

# Mature Kauri - Standing Roundwood Volumes in Cubic Metres

d.b.h. (cm)	Merchantable Height (m)										
	2	3	4	5	6	7	8	9	10	11	12
20	0.071	0.094	0.115	0.134	0.152	0.170	0.186	0.202	0.217	0.232	0.247
22	0.086	0.114	0.140	0.163	0.185	0.206	0.226	0.245	0.264	0.282	0.300
24	0.103	0.137	0.167	0.195	0.221	0.246	0.270	0.293	0.316	0.337	0.358
26	0.121	0.161	0.197	0.230	0.261	0.290	0.318	0.346	0.372	0.397	0.422
28	0.141	0.187	0.229	0.267	0.303	0.338	0.371	0.402	0.433	0.463	0.491
30	0.163	0.216	0.263	0.308	0.349	0.389	0.427	0.463	0.499	0.533	0.566
32	0.186	0.246	0.301	0.351	0.399	0.444	0.487	0.529	0.569	0.608	0.646
34	0.210	0.279	0.340	0.398	0.452	0.503	0.552	0.599	0.644	0.689	0.732
36	0.236	0.313	0.383	0.447	0.508	0.565	0.620	0.673	0.724	0.774	0.823
38	0.264	0.350	0.428	0.500	0.567	0.631	0.693	0.752	0.809	0.865	0.919
40	0.293	0.389	0.475	0.555	0.630	0.701	0.770	0.836	0.899	0.961	1.021
42	0.324	0.430	0.525	0.613	0.696	0.775	0.851	0.924	0.994	1.062	1.128
44	0.357	0.473	0.578	0.675	0.766	0.853	0.936	1.016	1.093	1.168	1.241
46	0.391	0.518	0.633	0.739	0.839	0.934	1.025	1.113	1.198	1.280	1.360
48	0.426	0.565	0.691	0.807	0.916	1.020	1.119	1.215	1.307	1.397	1.484
50	0.464	0.615	0.751	0.877	0.996	1.109	1.217	1.321	1.422	1.519	1.614
52	0.502	0.666	0.814	0.951	1.080	1.202	1.319	1.432	1.541	1.647	1.749
54	0.543	0.720	0.880	1.028	1.167	1.299	1.425	1.547	1.665	1.779	1.890
56	0.585	0.776	0.948	1.107	1.257	1.400	1.536	1.667	1.794	1.917	2.037
58	0.629	0.834	1.019	1.190	1.351	1.505	1.651	1.792	1.929	2.061	2.190
60	0.674	0.894	1.093	1.276	1.449	1.613	1.770	1.922	2.068	2.210	2.348
62	0.721	0.957	1.169	1.365	1.550	1.726	1.894	2.056	2.212	2.364	2.512
64	0.770	1.021	1.248	1.458	1.655	1.842	2.022	2.195	2.362	2.524	2.681
66	0.821	1.088	1.330	1.553	1.763	1.963	2.154	2.338	2.516	2.689	2.857
68	0.873	1.157	1.414	1.652	1.875	2.087	2.291	2.487	2.676	2.859	3.038
70	0.926	1.229	1.501	1.753	1.991	2.216	2.432	2.640	2.841	3.036	3.225
72	0.982	1.302	1.591	1.858	2.110	2.349	2.577	2.798	3.011	3.217	3.418
74	1.039	1.378	1.683	1.966	2.232	2.485	2.727	2.960	3.186	3.404	3.617
76	1.098	1.456	1.779	2.077	2.359	2.626	2.882	3.128	3.366	3.597	3.822
78	1.158	1.536	1.877	2.192	2.489	2.771	3.041	3.300	3.552	3.795	4.032
80	1.220	1.618	1.977	2.310	2.622	2.919	3.204	3.478	3.742	3.999	4.249
82	1.284	1.703	2.081	2.431	2.760	3.072	3.372	3.660	3.938	4.209	4.471
84	1.350	1.790	2.187	2.555	2.901	3.229	3.544	3.847	4.140	4.424	4.700
86	1.417	1.880	2.296	2.682	3.045	3.390	3.721	4.039	4.346	4.644	4.934
88	1.486	1.971	2.408	2.813	3.194	3.556	3.902	4.236	4.558	4.871	5.175
90	1.557	2.065	2.523	2.947	3.346	3.725	4.088	4.438	4.775	5.103	5.422
92	1.630	2.162	2.641	3.085	3.502	3.899	4.279	4.645	4.998	5.341	5.674
94	1.704	2.260	2.761	3.225	3.662	4.077	4.474	4.856	5.226	5.585	5.933
96	1.780	2.361	2.885	3.370	3.826	4.259	4.674	5.073	5.459	5.834	6.198
98	1.858	2.464	3.011	3.517	3.993	4.445	4.878	5.295	5.698	6.089	6.470
100	1.938	2.570	3.140	3.668	4.164	4.636	5.088	5.522	5.943	6.350	6.747
102	2.019	2.678	3.272	3.822	4.339	4.831	5.301	5.755	6.193	6.617	7.031
104	2.103	2.789	3.407	3.980	4.518	5.030	5.520	5.992	6.448	6.890	7.321
106	2.188	2.901	3.545	4.141	4.701	5.234	5.743	6.234	6.709	7.169	7.617
108	2.275	3.017	3.686	4.305	4.888	5.441	5.972	6.482	6.975	7.454	7.919
110	2.363	3.134	3.829	4.473	5.078	5.654	6.204	6.735	7.247	7.745	8.228
112	2.454	3.254	3.976	4.644	5.273	5.870	6.442	6.993	7.525	8.041	8.543
114	2.546	3.377	4.126	4.819	5.471	6.091	6.685	7.256	7.808	8.344	8.865
116	2.641	3.502	4.278	4.997	5.674	6.317	6.932	7.525	8.097	8.653	9.193
118	2.737	3.629	4.434	5.179	5.880	6.547	7.184	7.798	8.392	8.968	9.528
120	2.835	3.759	4.593	5.365	6.091	6.781	7.442	8.078	8.692	9.289	9.869
122	2.934	3.892	4.755	5.554	6.305	7.020	7.704	8.362	8.998	9.616	10.216
124	3.036	4.027	4.919	5.746	6.524	7.263	7.971	8.652	9.310	9.949	10.571
126	3.140	4.164	5.087	5.942	6.747	7.511	8.243	8.947	9.628	10.289	10.931
128	3.245	4.304	5.258	6.142	6.973	7.763	8.520	9.248	9.952	10.635	11.299
130	3.353	4.446	5.432	6.345	7.204	8.021	8.802	9.554	10.281	10.987	11.673
132	3.462	4.591	5.610	6.552	7.439	8.282	9.089	9.866	10.617	11.345	12.054
134	3.574	4.739	5.790	6.763	7.679	8.548	9.381	10.183	10.958	11.710	12.441
136	3.687	4.889	5.974	6.978	7.922	8.819	9.679	10.506	11.305	12.081	12.836
138	3.802	5.042	6.160	7.196	8.169	9.095	9.981	10.834	11.659	12.459	13.237
140	3.919	5.197	6.350	7.417	8.421	9.375	10.289	11.168	12.018	12.843	13.645
142	4.038	5.356	6.543	7.643	8.677	9.660	10.602	11.508	12.384	13.233	14.060
144	4.159	5.516	6.739	7.872	8.938	9.950	10.920	11.853	12.755	13.630	14.481
146	4.283	5.680	6.939	8.105	9.202	10.245	11.243	12.204	13.133	14.034	14.910
148	4.408	5.846	7.142	8.342	9.471	10.544	11.572	12.561	13.517	14.444	15.346

Volume Equations from New Zealand Forest Service Technical Paper NO. 67, JC Ellis 1979

Volumes are cubic metres of roundwood inside bark.

Mature Kauri Volume Formulae:  $\text{Log } V = 2.045757 \text{ Log } D + 0.696226 \text{ Log } H + 0.000001657 D^2 - 2.350829$

# Mature Kauri - Standing Roundwood Volumes in Cubic Metres

d.b.h. (cm)	Merchantable Height (m)										
	2	3	4	5	6	7	8	9	10	11	12
150	4.535	6.014	7.348	8.583	9.745	10.849	11.906	12.923	13.907	14.861	15.789
152	4.664	6.186	7.557	8.827	10.022	11.158	12.245	13.291	14.303	15.284	16.239
154	4.796	6.360	7.770	9.076	10.304	11.472	12.589	13.665	14.705	15.714	16.696
156	4.929	6.536	7.986	9.328	10.591	11.791	12.939	14.045	15.114	16.151	17.160
158	5.064	6.716	8.205	9.585	10.882	12.115	13.295	14.431	15.529	16.595	17.631
160	5.202	6.898	8.428	9.845	11.177	12.444	13.656	14.823	15.951	17.045	18.110
162	5.341	7.084	8.654	10.109	11.477	12.777	14.022	15.221	16.379	17.503	18.596
164	5.483	7.271	8.884	10.377	11.782	13.116	14.394	15.624	16.814	17.967	19.089
166	5.627	7.462	9.117	10.649	12.091	13.460	14.772	16.034	17.255	18.438	19.590
168	5.773	7.656	9.353	10.926	12.404	13.810	15.155	16.450	17.702	18.917	20.098
170	5.921	7.852	9.593	11.206	12.722	14.164	15.544	16.872	18.156	19.402	20.614
172	6.071	8.051	9.837	11.490	13.045	14.523	15.938	17.300	18.617	19.894	21.137
174	6.224	8.254	10.084	11.779	13.373	14.888	16.338	17.735	19.084	20.394	21.667
176	6.378	8.459	10.334	12.071	13.705	15.258	16.744	18.175	19.559	20.901	22.206
178	6.535	8.667	10.588	12.368	14.042	15.633	17.156	18.622	20.040	21.414	22.752
180	6.694	8.877	10.846	12.669	14.384	16.013	17.573	19.075	20.527	21.936	23.305
182	6.855	9.091	11.107	12.974	14.730	16.399	17.997	19.535	21.022	22.464	23.867
184	7.019	9.308	11.372	13.284	15.082	16.790	18.426	20.001	21.523	23.000	24.436
186	7.185	9.528	11.641	13.597	15.438	17.187	18.861	20.473	22.031	23.543	25.013
188	7.353	9.751	11.913	13.915	15.799	17.589	19.302	20.952	22.547	24.094	25.598
190	7.523	9.977	12.189	14.238	16.165	17.996	19.750	21.437	23.069	24.652	26.191
192	7.696	10.206	12.469	14.565	16.536	18.409	20.203	21.929	23.598	25.217	26.792
194	7.871	10.438	12.752	14.896	16.912	18.828	20.662	22.428	24.135	25.791	27.401
196	8.048	10.673	13.040	15.231	17.293	19.252	21.127	22.933	24.678	26.372	28.019
198	8.227	10.911	13.331	15.571	17.679	19.682	21.599	23.445	25.229	26.960	28.644
200	8.409	11.152	13.625	15.916	18.070	20.117	22.077	23.963	25.787	27.557	29.278
202	8.594	11.397	13.924	16.265	18.466	20.558	22.561	24.489	26.353	28.161	29.919
204	8.781	11.645	14.227	16.618	18.867	21.005	23.051	25.021	26.926	28.773	30.570
206	8.970	11.895	14.533	16.976	19.274	21.457	23.548	25.560	27.506	29.393	31.228
208	9.161	12.150	14.844	17.339	19.685	21.916	24.051	26.106	28.093	30.021	31.896
210	9.355	12.407	15.158	17.706	20.102	22.380	24.560	26.659	28.688	30.657	32.571
212	9.552	12.668	15.477	18.078	20.525	22.850	25.076	27.219	29.291	31.301	33.255
214	9.751	12.931	15.799	18.455	20.952	23.326	25.599	27.786	29.901	31.953	33.948
216	9.953	13.199	16.126	18.836	21.385	23.808	26.128	28.361	30.519	32.613	34.650
218	10.157	13.469	16.456	19.222	21.824	24.296	26.663	28.942	31.145	33.282	35.360
220	10.363	13.743	16.791	19.613	22.268	24.790	27.206	29.531	31.778	33.959	36.079
222	10.572	14.021	17.130	20.009	22.717	25.291	27.755	30.127	32.420	34.644	36.807
224	10.784	14.301	17.473	20.410	23.172	25.797	28.310	30.730	33.069	35.338	37.544
226	10.998	14.586	17.820	20.815	23.632	26.310	28.873	31.340	33.726	36.040	38.291
228	11.215	14.873	18.171	21.226	24.098	26.829	29.442	31.959	34.391	36.751	39.046
230	11.435	15.164	18.527	21.641	24.570	27.354	30.019	32.584	35.064	37.470	39.810
232	11.657	15.459	18.887	22.062	25.047	27.885	30.602	33.217	35.745	38.198	40.583
234	11.882	15.757	19.251	22.487	25.531	28.423	31.192	33.858	36.435	38.935	41.366
236	12.109	16.059	19.620	22.918	26.019	28.967	31.790	34.506	37.133	39.680	42.158
238	12.339	16.364	19.993	23.353	26.514	29.518	32.394	35.162	37.839	40.435	42.960
240	12.572	16.673	20.371	23.794	27.015	30.075	33.006	35.826	38.553	41.198	43.771
242	12.808	16.986	20.752	24.240	27.521	30.639	33.624	36.498	39.276	41.970	44.592
244	13.047	17.302	21.139	24.692	28.034	31.210	34.250	37.177	40.007	42.752	45.422
246	13.288	17.622	21.530	25.148	28.552	31.787	34.884	37.865	40.747	43.543	46.262
248	13.532	17.946	21.925	25.610	29.077	32.371	35.525	38.560	41.495	44.342	47.112
250	13.779	18.273	22.325	26.078	29.607	32.961	36.173	39.264	42.253	45.151	47.971
252	14.029	18.604	22.730	26.550	30.144	33.559	36.828	39.976	43.018	45.970	48.841
254	14.281	18.939	23.139	27.028	30.687	34.163	37.492	40.696	43.793	46.798	49.720
256	14.537	19.278	23.553	27.512	31.236	34.775	38.163	41.424	44.577	47.635	50.610
258	14.795	19.621	23.972	28.001	31.791	35.393	38.841	42.160	45.369	48.482	51.510
260	15.057	19.968	24.396	28.496	32.353	36.018	39.527	42.905	46.171	49.339	52.420
262	15.321	20.318	24.824	28.996	32.921	36.651	40.221	43.659	46.982	50.205	53.340
264	15.588	20.673	25.257	29.502	33.495	37.290	40.923	44.421	47.802	51.081	54.271
266	15.859	21.031	25.695	30.014	34.076	37.937	41.633	45.191	48.631	51.967	55.213
268	16.132	21.394	26.138	30.532	34.664	38.591	42.351	45.970	49.469	52.863	56.165
270	16.409	21.761	26.586	31.055	35.258	39.253	43.077	46.758	50.317	53.769	57.127
272	16.688	22.131	27.039	31.584	35.859	39.921	43.811	47.555	51.174	54.685	58.100
274	16.971	22.506	27.497	32.119	36.466	40.597	44.553	48.360	52.041	55.611	59.085
276	17.257	22.885	27.960	32.660	37.080	41.281	45.303	49.175	52.917	56.548	60.080
278	17.546	23.269	28.429	33.207	37.701	41.972	46.062	49.998	53.804	57.495	61.086

Volume Equations from New Zealand Forest Service Technical Paper NO. 67, JC Ellis 1979

Volumes are cubic metres of roundwood inside bark.

Mature Kauri Volume Formulae:  $\text{Log } V = 2.045757 \text{ Log } D + 0.696226 \text{ Log } H + 0.000001657 D^2 - 2.350829$

# Mature Kauri - Standing Roundwood Volumes in Cubic Metres

d.b.h. (cm)	Merchantable Height (m)										
	13	14	15	16	17	18	19	20	21	22	23
20	0.261	0.275	0.288	0.301	0.314	0.327	0.340	0.352	0.364	0.376	0.388
22	0.317	0.334	0.350	0.366	0.382	0.398	0.413	0.428	0.443	0.457	0.472
24	0.379	0.399	0.419	0.438	0.457	0.475	0.494	0.512	0.529	0.547	0.564
26	0.446	0.470	0.493	0.516	0.538	0.560	0.581	0.603	0.623	0.644	0.664
28	0.520	0.547	0.574	0.600	0.626	0.652	0.677	0.701	0.726	0.750	0.773
30	0.599	0.630	0.661	0.692	0.721	0.751	0.780	0.808	0.836	0.863	0.890
32	0.683	0.719	0.755	0.789	0.823	0.857	0.890	0.922	0.954	0.985	1.016
34	0.774	0.814	0.855	0.894	0.932	0.970	1.007	1.044	1.080	1.116	1.151
36	0.870	0.916	0.961	1.005	1.048	1.091	1.133	1.174	1.214	1.254	1.294
38	0.972	1.023	1.073	1.123	1.171	1.219	1.265	1.311	1.357	1.401	1.445
40	1.079	1.137	1.192	1.247	1.301	1.354	1.406	1.457	1.507	1.557	1.606
42	1.193	1.256	1.318	1.379	1.438	1.496	1.554	1.610	1.666	1.721	1.775
44	1.313	1.382	1.450	1.517	1.582	1.646	1.709	1.772	1.833	1.893	1.953
46	1.438	1.514	1.589	1.662	1.733	1.804	1.873	1.941	2.008	2.074	2.139
48	1.569	1.652	1.734	1.813	1.891	1.968	2.044	2.118	2.191	2.263	2.334
50	1.706	1.797	1.885	1.972	2.057	2.140	2.222	2.303	2.383	2.461	2.539
52	1.850	1.948	2.043	2.137	2.229	2.320	2.409	2.496	2.583	2.668	2.752
54	1.999	2.105	2.208	2.310	2.409	2.507	2.603	2.698	2.791	2.883	2.974
56	2.154	2.268	2.380	2.489	2.596	2.702	2.805	2.907	3.008	3.107	3.204
58	2.315	2.438	2.558	2.675	2.791	2.904	3.015	3.125	3.233	3.339	3.444
60	2.482	2.614	2.742	2.868	2.992	3.114	3.233	3.351	3.466	3.580	3.693
62	2.656	2.796	2.934	3.069	3.201	3.331	3.459	3.584	3.708	3.830	3.951
64	2.835	2.985	3.132	3.276	3.417	3.556	3.692	3.827	3.959	4.089	4.218
66	3.021	3.180	3.337	3.490	3.641	3.789	3.934	4.077	4.218	4.357	4.494
68	3.212	3.382	3.549	3.712	3.872	4.029	4.184	4.336	4.485	4.633	4.779
70	3.410	3.591	3.767	3.940	4.110	4.277	4.441	4.603	4.762	4.918	5.073
72	3.614	3.805	3.993	4.176	4.356	4.533	4.707	4.878	5.047	5.213	5.377
74	3.824	4.027	4.225	4.419	4.609	4.797	4.981	5.162	5.340	5.516	5.689
76	4.041	4.255	4.464	4.669	4.870	5.068	5.263	5.454	5.642	5.828	6.011
78	4.263	4.489	4.710	4.926	5.139	5.347	5.553	5.754	5.953	6.149	6.343
80	4.492	4.730	4.963	5.191	5.415	5.635	5.851	6.064	6.273	6.480	6.683
82	4.728	4.978	5.223	5.463	5.698	5.930	6.157	6.381	6.602	6.819	7.033
84	4.969	5.232	5.490	5.742	5.990	6.233	6.472	6.707	6.939	7.167	7.393
86	5.217	5.493	5.764	6.029	6.289	6.544	6.795	7.042	7.285	7.525	7.762
88	5.472	5.761	6.045	6.323	6.595	6.863	7.126	7.385	7.641	7.892	8.140
90	5.732	6.036	6.333	6.624	6.910	7.190	7.466	7.737	8.005	8.268	8.528
92	6.000	6.317	6.628	6.933	7.232	7.525	7.814	8.098	8.378	8.654	8.926
94	6.273	6.606	6.931	7.249	7.562	7.869	8.170	8.468	8.760	9.048	9.333
96	6.554	6.901	7.240	7.573	7.899	8.220	8.535	8.846	9.151	9.453	9.750
98	6.840	7.203	7.557	7.904	8.245	8.580	8.909	9.233	9.552	9.866	10.176
100	7.134	7.511	7.881	8.243	8.599	8.948	9.291	9.629	9.961	10.289	10.613
102	7.434	7.827	8.212	8.590	8.960	9.324	9.682	10.034	10.380	10.722	11.059
104	7.740	8.150	8.551	8.944	9.330	9.708	10.081	10.447	10.808	11.164	11.515
106	8.053	8.480	8.897	9.306	9.707	10.101	10.489	10.870	11.246	11.616	11.981
108	8.373	8.817	9.250	9.675	10.093	10.502	10.905	11.302	11.692	12.077	12.457
110	8.700	9.160	9.611	10.053	10.486	10.912	11.331	11.742	12.148	12.548	12.943
112	9.033	9.511	9.979	10.438	10.888	11.330	11.765	12.192	12.614	13.029	13.438
114	9.373	9.869	10.355	10.831	11.298	11.757	12.208	12.651	13.089	13.519	13.944
116	9.720	10.235	10.738	11.232	11.716	12.192	12.659	13.120	13.573	14.020	14.460
118	10.074	10.607	11.129	11.641	12.142	12.635	13.120	13.597	14.067	14.530	14.987
120	10.434	10.987	11.528	12.057	12.577	13.088	13.590	14.084	14.570	15.050	15.523
122	10.802	11.374	11.934	12.482	13.020	13.549	14.068	14.580	15.084	15.580	16.070
124	11.176	11.768	12.347	12.915	13.471	14.018	14.556	15.085	15.607	16.120	16.627
126	11.558	12.170	12.769	13.355	13.931	14.497	15.053	15.600	16.139	16.671	17.195
128	11.946	12.579	13.198	13.804	14.400	14.984	15.559	16.125	16.682	17.231	17.772
130	12.342	12.995	13.635	14.261	14.876	15.480	16.074	16.658	17.234	17.801	18.361
132	12.744	13.419	14.080	14.727	15.362	15.985	16.598	17.202	17.796	18.382	18.960
134	13.154	13.851	14.532	15.200	15.855	16.499	17.132	17.755	18.368	18.973	19.569
136	13.571	14.290	14.993	15.682	16.358	17.022	17.675	18.318	18.951	19.574	20.190
138	13.995	14.736	15.461	16.172	16.869	17.554	18.227	18.890	19.543	20.186	20.821
140	14.427	15.191	15.938	16.671	17.389	18.095	18.789	19.472	20.145	20.808	21.462
142	14.865	15.652	16.423	17.177	17.918	18.645	19.361	20.064	20.758	21.441	22.115
144	15.311	16.122	16.915	17.693	18.455	19.205	19.941	20.666	21.381	22.084	22.779
146	15.765	16.599	17.416	18.217	19.002	19.773	20.532	21.278	22.014	22.738	23.453
148	16.225	17.085	17.925	18.749	19.557	20.351	21.132	21.900	22.657	23.403	24.138

Volume Equations from New Zealand Forest Service Technical Paper NO. 67, JC Ellis 1979

Volumes are cubic metres of roundwood inside bark.

Mature Kauri Volume Formulae:  $\text{Log } V = 2.045757 \text{ Log } D + 0.696226 \text{ Log } H + 0.000001657 D^2 - 2.350829$

# Mature Kauri - Standing Roundwood Volumes in Cubic Metres

d.b.h. (cm)	Merchantable Height (m)										
	13	14	15	16	17	18	19	20	21	22	23
150	16.694	17.578	18.442	19.290	20.122	20.939	21.742	22.532	23.311	24.078	24.835
152	17.169	18.078	18.968	19.840	20.695	21.535	22.361	23.174	23.975	24.764	25.543
154	17.653	18.587	19.502	20.398	21.278	22.141	22.991	23.827	24.650	25.461	26.262
156	18.143	19.104	20.044	20.965	21.869	22.757	23.630	24.489	25.335	26.169	26.992
158	18.642	19.629	20.595	21.541	22.470	23.382	24.279	25.162	26.031	26.888	27.733
160	19.148	20.162	21.154	22.126	23.080	24.017	24.938	25.845	26.738	27.618	28.486
162	19.662	20.703	21.722	22.720	23.699	24.661	25.607	26.538	27.455	28.359	29.251
164	20.183	21.252	22.298	23.322	24.328	25.316	26.287	27.242	28.184	29.112	30.027
166	20.713	21.809	22.883	23.934	24.966	25.980	26.976	27.957	28.923	29.875	30.814
168	21.250	22.375	23.476	24.555	25.614	26.653	27.676	28.682	29.673	30.650	31.613
170	21.795	22.949	24.078	25.185	26.271	27.337	28.386	29.418	30.434	31.436	32.424
172	22.348	23.531	24.689	25.824	26.937	28.031	29.106	30.165	31.207	32.234	33.247
174	22.909	24.122	25.309	26.472	27.614	28.735	29.837	30.922	31.990	33.043	34.082
176	23.478	24.722	25.938	27.130	28.300	29.449	30.578	31.690	32.785	33.864	34.929
178	24.056	25.329	26.576	27.797	28.996	30.173	31.330	32.469	33.591	34.697	35.788
180	24.641	25.946	27.223	28.474	29.701	30.907	32.093	33.259	34.409	35.541	36.658
182	25.235	26.571	27.878	29.160	30.417	31.652	32.866	34.061	35.238	36.397	37.542
184	25.837	27.205	28.543	29.855	31.142	32.406	33.650	34.873	36.078	37.266	38.437
186	26.447	27.847	29.217	30.560	31.878	33.172	34.444	35.697	36.930	38.146	39.345
188	27.065	28.498	29.901	31.275	32.623	33.948	35.250	36.532	37.794	39.038	40.265
190	27.692	29.159	30.593	31.999	33.379	34.734	36.067	37.378	38.669	39.942	41.198
192	28.328	29.828	31.295	32.734	34.145	35.531	36.894	38.235	39.557	40.859	42.143
194	28.972	30.506	32.007	33.478	34.921	36.339	37.733	39.105	40.456	41.788	43.101
196	29.624	31.193	32.728	34.232	35.708	37.157	38.583	39.986	41.367	42.729	44.072
198	30.286	31.889	33.458	34.996	36.505	37.987	39.444	40.878	42.290	43.683	45.056
200	30.955	32.595	34.198	35.770	37.312	38.827	40.316	41.782	43.226	44.649	46.052
202	31.634	33.309	34.948	36.554	38.130	39.678	41.200	42.698	44.174	45.628	47.062
204	32.322	34.033	35.708	37.349	38.959	40.541	42.096	43.626	45.134	46.619	48.085
206	33.018	34.766	36.477	38.154	39.798	41.414	43.003	44.566	46.106	47.624	49.121
208	33.723	35.509	37.256	38.969	40.649	42.299	43.922	45.518	47.091	48.641	50.170
210	34.438	36.261	38.046	39.794	41.510	43.195	44.852	46.483	48.089	49.672	51.233
212	35.161	37.023	38.845	40.630	42.382	44.102	45.794	47.459	49.099	50.715	52.309
214	35.894	37.794	39.654	41.477	43.265	45.021	46.748	48.448	50.122	51.772	53.399
216	36.636	38.576	40.474	42.334	44.159	45.952	47.714	49.449	51.158	52.842	54.503
218	37.387	39.366	41.303	43.202	45.064	46.894	48.693	50.463	52.207	53.925	55.620
220	38.147	40.167	42.144	44.080	45.981	47.847	49.683	51.489	53.268	55.022	56.751
222	38.917	40.978	42.994	44.970	46.909	48.813	50.685	52.528	54.343	56.132	57.897
224	39.696	41.798	43.855	45.870	47.848	49.790	51.700	53.580	55.431	57.256	59.056
226	40.485	42.629	44.726	46.782	48.799	50.780	52.728	54.645	56.533	58.394	60.229
228	41.283	43.469	45.608	47.704	49.761	51.781	53.768	55.722	57.648	59.545	61.417
230	42.091	44.320	46.501	48.638	50.735	52.795	54.820	56.813	58.776	60.711	62.619
232	42.909	45.181	47.405	49.583	51.721	53.821	55.885	57.917	59.918	61.891	63.836
234	43.737	46.053	48.319	50.540	52.718	54.859	56.963	59.034	61.074	63.084	65.067
236	44.574	46.935	49.244	51.507	53.728	55.909	58.054	60.165	62.243	64.292	66.313
238	45.422	47.827	50.180	52.487	54.749	56.972	59.158	61.308	63.427	65.515	67.574
240	46.279	48.730	51.128	53.478	55.783	58.048	60.275	62.466	64.624	66.752	68.850
242	47.147	49.644	52.086	54.480	56.829	59.136	61.405	63.637	65.836	68.003	70.141
244	48.025	50.568	53.056	55.495	57.887	60.237	62.548	64.822	67.062	69.269	71.447
246	48.913	51.503	54.037	56.521	58.958	61.351	63.705	66.021	68.302	70.550	72.768
248	49.812	52.449	55.030	57.559	60.041	62.478	64.875	67.233	69.556	71.846	74.104
250	50.720	53.406	56.034	58.609	61.136	63.618	66.058	68.460	70.826	73.157	75.457
252	51.640	54.374	57.050	59.672	62.244	64.771	67.256	69.701	72.109	74.483	76.824
254	52.570	55.353	58.077	60.746	63.365	65.938	68.467	70.956	73.408	75.825	78.208
256	53.511	56.344	59.116	61.833	64.499	67.118	69.692	72.226	74.722	77.181	79.607
258	54.462	57.346	60.168	62.933	65.646	68.311	70.931	73.510	76.050	78.554	81.023
260	55.424	58.359	61.231	64.045	66.806	69.518	72.185	74.809	77.394	79.942	82.454
262	56.397	59.384	62.306	65.169	67.979	70.739	73.452	76.123	78.753	81.345	83.902
264	57.382	60.420	63.393	66.306	69.165	71.973	74.734	77.451	80.127	82.765	85.366
266	58.377	61.468	64.493	67.457	70.365	73.221	76.030	78.794	81.517	84.200	86.847
268	59.383	62.528	65.604	68.620	71.578	74.484	77.341	80.153	82.922	85.652	88.344
270	60.401	63.599	66.729	69.796	72.805	75.760	78.666	81.527	84.343	87.120	89.858
272	61.430	64.683	67.866	70.985	74.045	77.051	80.007	82.916	85.780	88.604	91.389
274	62.471	65.779	69.015	72.187	75.299	78.356	81.362	84.320	87.234	90.105	92.937
276	63.523	66.886	70.178	73.403	76.567	79.676	82.732	85.740	88.703	91.623	94.503
278	64.586	68.006	71.353	74.632	77.849	81.010	84.118	87.176	90.188	93.157	96.085

Volume Equations from New Zealand Forest Service Technical Paper NO. 67, JC Ellis 1979

Volumes are cubic metres of roundwood inside bark.

Mature Kauri Volume Formulae:  $\log V = 2.045757 \log D + 0.696226 \log H + 0.00001657 D^2 - 2.350829$

# Mature Kauri - Standing Roundwood Volumes in Cubic Metres

d.b.h. (cm)	Merchantable Height (m)							
	24	25	26	27	28	29	30	31
20	0.400	0.411	0.423	0.434	0.445	0.456	0.467	0.478
22	0.486	0.500	0.514	0.527	0.541	0.554	0.568	0.581
24	0.581	0.597	0.614	0.630	0.647	0.663	0.678	0.694
26	0.684	0.704	0.723	0.743	0.762	0.781	0.799	0.818
28	0.796	0.819	0.842	0.864	0.887	0.908	0.930	0.952
30	0.917	0.944	0.970	0.996	1.021	1.046	1.071	1.096
32	1.047	1.077	1.107	1.136	1.165	1.194	1.223	1.251
34	1.185	1.220	1.253	1.287	1.320	1.352	1.385	1.417
36	1.333	1.371	1.409	1.447	1.484	1.520	1.557	1.593
38	1.489	1.532	1.574	1.616	1.658	1.699	1.739	1.779
40	1.654	1.702	1.749	1.795	1.842	1.887	1.932	1.977
42	1.828	1.881	1.933	1.984	2.035	2.086	2.136	2.185
44	2.011	2.069	2.127	2.183	2.239	2.295	2.349	2.404
46	2.203	2.267	2.330	2.392	2.453	2.514	2.574	2.633
48	2.405	2.474	2.542	2.610	2.677	2.743	2.809	2.874
50	2.615	2.690	2.765	2.838	2.911	2.983	3.054	3.125
52	2.834	2.916	2.997	3.077	3.156	3.234	3.311	3.387
54	3.063	3.151	3.239	3.325	3.410	3.494	3.578	3.660
56	3.301	3.396	3.490	3.583	3.675	3.766	3.856	3.945
58	3.548	3.650	3.751	3.851	3.950	4.047	4.144	4.240
60	3.804	3.914	4.022	4.129	4.235	4.340	4.443	4.546
62	4.070	4.187	4.303	4.417	4.531	4.643	4.754	4.863
64	4.345	4.470	4.593	4.716	4.837	4.956	5.075	5.192
66	4.629	4.762	4.894	5.024	5.153	5.281	5.407	5.532
68	4.922	5.064	5.205	5.343	5.480	5.616	5.750	5.883
70	5.226	5.376	5.525	5.672	5.818	5.962	6.104	6.245
72	5.538	5.698	5.856	6.011	6.166	6.318	6.469	6.618
74	5.860	6.029	6.196	6.361	6.524	6.686	6.845	7.003
76	6.192	6.371	6.547	6.721	6.894	7.064	7.233	7.400
78	6.533	6.722	6.908	7.092	7.273	7.453	7.631	7.808
80	6.884	7.083	7.279	7.472	7.664	7.854	8.041	8.227
82	7.245	7.454	7.660	7.864	8.066	8.265	8.462	8.658
84	7.615	7.835	8.051	8.266	8.478	8.687	8.895	9.100
86	7.995	8.226	8.453	8.678	8.901	9.121	9.339	9.555
88	8.385	8.627	8.865	9.101	9.335	9.566	9.794	10.020
90	8.785	9.038	9.288	9.535	9.780	10.022	10.261	10.498
92	9.194	9.459	9.721	9.980	10.236	10.489	10.739	10.987
94	9.614	9.891	10.165	10.435	10.703	10.967	11.229	11.489
96	10.043	10.333	10.619	10.901	11.181	11.457	11.731	12.002
98	10.482	10.785	11.083	11.378	11.670	11.959	12.244	12.527
100	10.932	11.247	11.558	11.866	12.170	12.471	12.769	13.064
102	11.392	11.720	12.044	12.365	12.682	12.996	13.306	13.613
104	11.861	12.203	12.541	12.875	13.205	13.532	13.855	14.175
106	12.341	12.697	13.048	13.396	13.739	14.079	14.415	14.748
108	12.831	13.201	13.567	13.928	14.285	14.638	14.988	15.334
110	13.332	13.716	14.096	14.471	14.842	15.209	15.573	15.932
112	13.843	14.242	14.636	15.026	15.411	15.792	16.169	16.543
114	14.364	14.778	15.187	15.591	15.991	16.387	16.778	17.165
116	14.895	15.325	15.749	16.168	16.583	16.993	17.399	17.801
118	15.437	15.882	16.322	16.757	17.186	17.611	18.032	18.448
120	15.990	16.451	16.906	17.357	17.802	18.242	18.678	19.109
122	16.553	17.030	17.502	17.968	18.429	18.884	19.335	19.782
124	17.127	17.621	18.109	18.591	19.068	19.539	20.006	20.468
126	17.712	18.222	18.727	19.225	19.718	20.206	20.689	21.166
128	18.307	18.835	19.356	19.871	20.381	20.885	21.384	21.878
130	18.913	19.458	19.997	20.529	21.056	21.577	22.092	22.602
132	19.530	20.093	20.649	21.199	21.743	22.281	22.813	23.339
134	20.158	20.739	21.313	21.881	22.442	22.997	23.546	24.090
136	20.797	21.396	21.989	22.574	23.153	23.726	24.292	24.853
138	21.447	22.065	22.676	23.280	23.877	24.467	25.052	25.630
140	22.108	22.745	23.375	23.997	24.613	25.221	25.824	26.420
142	22.780	23.437	24.086	24.727	25.361	25.988	26.609	27.223
144	23.464	24.140	24.808	25.469	26.122	26.768	27.407	28.040
146	24.158	24.855	25.543	26.223	26.895	27.560	28.219	28.870
148	24.864	25.581	26.289	26.989	27.681	28.366	29.043	29.714

Volume Equations from New Zealand Forest Service Technical Paper NO. 67, JC Ellis 1979

Volumes are cubic metres of roundwood inside bark.

Mature Kauri Volume Formulae:  $\text{Log } V = 2.045757 \text{ Log } D + 0.696226 \text{ Log } H + 0.000001657 D^2 - 2.350829$

# Mature Kauri - Standing Roundwood Volumes in Cubic Metres

d.b.h. (cm)	Merchantable Height (m)							
	24	25	26	27	28	29	30	31
150	25.582	26.319	27.048	27.768	28.480	29.185	29.882	30.572
152	26.311	27.069	27.819	28.559	29.292	30.016	30.733	31.443
154	27.051	27.831	28.602	29.363	30.116	30.861	31.598	32.328
156	27.804	28.605	29.397	30.180	30.954	31.719	32.477	33.227
158	28.567	29.391	30.205	31.009	31.804	32.590	33.369	34.139
160	29.343	30.189	31.025	31.851	32.667	33.475	34.275	35.066
162	30.130	30.999	31.857	32.705	33.544	34.374	35.195	36.007
164	30.930	31.821	32.702	33.573	34.434	35.285	36.128	36.962
166	31.741	32.656	33.560	34.453	35.337	36.211	37.076	37.932
168	32.564	33.503	34.430	35.347	36.253	37.150	38.037	38.916
170	33.400	34.362	35.314	36.254	37.184	38.103	39.013	39.914
172	34.247	35.234	36.210	37.174	38.127	39.070	40.003	40.927
174	35.107	36.119	37.119	38.107	39.084	40.051	41.008	41.955
176	35.979	37.016	38.041	39.054	40.055	41.046	42.026	42.997
178	36.864	37.927	38.976	40.014	41.040	42.055	43.060	44.054
180	37.761	38.850	39.925	40.988	42.039	43.079	44.108	45.126
182	38.671	39.785	40.887	41.975	43.052	44.117	45.170	46.213
184	39.593	40.734	41.862	42.977	44.079	45.169	46.248	47.315
186	40.528	41.696	42.851	43.992	45.120	46.236	47.340	48.433
188	41.476	42.672	43.853	45.020	46.175	47.317	48.447	49.566
190	42.437	43.660	44.869	46.063	47.245	48.413	49.569	50.714
192	43.410	44.662	45.898	47.120	48.329	49.524	50.707	51.878
194	44.397	45.677	46.942	48.192	49.427	50.650	51.860	53.057
196	45.397	46.706	47.999	49.277	50.541	51.791	53.028	54.252
198	46.411	47.749	49.070	50.377	51.669	52.947	54.211	55.463
200	47.437	48.805	50.156	51.491	52.812	54.118	55.410	56.690
202	48.477	49.875	51.256	52.620	53.970	55.304	56.625	57.933
204	49.531	50.959	52.370	53.764	55.143	56.506	57.856	59.192
206	50.598	52.057	53.498	54.922	56.331	57.724	59.103	60.467
208	51.679	53.169	54.641	56.096	57.534	58.957	60.365	61.759
210	52.774	54.295	55.798	57.284	58.753	60.206	61.644	63.067
212	53.882	55.436	56.970	58.487	59.987	61.471	62.939	64.392
214	55.005	56.591	58.157	59.706	61.237	62.751	64.250	65.734
216	56.142	57.760	59.359	60.940	62.502	64.048	65.578	67.092
218	57.293	58.945	60.576	62.189	63.784	65.361	66.922	68.468
220	58.458	60.143	61.808	63.454	65.081	66.691	68.283	69.860
222	59.638	61.357	63.056	64.734	66.394	68.036	69.661	71.270
224	60.832	62.586	64.318	66.031	67.724	69.399	71.056	72.697
226	62.041	63.829	65.596	67.343	69.070	70.778	72.468	74.142
228	63.264	65.088	66.890	68.671	70.432	72.174	73.897	75.604
230	64.502	66.362	68.199	70.015	71.810	73.586	75.344	77.084
232	65.756	67.651	69.524	71.375	73.206	75.016	76.808	78.581
234	67.024	68.956	70.865	72.752	74.618	76.463	78.289	80.097
236	68.308	70.277	72.222	74.145	76.046	77.927	79.788	81.631
238	69.606	71.613	73.595	75.555	77.492	79.409	81.305	83.183
240	70.920	72.965	74.985	76.981	78.955	80.908	82.840	84.753
242	72.250	74.333	76.391	78.424	80.436	82.425	84.394	86.342
244	73.595	75.717	77.813	79.885	81.933	83.960	85.965	87.950
246	74.956	77.117	79.252	81.362	83.448	85.512	87.555	89.576
248	76.333	78.534	80.708	82.857	84.981	87.083	89.163	91.222
250	77.726	79.967	82.180	84.368	86.532	88.672	90.790	92.886
252	79.135	81.416	83.670	85.898	88.100	90.279	92.436	94.570
254	80.560	82.883	85.177	87.445	89.687	91.905	94.100	96.273
256	82.002	84.366	86.701	89.009	91.292	93.550	95.784	97.996
258	83.460	85.866	88.243	90.592	92.915	95.213	97.487	99.738
260	84.934	87.383	89.802	92.193	94.557	96.895	99.210	101.500
262	86.425	88.917	91.378	93.811	96.217	98.597	100.952	103.283
264	87.934	90.469	92.973	95.448	97.896	100.317	102.713	105.085
266	89.459	92.038	94.586	97.104	99.594	102.057	104.495	106.908
268	91.001	93.625	96.216	98.778	101.311	103.817	106.296	108.751
270	92.561	95.229	97.865	100.471	103.047	105.596	108.118	110.615
272	94.138	96.852	99.533	102.183	104.803	107.395	109.960	112.499
274	95.732	98.492	101.219	103.914	106.578	109.214	111.823	114.405
276	97.345	100.151	102.923	105.664	108.373	111.054	113.706	116.332
278	98.975	101.828	104.647	107.433	110.188	112.913	115.610	118.280

Volume Equallons from New Zealand Forest Service Technical Paper NO. 67, JC Ellis 1979

Volumes are cubic metres of roundwood inside bark.

Mature Kauri Volume Formulae:  $\text{Log } V = 2.045757 \text{ Log } D + 0.696226 \text{ Log } H + 0.00001657 D^2 - 2.350829$

## **Estimation of Standing Volume for Indigenous Tree Species.**

The volume of standing trees for most indigenous tree species can be estimated using the tables attached.

The attached volume tables are reproduced from "Tree Volume Equations for the Major Indigenous Species in New Zealand, New Zealand Forest Service Technical Paper Number 67(JC Ellis 1979). These tables estimate the volume of standing trees from the measurement of Diameter at Breast Height (DBH) and merchantable height. There is no deduction for defect built into these tables. The estimated volume excludes the stump (typically about 30cm), and is an 'under bark' volume.

The four volume tables attached may be used to estimate the standing roundwood volume for indigenous timber species as follows:

- **Mature Rimu**            These tables shall be used to estimate the volume of all podocarp species, for example rimu, totara, matai, kahikatea and miro.
- **Mature Tawa**            These tables shall be used for tawa and all broadleaved hardwood species other than beech, for example rewa rewa, hinau, maire and taraire.
- **Mature Beech**            These tables shall be used for all beech species.
- **Mature Kauri**            These tables shall only be used for kauri.

A description of correct tree measurement follows.

### **Height and Diameter Measurement of Trees**

Diameters in these tables are Diameters at Breast Height (DBH) measured over bark, in centimetres. DBH is measured at 1.4 metres above ground level. Loose bark and vines should be removed prior to measurement.

A trees height should be measured to the top of the merchantable bole, recorded in metres. The height of the bole at either the point where the bole branches into the crown of the tree, or the point where the bole reaches a minimum diameter of 15 centimetres, whichever is the larger.

Those not familiar with measurement of height and diameter of standing trees should refer to a forestry consultant or a suitable textbook.