85	69	65	60	27.0	116	109	101	78
18.0	99	93	86	22.6	175	165	152	85	66	62	57	27.6	117	110	101	78
18.5	94	89	82	23.1	176	166	153	85	63	59	55	28.3	117	111	102	78
19.0	90	85	78	23.6	177	167	154	85	60	57	52	28.9	118	111	103	78
19.5	86	81	75	24.2	179	168	155	85	57	54	50	29.6	119	112	104	78
20.0	82	78	72	24.7	180	169	157	85	55	52	48	30.3	120	113	104	78
20.5	79	74	69	25.2	181	170	158	85	53	50	46	30.9	121	114	105	78
21.0	76	71	66	25.8	182	172	159	85	50	48	44	31.6	121	114	106	78
21.5	73	68	63	26.3	183	173	160	86	48	46	42	32.2	122	115	106	79
22.0	70	66	61	26.8	184	174	161	86	47	44	41	32.9	123	116	107	79
22.5	67	63	59	27.4	186	175	162	86	45	42	39	33.5	124	117	108	79
23.0	65	61	56	27.9	187	176	163	86	43	41	38	34.1	124	117	108	79
23.5	62	59	54	28.4	188	177	163	86	42	39	36	34.8	125	118	109	79
24.0	60	57	52	28.9	189	178	164	86	40	38	35	35.4	126	119	110	79
24.5	58	55	51	29.4	190	179	165	86	39	36	34	36.1	127	119	110	79
25.0	56	53	49	30.0	191	180	166	86	37	35	33	36.7	127	120	111	79
25.5	54	51	47	30.5	192	181	167	86	36	34	31	37.3	128	121	111	79
26.0	52	49	46	31.0	193	182	168	87	35	33	30	38.0	129	121	112	79
26.5	51	48	44	31.5	194	183	169	87	34	32	29	38.6	129	122	113	80
27.0	49	46	43	32.0	195	184	170	87	33	31	28	39.2	130	122	113	80
27.5	48	45	41	32.5	196	184	171	87	32	30	28	39.9	131	123	114	80
28.0	46	43	40	33.1	197	185	171	87	31	29	27	40.5	131	124	114	80
28.5	45	42	39	33.6	198	186	172	87	30	28	26	41.1	132	124	115	80
29.0	43	41	38	34.1	199	187	173	87	29	27	25	41.7	133	125	115	80
30.0	41	38	36	35.1	201	189	175	87	27	26	24	43.0	134	126	116	80

**Column headings are:**

- QMD Quadratic mean diameter (the diameter of the tree of average basal area).
- EA Even aged, showing the trees/acre, or basal area/acre, associated with an even-aged stand structure.
- IS Irregular structure; even-aged SDIs were reduced by 6% for an irregular stand structure (from Long 1995).
- UA Uneven aged; even-aged SDIs were reduced by 13% for an uneven-aged stand structure (from Long 1995).
- ES Equilateral spacing, in feet, that the trees per acre associated with an even-aged stand structure (EA columns) would have when spaced equilaterally apart; also referred to as triangular spacing.
- CC Canopy cover; based on the “CE” equation from Dealy (1985) and the basal area per acre for an irregular structure (IS columns).

**Table 26:** Stocking levels for subalpine fir in the ABLA2/VASC and ABLA2/VASC/POPU plant associations (full stocking = 365).

QMD	UPPER MANAGEMENT ZONE (SDI = 274)								LOWER MANAGEMENT ZONE (SDI = 183)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
1.0	14640	13784	12746	1.9	80	75	70	71	9760	9189	8497	2.3	53	50	46	64
1.2	10680	10055	9298	2.2	84	79	73	72	7120	6703	6199	2.7	56	53	49	65
1.4	8180	7701	7121	2.5	87	82	76	73	5453	5134	4748	3.0	58	55	51	66
1.6	6493	6113	5652	2.8	91	85	79	73	4328	4075	3768	3.4	60	57	53	66
1.8	5296	4986	4610	3.1	94	88	81	74	3530	3324	3074	3.8	62	59	54	67
2.0	4413	4155	3842	3.4	96	91	84	74	2942	2770	2561	4.1	64	60	56	67
2.2	3742	3524	3258	3.7	99	93	86	75	2495	2349	2172	4.5	66	62	57	68
2.4	3219	3031	2803	4.0	101	95	88	75	2146	2021	1869	4.8	67	63	59	68
2.6	2803	2639	2440	4.2	103	97	90	76	1869	1759	1627	5.2	69	65	60	69
2.8	2466	2322	2147	4.5	105	99	92	76	1644	1548	1431	5.5	70	66	61	69
3.0	2188	2060	1905	4.8	107	101	94	76	1459	1374	1270	5.9	72	67	62	69
3.2	1957	1843	1704	5.1	109	103	95	77	1305	1228	1136	6.2	73	69	63	70
3.4	1762	1659	1534	5.3	111	105	97	77	1175	1106	1023	6.5	74	70	64	70
3.6	1596	1503	1390	5.6	113	106	98	77	1064	1002	927	6.9	75	71	65	70
3.8	1454	1369	1266	5.9	115	108	100	77	969	913	844	7.2	76	72	66	70
4.0	1330	1253	1158	6.1	116	109	101	78	887	835	772	7.5	77	73	67	71
4.2	1223	1151	1064	6.4	118	111	102	78	815	767	710	7.9	78	74	68	71
4.4	1128	1062	982	6.7	119	112	104	78	752	708	655	8.2	79	75	69	71
4.6	1045	984	909	6.9	121	114	105	78	696	656	606	8.5	80	76	70	71
4.8	971	914	845	7.2	122	115	106	78	647	609	563	8.8	81	77	71	71
5.0	904	851	787	7.5	123	116	107	79	603	568	525	9.1	82	77	72	72
5.2	845	796	736	7.7	125	117	108	79	563	530	490	9.4	83	78	72	72
5.4	792	745	689	8.0	126	119	110	79	528	497	459	9.8	84	79	73	72
5.6	743	700	647	8.2	127	120	111	79	496	467	431	10.1	85	80	74	72
5.8	700	659	609	8.5	128	121	112	79	466	439	406	10.4	86	81	74	72
6.0	660	621	574	8.7	130	122	113	80	440	414	383	10.7	86	81	75	72
6.2	623	587	543	9.0	131	123	114	80	416	391	362	11.0	87	82	76	73
6.4	590	555	514	9.2	132	124	115	80	393	370	342	11.3	88	83	77	73
6.6	559	527	487	9.5	133	125	116	80	373	351	325	11.6	89	83	77	73
6.8	531	500	463	9.7	134	126	117	80	354	333	308	11.9	89	84	78	73
7.0	505	476	440	10.0	135	127	118	80	337	317	293	12.2	90	85	78	73
7.2	481	453	419	10.2	136	128	118	80	321	302	279	12.5	91	85	79	73
7.4	459	432	400	10.5	137	129	119	81	306	288	266	12.8	91	86	80	73
7.6	438	413	382	10.7	138	130	120	81	292	275	254	13.1	92	87	80	74
7.8	419	394	365	11.0	139	131	121	81	279	263	243	13.4	93	87	81	74
8.0	401	378	349	11.2	140	132	122	81	267	252	233	13.7	93	88	81	74
8.2	384	362	335	11.4	141	133	123	81	256	241	223	14.0	94	88	82	74
8.4	369	347	321	11.7	142	134	123	81	246	231	214	14.3	95	89	82	74
8.6	354	333	308	11.9	143	134	124	81	236	222	205	14.6	95	90	83	74
8.8	340	320	296	12.2	144	135	125	81	227	213	197	14.9	96	90	83	74
9.0	327	308	285	12.4	145	136	126	81	218	205	190	15.2	96	91	84	74
9.2	315	296	274	12.6	145	137	127	82	210	198	183	15.5	97	91	84	74
9.4	303	286	264	12.9	146	138	127	82	202	190	176	15.8	97	92	85	75
9.6	293	275	255	13.1	147	138	128	82	195	184	170	16.1	98	92	85	75
9.8	282	266	246	13.3	148	139	129	82	188	177	164	16.3	99	93	86	75
10.0	273	257	237	13.6	149	140	129	82	182	171	158	16.6	99	93	86	75

10.5	251	236	218	14.2	151	142	131	82	167	157	145	17.4	100	95	87	75
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**Table 26:** Stocking levels for subalpine fir in the ABLA2/VASC and ABLA2/VASC/POPU plant associations (full stocking = 365).

QMD	UPPER MANAGEMENT ZONE (SDI = 274)								LOWER MANAGEMENT ZONE (SDI = 183)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
11.0	231	218	201	14.8	153	144	133	82	154	145	134	18.1	102	96	89	75
11.5	214	202	186	15.3	154	145	134	83	143	134	124	18.8	103	97	90	76
12.0	199	187	173	15.9	156	147	136	83	133	125	115	19.5	104	98	91	76
12.5	185	174	161	16.5	158	149	137	83	124	116	108	20.2	105	99	92	76
13.0	173	163	151	17.0	160	150	139	83	115	109	100	20.9	106	100	93	76
13.5	162	153	141	17.6	161	152	140	83	108	102	94	21.6	107	101	94	76
14.0	152	143	133	18.2	163	153	142	84	102	96	88	22.3	109	102	95	76
14.5	143	135	125	18.7	164	155	143	84	96	90	83	22.9	110	103	95	77
15.0	135	127	118	19.3	166	156	144	84	90	85	78	23.6	111	104	96	77
15.5	128	120	111	19.8	167	158	146	84	85	80	74	24.3	112	105	97	77
16.0	121	114	105	20.4	169	159	147	84	81	76	70	25.0	113	106	98	77
16.5	115	108	100	20.9	170	160	148	84	76	72	67	25.7	113	107	99	77
17.0	109	102	95	21.5	172	162	149	84	73	68	63	26.3	114	108	100	77
17.5	104	97	90	22.0	173	163	151	85	69	65	60	27.0	115	109	100	78
18.0	99	93	86	22.6	174	164	152	85	66	62	57	27.7	116	109	101	78
18.5	94	89	82	23.1	176	165	153	85	63	59	55	28.3	117	110	102	78
19.0	90	85	78	23.7	177	166	154	85	60	56	52	29.0	118	111	103	78
19.5	86	81	75	24.2	178	168	155	85	57	54	50	29.6	119	112	103	78
20.0	82	77	72	24.7	179	169	156	85	55	52	48	30.3	120	113	104	78
20.5	79	74	69	25.3	180	170	157	85	52	49	46	31.0	120	113	105	78
21.0	76	71	66	25.8	182	171	158	85	50	47	44	31.6	121	114	105	78
21.5	73	68	63	26.3	183	172	159	86	48	46	42	32.3	122	115	106	78
22.0	70	66	61	26.9	184	173	160	86	46	44	40	32.9	123	115	107	79
22.5	67	63	58	27.4	185	174	161	86	45	42	39	33.6	123	116	107	79
23.0	65	61	56	27.9	186	175	162	86	43	41	37	34.2	124	117	108	79
23.5	62	59	54	28.4	187	176	163	86	41	39	36	34.8	125	118	109	79
24.0	60	56	52	29.0	188	177	164	86	40	38	35	35.5	126	118	109	79
24.5	58	54	50	29.5	189	178	165	86	39	36	34	36.1	126	119	110	79
25.0	56	53	49	30.0	190	179	166	86	37	35	32	36.8	127	120	111	79
25.5	54	51	47	30.5	191	180	167	86	36	34	31	37.4	128	120	111	79
26.0	52	49	45	31.0	192	181	168	86	35	33	30	38.0	128	121	112	79
26.5	51	48	44	31.6	193	182	168	87	34	32	29	38.7	129	121	112	79
27.0	49	46	43	32.1	194	183	169	87	33	31	28	39.3	130	122	113	80
27.5	47	45	41	32.6	195	184	170	87	32	30	27	39.9	130	123	113	80
28.0	46	43	40	33.1	196	185	171	87	31	29	27	40.5	131	123	114	80
28.5	45	42	39	33.6	197	186	172	87	30	28	26	41.2	132	124	115	80
29.0	43	41	38	34.1	198	187	173	87	29	27	25	41.8	132	124	115	80
30.0	41	38	35	35.1	200	188	174	87	27	26	24	43.0	133	126	116	80

**Column headings are:**

- QMD Quadratic mean diameter (the diameter of the tree of average basal area).
- EA Even aged, showing the trees/acre, or basal area/acre, associated with an even-aged stand structure.
- IS Irregular structure; even-aged SDIs were reduced by 6% for an irregular stand structure (from Long 1995).
- UA Uneven aged; even-aged SDIs were reduced by 13% for an uneven-aged stand structure (from Long 1995).
- ES Equilateral spacing, in feet, that the trees per acre associated with an even-aged stand structure (EA columns) would have when spaced equilaterally apart; also referred to as triangular spacing.
- CC Canopy cover; based on the “CE” equation from Dealy (1985) and the basal area per acre for an irregular structure (IS columns).



**Table 27:** Stocking levels for lodgepole pine in the ABLA2/CAGE plant association  
(full stocking = 277).

QMD	UPPER MANAGEMENT ZONE (SDI = 170)								LOWER MANAGEMENT ZONE (SDI = 114)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	ES	SS	EA	IS	UC	MC	EA	IS	ES	SS	EA	IS	UC	MC
1.0	9337	8791	2.3	2.2	51	48	51	78	6256	5890	2.8	2.6	34	32	44	59
1.2	6799	6401	2.7	2.5	53	50	52	78	4555	4289	3.3	3.1	36	34	45	59
1.4	5199	4895	3.1	2.9	56	52	53	78	3484	3280	3.8	3.5	37	35	46	59
1.6	4121	3880	3.5	3.3	58	54	54	78	2761	2600	4.3	4.0	39	36	46	59
1.8	3358	3161	3.9	3.6	59	56	54	78	2250	2118	4.7	4.4	40	37	47	59
2.0	2795	2632	4.2	3.9	61	57	55	78	1873	1763	5.2	4.8	41	38	48	59
2.2	2368	2230	4.6	4.3	63	59	55	78	1587	1494	5.6	5.2	42	39	48	59
2.4	2035	1916	5.0	4.6	64	60	55	78	1364	1284	6.1	5.7	43	40	48	59
2.6	1771	1667	5.3	5.0	65	61	56	78	1186	1117	6.5	6.1	44	41	49	59
2.8	1557	1465	5.7	5.3	67	63	56	78	1043	982	6.9	6.5	45	42	49	59
3.0	1380	1300	6.0	5.6	68	64	57	78	925	871	7.4	6.9	45	43	49	59
3.2	1234	1162	6.4	5.9	69	65	57	78	827	778	7.8	7.3	46	43	50	59
3.4	1110	1045	6.7	6.3	70	66	57	78	744	700	8.2	7.7	47	44	50	59
3.6	1005	946	7.1	6.6	71	67	57	78	673	634	8.6	8.0	48	45	50	59
3.8	915	861	7.4	6.9	72	68	58	78	613	577	9.1	8.4	48	45	50	59
4.0	837	788	7.8	7.2	73	69	58	78	561	528	9.5	8.8	49	46	51	59
4.2	769	724	8.1	7.5	74	70	58	78	515	485	9.9	9.2	50	47	51	59
4.4	709	667	8.4	7.8	75	70	58	78	475	447	10.3	9.6	50	47	51	59
4.6	656	618	8.8	8.1	76	71	59	78	440	414	10.7	10.0	51	48	51	59
4.8	609	574	9.1	8.5	77	72	59	78	408	384	11.1	10.3	51	48	52	59
5.0	568	534	9.4	8.8	77	73	59	78	380	358	11.5	10.7	52	49	52	59
5.2	530	499	9.7	9.1	78	74	59	78	355	334	11.9	11.1	52	49	52	59
5.4	496	467	10.1	9.4	79	74	59	78	333	313	12.3	11.4	53	50	52	59
5.6	466	439	10.4	9.7	80	75	59	78	312	294	12.7	11.8	53	50	52	59
5.8	438	413	10.7	10.0	80	76	60	78	294	277	13.1	12.2	54	51	52	59
6.0	413	389	11.0	10.3	81	76	60	78	277	261	13.5	12.5	54	51	53	59
6.2	390	368	11.4	10.6	82	77	60	78	262	246	13.9	12.9	55	52	53	59
6.4	369	348	11.7	10.9	83	78	60	78	247	233	14.3	13.3	55	52	53	59
6.6	350	330	12.0	11.2	83	78	60	78	235	221	14.6	13.6	56	52	53	59
6.8	332	313	12.3	11.4	84	79	60	78	223	210	15.0	14.0	56	53	53	59
7.0	316	298	12.6	11.7	84	80	60	78	212	199	15.4	14.3	57	53	53	59
7.2	301	283	12.9	12.0	85	80	61	78	202	190	15.8	14.7	57	54	53	59
7.4	287	270	13.2	12.3	86	81	61	78	192	181	16.2	15.1	57	54	54	59
7.6	274	258	13.6	12.6	86	81	61	78	184	173	16.6	15.4	58	54	54	59
7.8	262	246	13.9	12.9	87	82	61	78	175	165	16.9	15.8	58	55	54	59
8.0	251	236	14.2	13.2	87	82	61	78	168	158	17.3	16.1	59	55	54	59
8.2	240	226	14.5	13.5	88	83	61	78	161	151	17.7	16.5	59	56	54	59
8.4	230	217	14.8	13.8	89	83	61	78	154	145	18.1	16.8	59	56	54	59
8.6	221	208	15.1	14.0	89	84	61	78	148	139	18.4	17.2	60	56	54	59
8.8	212	200	15.4	14.3	90	84	62	78	142	134	18.8	17.5	60	57	54	59
9.0	204	192	15.7	14.6	90	85	62	78	137	129	19.2	17.8	60	57	54	59
9.2	196	185	16.0	14.9	91	85	62	78	132	124	19.5	18.2	61	57	55	59
9.4	189	178	16.3	15.2	91	86	62	78	127	119	19.9	18.5	61	58	55	59
9.6	182	172	16.6	15.5	92	86	62	78	122	115	20.3	18.9	61	58	55	59
9.8	176	166	16.9	15.7	92	87	62	78	118	111	20.7	19.2	62	58	55	59
10.0	170	160	17.2	16.0	93	87	62	78	114	107	21.0	19.6	62	58	55	59
10.5	156	147	18.0	16.7	94	88	62	78	105	98	21.9	20.4	63	59	55	59
11.0	144	136	18.7	17.4	95	89	63	78	96	91	22.8	21.3	64	60	55	59

**Table 27:** Stocking levels for lodgepole pine in the ABLA2/CAGE plant association  
(full stocking = 277).

QMD	UPPER MANAGEMENT ZONE (SDI = 170)								LOWER MANAGEMENT ZONE (SDI = 114)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	ES	SS	EA	IS	UC	MC	EA	IS	ES	SS	EA	IS	UC	MC
11.5	133	125	19.4	18.1	96	90	63	78	89	84	23.7	22.1	64	61	56	59
12.0	124	116	20.2	18.8	97	91	63	78	83	78	24.6	22.9	65	61	56	59
12.5	115	108	20.9	19.4	98	92	63	78	77	73	25.5	23.8	66	62	56	59
13.0	108	101	21.6	20.1	99	93	63	78	72	68	26.4	24.6	66	63	56	59
13.5	101	95	22.3	20.8	100	94	64	78	68	64	27.3	25.4	67	63	56	59
14.0	95	89	23.1	21.5	101	95	64	78	63	60	28.2	26.2	68	64	57	59
14.5	89	84	23.8	22.1	102	96	64	78	60	56	29.0	27.0	68	64	57	59
15.0	84	79	24.5	22.8	103	97	64	78	56	53	29.9	27.8	69	65	57	59
15.5	79	75	25.2	23.4	104	98	64	78	53	50	30.8	28.6	70	66	57	59
16.0	75	71	25.9	24.1	105	99	64	78	50	47	31.6	29.4	70	66	57	59
16.5	71	67	26.6	24.8	106	99	64	78	48	45	32.5	30.2	71	67	57	59
17.0	67	64	27.3	25.4	106	100	65	78	45	43	33.4	31.0	71	67	57	59
17.5	64	60	28.0	26.1	107	101	65	78	43	40	34.2	31.8	72	68	58	59
18.0	61	58	28.7	26.7	108	102	65	78	41	39	35.1	32.6	72	68	58	59
18.5	58	55	29.4	27.3	109	102	65	78	39	37	35.9	33.4	73	69	58	59
19.0	56	52	30.1	28.0	110	103	65	78	37	35	36.7	34.2	73	69	58	59
19.5	53	50	30.8	28.6	110	104	65	78	36	34	37.6	35.0	74	70	58	59
20.0	51	48	31.4	29.3	111	104	65	78	34	32	38.4	35.8	74	70	58	59
20.5	49	46	32.1	29.9	112	105	65	78	33	31	39.3	36.5	75	70	58	59
21.0	47	44	32.8	30.5	112	106	66	78	31	29	40.1	37.3	75	71	58	59
21.5	45	42	33.5	31.2	113	106	66	78	30	28	40.9	38.1	76	71	59	59
22.0	43	41	34.2	31.8	114	107	66	78	29	27	41.7	38.8	76	72	59	59
22.5	41	39	34.8	32.4	114	108	66	78	28	26	42.6	39.6	77	72	59	59
23.0	40	38	35.5	33.0	115	108	66	78	27	25	43.4	40.4	77	73	59	59
23.5	38	36	36.2	33.7	116	109	66	78	26	24	44.2	41.1	78	73	59	59
24.0	37	35	36.9	34.3	116	110	66	78	25	23	45.0	41.9	78	73	59	59
24.5	36	34	37.5	34.9	117	110	66	78	24	23	45.8	42.7	78	74	59	59
25.0	34	32	38.2	35.5	118	111	66	78	23	22	46.6	43.4	79	74	59	59
25.5	33	31	38.8	36.2	118	111	66	78	22	21	47.5	44.2	79	75	59	59
26.0	32	30	39.5	36.8	119	112	67	78	22	20	48.3	44.9	80	75	59	59
26.5	31	29	40.2	37.4	119	112	67	78	21	20	49.1	45.7	80	75	59	59
27.0	30	28	40.8	38.0	120	113	67	78	20	19	49.9	46.4	80	76	60	59
27.5	29	28	41.5	38.6	121	113	67	78	20	18	50.7	47.2	81	76	60	59
28.0	28	27	42.1	39.2	121	114	67	78	19	18	51.5	47.9	81	76	60	59
28.5	27	26	42.8	39.8	122	115	67	78	18	17	52.3	48.7	82	77	60	59
29.0	27	25	43.4	40.4	122	115	67	78	18	17	53.1	49.4	82	77	60	59
30.0	25	24	44.7	41.6	123	116	67	78	17	16	54.7	50.9	83	78	60	59

**Column headings are:**

- QMD Quadratic mean diameter (the diameter of the tree of average basal area).
- EA Even aged, showing the trees/acre, or basal area/acre, associated with an even-aged stand structure.
- IS Irregular structure; even-aged SDIs were reduced by 6% for an irregular stand structure (from Long 1995).
- ES Equilateral spacing, in feet, that the trees per acre associated with an even-aged stand structure (EA columns) would have when spaced equilaterally apart; also referred to as triangular spacing.
- SS Square spacing; distance between trees (feet) when spaced on a square grid pattern, rather than equilaterally.
- UC Unmanaged canopy cover; based on the “CL” equation from Dealy (1985) and the basal area/acre for an even-aged structure (EA columns). Pertains to unthinned stands, or those thinned after a mean height of 9 feet.
- MC Managed canopy cover; based on Cochran and Dahms (1998). Pertains to stands thinned early in life (< 9’).

**Table 28:** Stocking levels for subalpine fir in the ABLA2/CAGE plant association (full stocking = 372).

QMD	UPPER MANAGEMENT ZONE (SDI = 279)								LOWER MANAGEMENT ZONE (SDI = 186)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
1.0	14921	14048	12990	1.8	81	77	71	71	9947	9365	8660	2.2	54	51	47	64
1.2	10884	10248	9476	2.1	85	80	74	72	7256	6832	6317	2.6	57	54	50	65
1.4	8336	7849	7258	2.5	89	84	78	73	5558	5233	4838	3.0	59	56	52	66
1.6	6617	6230	5761	2.8	92	87	80	74	4411	4153	3840	3.4	62	58	54	67
1.8	5397	5081	4699	3.1	95	90	83	74	3598	3388	3132	3.7	64	60	55	67
2.0	4498	4235	3916	3.3	98	92	85	75	2999	2823	2611	4.1	65	62	57	68
2.2	3814	3591	3321	3.6	101	95	88	75	2543	2394	2214	4.4	67	63	58	68
2.4	3281	3089	2857	3.9	103	97	90	76	2187	2059	1904	4.8	69	65	60	69
2.6	2857	2690	2487	4.2	105	99	92	76	1905	1793	1658	5.1	70	66	61	69
2.8	2513	2366	2188	4.5	107	101	94	76	1675	1577	1459	5.5	72	67	62	69
3.0	2230	2100	1942	4.7	109	103	95	77	1487	1400	1294	5.8	73	69	64	70
3.2	1995	1878	1737	5.0	111	105	97	77	1330	1252	1158	6.2	74	70	65	70
3.4	1796	1691	1564	5.3	113	107	99	77	1197	1127	1042	6.5	75	71	66	70
3.6	1627	1532	1416	5.6	115	108	100	77	1085	1021	944	6.8	77	72	67	70
3.8	1482	1395	1290	5.8	117	110	102	78	988	930	860	7.1	78	73	68	71
4.0	1356	1277	1180	6.1	118	111	103	78	904	851	787	7.5	79	74	69	71
4.2	1246	1173	1085	6.4	120	113	104	78	831	782	723	7.8	80	75	70	71
4.4	1150	1083	1001	6.6	121	114	106	78	767	722	667	8.1	81	76	70	71
4.6	1065	1002	927	6.9	123	116	107	79	710	668	618	8.4	82	77	71	72
4.8	989	931	861	7.1	124	117	108	79	659	621	574	8.7	83	78	72	72
5.0	922	868	802	7.4	126	118	109	79	614	578	535	9.0	84	79	73	72
5.2	861	811	750	7.6	127	120	111	79	574	541	500	9.4	85	80	74	72
5.4	807	760	702	7.9	128	121	112	79	538	506	468	9.7	86	81	74	72
5.6	758	713	660	8.1	130	122	113	80	505	475	440	10.0	86	81	75	72
5.8	713	671	621	8.4	131	123	114	80	475	447	414	10.3	87	82	76	73
6.0	672	633	585	8.6	132	124	115	80	448	422	390	10.6	88	83	77	73
6.2	635	598	553	8.9	133	125	116	80	424	399	369	10.9	89	84	77	73
6.4	601	566	523	9.1	134	126	117	80	401	377	349	11.2	90	84	78	73
6.6	570	537	496	9.4	135	128	118	80	380	358	331	11.5	90	85	79	73
6.8	541	510	471	9.6	137	129	119	80	361	340	314	11.8	91	86	79	73
7.0	515	485	448	9.9	138	130	120	81	343	323	299	12.1	92	86	80	74
7.2	490	462	427	10.1	139	131	121	81	327	308	285	12.4	92	87	80	74
7.4	468	440	407	10.4	140	132	122	81	312	294	271	12.7	93	88	81	74
7.6	447	421	389	10.6	141	132	123	81	298	280	259	13.0	94	88	82	74
7.8	427	402	372	10.9	142	133	123	81	285	268	248	13.3	94	89	82	74
8.0	409	385	356	11.1	143	134	124	81	272	257	237	13.6	95	90	83	74
8.2	392	369	341	11.3	144	135	125	81	261	246	227	13.9	96	90	83	74
8.4	376	354	327	11.6	145	136	126	81	250	236	218	14.2	96	91	84	74
8.6	361	340	314	11.8	145	137	127	82	240	226	209	14.5	97	91	84	75
8.8	347	326	302	12.0	146	138	127	82	231	218	201	14.8	98	92	85	75
9.0	333	314	290	12.3	147	139	128	82	222	209	193	15.0	98	92	85	75
9.2	321	302	279	12.5	148	139	129	82	214	201	186	15.3	99	93	86	75
9.4	309	291	269	12.8	149	140	130	82	206	194	179	15.6	99	94	86	75
9.6	298	281	260	13.0	150	141	130	82	199	187	173	15.9	100	94	87	75
9.8	288	271	250	13.2	151	142	131	82	192	181	167	16.2	100	95	87	75
10.0	278	262	242	13.5	152	143	132	82	185	174	161	16.5	101	95	88	75

10.5 | 255 | 240 | 222 | 14.0 | 154 | 145 | 134 | 83 | 170 | 160 | 148 | 17.2 | 102 | 96 | 89 | 75

**Table 28:** Stocking levels for subalpine fir in the ABLA2/CAGE plant association (full stocking = 372).

QMD	UPPER MANAGEMENT ZONE (SDI = 279)								LOWER MANAGEMENT ZONE (SDI = 186)							
	TREES/ACRE				BASAL AREA/ACRE				TREES/ACRE				BASAL AREA/ACRE			
	EA	IS	UA	ES	EA	IS	UA	CC	EA	IS	UA	ES	EA	IS	UA	CC
11.0	236	222	205	14.6	155	146	135	83	157	148	137	17.9	104	98	90	76
11.5	218	205	190	15.2	157	148	137	83	145	137	127	18.6	105	99	91	76
12.0	203	191	176	15.8	159	150	139	83	135	127	118	19.3	106	100	92	76
12.5	189	178	164	16.3	161	152	140	83	126	119	110	20.0	107	101	93	76
13.0	176	166	154	16.9	163	153	142	84	118	111	102	20.7	108	102	94	76
13.5	165	156	144	17.4	164	155	143	84	110	104	96	21.4	110	103	95	77
14.0	155	146	135	18.0	166	156	144	84	103	97	90	22.0	111	104	96	77
14.5	146	138	127	18.6	168	158	146	84	97	92	85	22.7	112	105	97	77
15.0	138	130	120	19.1	169	159	147	84	92	86	80	23.4	113	106	98	77
15.5	130	123	113	19.7	171	161	148	84	87	82	76	24.1	114	107	99	77
16.0	123	116	107	20.2	172	162	150	84	82	77	72	24.7	115	108	100	77
16.5	117	110	102	20.7	173	163	151	85	78	73	68	25.4	116	109	101	78
17.0	111	104	97	21.3	175	165	152	85	74	70	64	26.1	117	110	101	78
17.5	106	99	92	21.8	176	166	153	85	70	66	61	26.7	118	111	102	78
18.0	100	95	87	22.4	178	167	155	85	67	63	58	27.4	118	111	103	78
18.5	96	90	83	22.9	179	168	156	85	64	60	56	28.1	119	112	104	78
19.0	92	86	80	23.4	180	170	157	85	61	57	53	28.7	120	113	105	78
19.5	88	82	76	24.0	181	171	158	85	58	55	51	29.4	121	114	105	78
20.0	84	79	73	24.5	183	172	159	86	56	53	49	30.0	122	115	106	78
20.5	80	76	70	25.0	184	173	160	86	54	50	47	30.7	123	115	107	79
21.0	77	72	67	25.6	185	174	161	86	51	48	45	31.3	123	116	107	79
21.5	74	70	64	26.1	186	175	162	86	49	46	43	32.0	124	117	108	79
22.0	71	67	62	26.6	187	177	163	86	47	45	41	32.6	125	118	109	79
22.5	68	64	59	27.1	189	178	164	86	46	43	40	33.2	126	118	109	79
23.0	66	62	57	27.7	190	179	165	86	44	41	38	33.9	126	119	110	79
23.5	63	60	55	28.2	191	180	166	86	42	40	37	34.5	127	120	111	79
24.0	61	58	53	28.7	192	181	167	86	41	38	35	35.1	128	120	111	79
24.5	59	56	51	29.2	193	182	168	87	39	37	34	35.8	129	121	112	79
25.0	57	54	50	29.7	194	183	169	87	38	36	33	36.4	129	122	113	80
25.5	55	52	48	30.2	195	184	170	87	37	35	32	37.0	130	122	113	80
26.0	53	50	46	30.7	196	185	171	87	35	33	31	37.7	131	123	114	80
26.5	51	48	45	31.3	197	186	172	87	34	32	30	38.3	131	124	114	80
27.0	50	47	43	31.8	198	187	173	87	33	31	29	38.9	132	124	115	80
27.5	48	45	42	32.3	199	187	173	87	32	30	28	39.5	133	125	116	80
28.0	47	44	41	32.8	200	188	174	87	31	29	27	40.2	133	126	116	80
28.5	45	43	40	33.3	201	189	175	87	30	28	26	40.8	134	126	117	80
29.0	44	41	38	33.8	202	190	176	87	29	28	26	41.4	135	127	117	80
30.0	42	39	36	34.8	204	192	177	87	28	26	24	42.6	136	128	118	80

**Column headings are:**

- QMD Quadratic mean diameter (the diameter of the tree of average basal area).
- EA Even aged, showing the trees/acre, or basal area/acre, associated with an even-aged stand structure.
- IS Irregular structure; even-aged SDIs were reduced by 6% for an irregular stand structure (from Long 1995).
- UA Uneven aged; even-aged SDIs were reduced by 13% for an uneven-aged stand structure (from Long 1995).
- ES Equilateral spacing, in feet, that the trees per acre associated with an even-aged stand structure (EA columns) would have when spaced equilaterally apart; also referred to as triangular spacing.
- CC Canopy cover; based on the “CE” equation from Dealy (1985) and the basal area per acre for an irregular structure (IS columns).