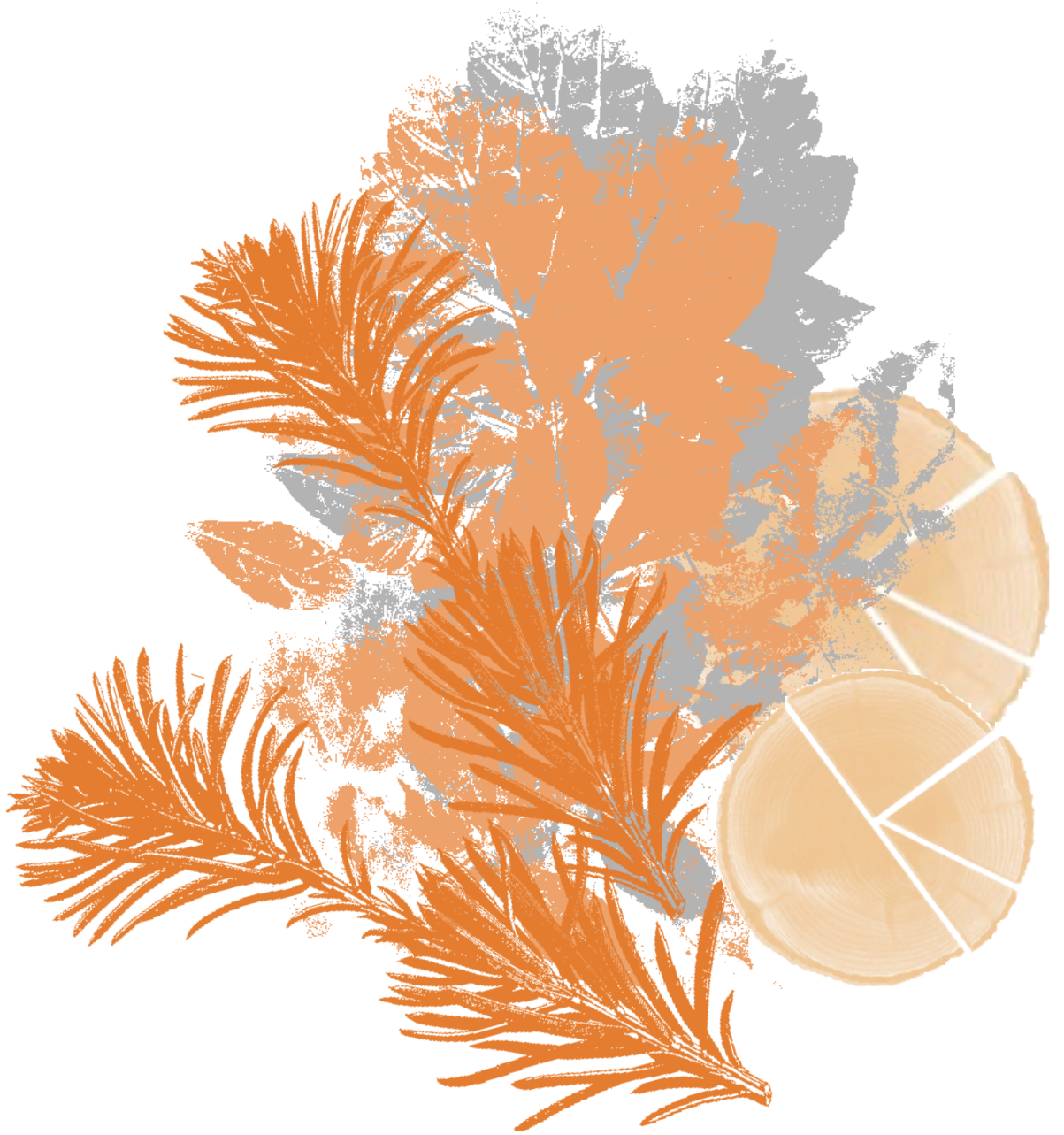


SAWMILL SURVEY 1996



Forestry Commission

SAWMILL SURVEY 1996

**Report on the survey of sawmill consumption and production in
Great Britain in 1996, carried out by Forestry Commission HQ
Statistics on behalf of the Sub-Committee on Supply and Demand
of the Home Grown Timber Advisory Committee.**

Simon Gillam, HQ Statistics, Forestry Commission.

Membership of the HGTAC Sub-Committee on Supply and Demand

Mr J R Fletcher CBE, Chairman
Mr P T G Beadle, UK Wood Processors Association
Mr A Bloomfield OBE, UK Wood Processors Association
Mr A Corson, Forest Enterprise
Mr H Macleod, UK Forest Products Association
Mr A Smith, UK Forest Products Association
Mr R H Adam, Timber Growers Association (Scotland)
Mr W A Willis, Timber Growers Association (England & Wales)
Mr D A Thompson, Forestry Authority
Mr R E Selmes, Technical Secretary, Forestry Authority
Mrs L Rennie, Admin Secretary

Commentaries to this report (shown in italics) have been added by the UKFPA representatives on the Committee to aid interpretation.

This report was prepared by the HQ Statistics section of the Forestry Commission Secretariat. Any enquiries should be addressed to:

Simon Gillam
HQ Statistics
Forestry Commission
231 Corstorphine Road
Edinburgh EH12 7AT
Great Britain
Telephone: +44 (0)131 334 0303
E-mail: statistics@forestry.gov.uk

GB SAWMILL SURVEY 1996

INTRODUCTION & SUMMARY

This report gives results from the Sawmill Survey for 1996. The survey of sawmills in Great Britain is carried out by Forestry Commission HQ Statistics for the Sub-Committee on Supply and Demand of the Home Grown Timber Advisory Committee (HGTAC-SSD). We gratefully acknowledge the assistance of all sawmills that completed the survey questionnaire, of the UK Forest Products Association and its representatives on HGTAC-SSD, Hamish Macleod and Andrew Smith, and of other members of HGTAC-SSD who provided advice.

The latest estimates for consumption and production in the last three years, incorporating revisions to 1994 and 1995, are shown below, expressed in thousand cubic metres underbark for consumption, and thousand cubic metres sawnwood for production. These include smaller mills (less than 1000 m³ sawnwood production).

Estimates of Consumption and Production 1994 - 1996

			1994	1995	1996
Softwood	consumption	000 m ³ ub	3,266	3,244	3,377
	production	000 m ³	1,864	1,849	1,888
Hardwood	consumption	000 m ³ ub	287	304	243
	production	000 m ³	166	179	145

The report gives more detailed information, including data from a longer questionnaire completed every third year by larger mills (over 1000 m³ sawnwood production).

INDEX

ANNUAL SURVEY 1996

	Page
<u>Table 1</u> <u>Estimates of Consumption and Production 1994-1996</u>	<u>1</u>
<u>Table 2</u> <u>Number of Sawmills 1996</u>	<u>2</u>
<u>Table 3</u> <u>Softwood consumption 1996</u>	<u>3</u>
<u>Table 4</u> <u>Softwood production 1996</u>	<u>3</u>
<u>Table 5</u> <u>Hardwood consumption 1996</u>	<u>4</u>
<u>Table 6</u> <u>Hardwood production 1996</u>	<u>4</u>
<u>Table 7</u> <u>Summary softwood statistics 1980-1996 (excluding small mills)</u>	<u>5</u>
<u>Table 8</u> <u>Summary hardwood statistics 1980-1996 (excluding small mills)</u>	<u>6</u>

FULL TRIENNIAL SURVEY

<u>Table 9</u> <u>Softwood</u>	<u>9</u>
<u>Table 10</u> <u>Hardwood</u>	<u>10</u>
<u>Table 11</u> <u>Additional facilities of mill</u>	<u>11</u>
<u>Table 12</u> <u>Employment</u>	<u>11</u>

APPENDIX I - SURVEY METHODOLOGY

<u>1996 Annual Survey Responses</u>	<u>12</u>
<u>Revisions to 1994 and 1995 and Estimates for Non-respondents</u>	<u>12</u>
<u>Full Triennial Survey Responses and Rating Factors</u>	<u>14</u>

APPENDIX II

<u>Survey Questionnaires</u>	<u>15</u>
------------------------------	-----------

GB SAWMILLS - ANNUAL SURVEY 1996

1. This section gives results for timber consumption and sawnwood production from the Sawmill Survey for 1996, including mills with less than 1000 m³ sawnwood production.

1996 Survey Responses

2. In the 1996 Survey 460 questionnaires were sent out and 252 responses were returned in some form, a response rate of 55%. Because of the much higher response rate from large mills, the respondents are estimated to have represented 87% of total softwood consumption and 60% of total hardwood consumption. This response rate was about the same as for 1995, but much lower than the 1994 survey, for which (after extended pursuit of non-respondents) the final response rate (by number of mills) was over 80%. Further details are in Appendix I.

Revisions to 1994 and 1995 and Estimates for Non-Respondents

3. During the processing of the 1996 Sawmill Survey, the data for 1994 and 1995 were subjected to further checks, enabling some errors and anomalies to be corrected and better estimates to be imputed for non-respondents; further details are in the Appendix. The latest estimates for consumption and production in the last three years, incorporating revisions to 1994 and 1995, are shown in Table 1, expressed in thousand cubic metres underbark for consumption, and thousand cubic metres sawnwood for production.

TABLE 1 Estimates of Consumption and Production 1994 - 1996

			1994	1995	1996
Softwood	consumption	000 m ³ ub	3,266	3,244	3,377
	production	000 m ³	1,864	1,849	1,888
Hardwood	consumption	000 m ³ ub	287	304	243
	production	000 m ³	166	179	145

Comment

In 1996 the market for hardwood trees of low quality was especially difficult.

Number of Mills

4. Based on all the 1996 survey responses, together with data from the 1995 or 1994 survey for those who did not respond for 1996 (as described in Appendix I), it is estimated that there were 407 sawmills processing British timber in 1996, of which 195 produced at least 1000 m³ sawnwood. Of the 195 mills, 127 processed softwood only, 16 hardwood only, and 52 both hardwood and softwood. Of the 212 smaller mills, 132 processed softwood only, 14 hardwood only, and 66 both hardwood and softwood.

TABLE 2 Number of Sawmills 1996

	Size category (000 m ³ production)						All
	<1	1-5	5-10	10-25	25-50	50+	
GB Total	212	113	40	20	15	7	407
England	147	81	22	11	6	2	269
Wales	18	8	4	2	2	2	36
Scotland	47	24	14	7	7	3	102

Imported Round Timber

5. Imported timber, and sawnwood produced from it, is excluded from all the statistics reported from the survey. The sawmills that responded to the 1996 survey reported total consumption of 41,000 m³ underbark of imported softwood and around 1,000 m³ underbark of imported hardwood. Information about imported timber was not collected for 1994 or 1995, so estimates of imported timber used by non-respondents cannot be compiled. Compared with figures reported for the 1993 survey, the imported softwood figure is similar and the imported hardwood figure is much lower.

British Softwood

6. Softwood consumption (in thousand cubic metres underbark) and production (in thousand cubic metres sawnwood) are shown in the following tables, including estimates for mills as described in Appendix I. Figures for England and Wales have been combined, to avoid disclosing data for individual mills in Wales. Total softwood consumption was 3.38 million m³ underbark and sawn softwood production was 1.89 million m³ sawnwood. This showed little change from 1995; there had been an increase of about 10% in total for the largest mills (over 10,000 m³), little change for the smaller mills, and the closure of about 20 mills.

7. Apparent recovery was 56% - close to the results for 1994 and 1995. This is calculated as the ratio of production to consumption; it is not representative of the recovery figures used by management at mill level for production management purposes.

TABLE 3 softwood consumption - thousand m³ underbark

	Size category (000 m ³ production)						All
	<1	1-5	5-10	10-25	25-50	50+	
GB Total	86	357	388	535	1,013	998	3,377
England & Wales	65	252	204	329	514	602	1,966
Scotland	21	105	184	206	499	396	1,411

TABLE 4 softwood production - thousand m³ sawnwood

	Size category (000 m ³ production)						All
	<1	1-5	5-10	10-25	25-50	50+	
GB Total	49	216	216	309	553	546	1,888
England & Wales	37	156	118	197	267	333	1,108
Scotland	12	60	98	111	286	213	780

British Hardwood

8. Hardwood consumption (in thousand cubic metres underbark) and production (in thousand cubic metres sawnwood) are shown in the following tables, again including estimates for mills as described in Appendix I. Results for all mills in the three largest size categories are combined, to avoid disclosure of individual returns. Apparent recovery is 60%, slightly up on the results for 1995 and 1994. Total hardwood consumption was 243,000 m³ underbark and total sawn hardwood production was 145,000 m³ sawnwood, a fall of around 18% from the average of 1995 and 1994. All sizes of mill showed a fall, and the total fall was greater because of mill closures.

TABLE 5 hardwood consumption - thousand m³ underbark

	Size category (000 m ³ total production: hard + soft)				
	<1	1-5	5-10	10+	All
GB Total	23	101	87	32	243
England & Wales	21	90	77	32	220
Scotland	2	10	10	0	22

TABLE 6 hardwood production - thousand m³ sawnwood

	Size category (000 m ³ total production: hard + soft)				
	<1	1-5	5-10	10+	All
GB Total	12	62	54	17	145
England & Wales	11	57	49	17	134
Scotland	1	5	5	0	11

Summary - Mills over 1000 m³ total production

9. Tables 7 and 8 (on the next two pages) give summaries of production and consumption, for softwood and hardwood, for the years 1987 to 1996, together with figures for 1983 and 1980. Before 1994 all Sawmill Survey results excluded mills producing less than 1000 m³ per year (500 m³ for 1980 and 1983). For comparability, the smaller mills are also excluded for 1994-1996 in these two tables. Results for 1995 and 1994 have been revised from those published in previous years.

TABLE 7 Summary Softwood Statistics (excluding small mills*)

Year	Log Consumption (000's m³ ub)	Sawnwood Production (000's m³ sawn)	Apparent Recovery (%)
Scotland			
1980	721	423	59
1983	949	537	56
1987	1,071	623	58
1988	1,204	676	56
1989	1,322	770	58
1990	1,397	812	58
1991	1,405	797	57
1992	1,337	740	55
1993	1,334	781	59
1994	1,381	781	57
1995	1,342	754	56
1996	1,390	768	55
England & Wales			
1980	917	514	56
1983	1,190	690	58
1987	1,501	907	60
1988	1,652	926	56
1989	1,722	1,005	58
1990	1,724	1,042	62
1991	1,520	916	60
1992	1,798	1,083	60
1993	1,913	1,116	58
1994	1,792	1,031	58
1995	1,823	1,050	58
1996	1,902	1,072	56
Great Britain			
1980	1,638	937	57
1983	2,139	1,227	57
1987	2,572	1,530	59
1988	2,856	1,602	56
1989	3,044	1,775	58
1990	3,121	1,854	59
1991	2,925	1,713	59
1992	3,135	1,823	58
1993	3,247	1,897	58
1994	3,174	1,812	57
1995	3,164	1,804	57
1996	3,291	1,839	56

* This summary table excludes small sawmills that have total production less than 1000 m³ per year (less than 500 m³ for 1980 and 1983).

TABLE 8 Summary Hardwood Statistics (excluding small mills*)

Year	Log Consumption (000's m³ ub)	Sawnwood Production (000's m³ sawn)	Apparent Recovery (%)
Scotland			
1980	71	42	59
1983	39	19	49
1987	38	24	63
1988	42	21	50
1989	24	13	53
1990	32	18	56
1991	30	16	53
1992	21	12	57
1993	7	4	50
1994	17	9	53
1995	22	13	59
1996	20	10	51
England & Wales			
1980	871	562	65
1983	624	371	59
1987	402	237	59
1988	433	239	55
1989	590	352	59
1990	485	320	66
1991	528	331	63
1992	282	169	60
1993	231	139	60
1994	249	146	59
1995	264	156	59
1996	200	123	61
Great Britain			
1980	942	604	64
1983	663	390	59
1987	440	261	59
1988	475	260	55
1989	614	364	59
1990	517	338	65
1991	558	347	62
1992	303	181	60
1993	238	143	60
1994	266	155	58
1995	286	169	59
1996	220	133	60

* This summary table excludes small sawmills that have total production less than 1000 m³ per year (less than 500 m³ for 1980 and 1983).

GB SAWMILLS - FULL TRIENNIAL SURVEY

10. More detailed information is collected every third year from larger mills that produce at least 1000 m³ sawnwood. Of the estimated 195 mills producing over 1000 m³ sawnwood, 114 completed a full questionnaire. Further details of the response rates and rating factors are given in Appendix I.

Days and hours worked

11. Most mills (80%) worked for between 220 and 260 days in 1996; 5% worked for less than this and 15% for more. This is little change from the 241 day average in 1993.

12. More than half of all mills (57%) worked 8 hours a day, and most of the rest (27%) worked 9 hours. The largest mills (over 25,000 m³ production) tended to work longer: about one third worked 9 hours, one third 8 or less and one third 10 or more. The unweighted average was around 8.5 hours/day, compared with 8.8 hours/day on average in 1993.

Comment

Working on double shifts is increasingly common in the larger mills.

Converting long length logs

13. Most of the mills (74%) indicated that they converted long length logs into shorter logs before primary breakdown, a slightly lower percentage than in 1993. The main change was in the largest categories (over 25,000 m³ production), among which only half the mills converted long length logs in 1996, compared with around three-quarters in 1993.

Softwood

14. Total **softwood capacity** in 1996 was 3,963,000 cubic metres underbark, about the same as in 1993. About 30% of the softwood capacity was in mills producing more than 50,000 cubic metres sawnwood, compared with only one sixth in 1993. Increased capacity of large mills, which may be related to double shifting, offset capacity lost by mill closures. Softwood consumption in 1996 was running at 83% of capacity.

15. For mills that reported a breakdown of softwood consumption by **size category**, 61% was top diameter 18 cm and over, compared with 64% in 1993. The **minimum top diameter** normally used was 14 cm or less for 44% of mills, 15-16 cm for 20%, 18-19 cm for 15% and 20 cm or over for 21%; this gives a similar average to the 16 cm reported for 1993. The **maximum butt diameter** of log that the mills were able to cut was up to 50 cm for 28% of mills, 51-70 cm for 19%, 71-100 cm for 25%, and over 100 cm for 28%. The **species breakdown** was similar to 1993: spruce 59%, pine 21% and other conifers 19%.

16. Softwood production broken down by **market classification** showed that in 1996 34% went to construction (including agricultural buildings), 29% to fencing, 33% to packaging and pallets and 5% to all other markets. Compared with 1993, this was an increase in construction (up from 21%) and a decrease in fencing (down from 42%), with little change in other markets. This is the first time that the Sawmill Survey has shown construction to be the largest market for softwood sawnwood.

17. Softwood **residues** added up to 1,676,000 green tonnes, including imputed figures for mills that did not give data for residues. This was 15% less than reported for 1993, despite little change in sawn softwood production. In 1996, 86% of softwood residues (1,455,000 green tonnes) were sold to wood processing industries, 3% to other industries, 8% sold as bark, and less than 2% burnt or disposed of; these were similar

proportions to 1993. The sales of softwood residues to wood processing industries reported by sawmills were about 400,000 green tonnes less than the consumption of residues of British roundwood reported for 1996 by these industries (wood-based panels and pulp). A small part of the difference will have been residues from small sawmills, but the rest is unexplained; it could have included these industries' use of recycled wood, other industrial residues and stock changes, but there could also have been under-reporting of residues in the Sawmill Survey.

Hardwood

18. In 1996, total **hardwood capacity** was 276,000 cubic metres underbark. **Hardwood consumption** was 220,000 cubic metres underbark, 80% of capacity, similar to 1993.

19. For mills that reported a breakdown of hardwood consumption by size category, 76% of the hardwood consumed was top diameter 40 cm and over. The **minimum top diameter** normally used was 16 cm or less for 22% of mills, 18-20 cm for 28% and 25 cm or over for 50%; the average was similar to the 25 cm reported for 1993. The **maximum butt diameter** of log that the mills were able to cut was over 100 cm for more than half the mills that reported a figure. All these results were similar to 1993.

20. The **main species** reported were oak 32%, beech 20%, ash 12% and sycamore 14%. Sycamore was reported separately for the first time in 1996, the other figures were similar to 1993.

21. Hardwood production broken down by **market classification** showed that furniture was again the largest single market (30% of production). **Hardwood residues** added up to 75,000 green tonnes, of which two-thirds (50,000 green tonnes) were sold to wood processing industries; this is more than the hardwood residues that these industries reported consuming in 1996.

TABLE 9 Softwood - Consumption and Production (1996 Triennial Survey)

	Size category (000 m ³ production)					All
	1-5	5-10	10-25	25-50	50+	
Capacity						
(000 m ³ underbark)	477	430	667	1,197	1,192	3,963
% of capacity	77%	90%	80%	85%	84%	83%
Consumption						
(000 m ³ underbark)	362	388	535	1,013	998	3,296
Top diameter 18cm+	251	196	226	579	559	1,812
Top diameter <18cm	100	167	232	434	223	1,156
Not reported	10	25	77	0	216	328
Species						
Spruce	144	199	183	579	853	1,958
Pine	103	83	261	213	38	698
Other conifer	114	106	91	221	108	639
Not reported	1	0	0	0	0	1
Production						
(000 m ³ sawnwood)	216	216	309	553	546	1,839
Construction	39	20	43	182	338	622
Packaging & pallets	66	102	127	158	146	601
Fencing	98	88	115	179	48	528
Mining timber	1	1	17	11	0	30
Furniture	1	1	0	0	0	3
Other	10	3	7	23	14	56
Residues						
(000 green tonnes)	144	184	265	513	571	1,676
To Wood processing	113	153	235	459	495	1,455
Peeled Chips	31	53	133	360	378	955
Sawdust	14	36	53	78	107	287
Unpeeled chips	22	50	46	17	6	141
Slabwood	47	11	0	0	0	58
Other	0	2	3	4	3	12
Other Sales	25	15	9	6	2	57
Peeled Chips	0	0	0	0	2	3
Sawdust	16	10	7	4	0	37
Unpeeled chips	2	0	1	0	0	3
Slabwood	2	0	1	0	0	3
Firewood	5	4	1	1	0	11
Other	0	0	0	1	0	2
Burnt for heat	1	0	2	3	10	15
Disposed rubbish/burning	3	1	1	2	0	7
Sold as bark	3	15	18	43	63	142

Comment

The emergence of construction timber as the largest category of sawnwood (34% of total production) is of major significance. In the 1993 survey construction timber accounted for 21% of sawnwood production although total sawnwood in that year was estimated at 1 897 000 m³.

TABLE 10 Hardwood - Consumption and Production (1996 Triennial Survey)

	Size category			
	(000 m ³ total production: hard + soft)			
	1-5	5-10	10+	All
Capacity (000 m ³ underbark)	143	91	42	276
% of capacity	70%	93%	63%	80%
Consumption (000 m ³ underbark)	101	87	32	220
Top diameter 40cm+	53	68	18	140
Top diameter <40cm	20	19	5	44
Not reported	28	0	9	37
Oak	29	26	12	67
Beech	17	18	7	42
Sycamore	4	22	3	29
Ash	7	14	4	25
Elm	1	4	2	7
Other white hard	16	3	3	22
Other hard	13	0	2	16
Not reported	13	0	0	13
Production (000 m³ sawnwood)	62	54	17	133
Construction	9	10	2	21
Packaging & pallets	16	1	10	27
Fencing	3	2	2	8
Mining timber	4	13	1	18
Furniture	19	20	1	40
Other	10	8	0	18
Residues (000 green tonnes)	38	9	28	75
To Wood processing	22	4	24	50
Peeled Chips	0	0	7	7
Sawdust	6	3	4	13
Unpeeled chips	9	1	14	23
Slabwood	7	0	0	7
Other	0	0	0	0
Other Sales	11	5	4	19
Peeled Chips	0	0	0	0
Sawdust	2	1	1	3
Unpeeled chips	0	0	1	1
Slabwood	3	1	1	4
Firewood	5	3	1	10
Other	1	0	0	1
Burnt for heat	4	0	0	4
Disposed rubbish/burning	1	0	0	2
Sold as bark	0	0	0	0

Additional Facilities of Mill

22. Of the (rated up) total of 195 mills, the number with each of the additional facilities is shown below (treating non-response to this question as “no”). Capacity and throughput for the last two facilities were estimated by rating up respondents’ figures by the softwood production rating factor for each size category (as described in Appendix I). All figures are higher than those shown in the 1993 survey report, which did not rate up for non-response.

TABLE 11 Additional Facilities of Mill (1996 Triennial Survey)

	Number of mills	Capacity (000 m ³)	Throughput (000 m ³)
Debarker	65		
Log sorter	33		
Drop sorter	14		
Automatic sticker/stacker	18		
Additional resawing/cross-cutting	171		
Machining (e.g. planing, moulding)	97		
Treatment plant	94		
Machine stress grading	21	475	311
Kiln drying	44	522	326
All mills	195		

Comment

Kiln drying capacity appears to have more than doubled since the 1993 survey with throughput in kilns increasing by nearly 900% as a result of the requirement for structural timber to be dry graded. These figures are exaggerated however, as the 1993 figures were not up-rated for non-respondents (see above).

Employment

23. The numbers of direct employees and of contractors and subcontractors are shown below, rated up according to the number of mills responding in each size category. Alternative figures, calculated using softwood production rating factors for each category, gave similar results so are not shown in this report. The total employment is 9% lower than was estimated for 1993. Contractors or sub-contractors accounted for three-quarters of the employment on haulage (up slightly from 1993), but less than 2% of other employment.

TABLE 12 Sawmill Employment (1996 Triennial Survey)

	Direct	Contract	Total
Sawmill line workers	2,482	24	2,506
Secondary process workers	1,331	16	1,347
Others (e.g. fitters)	415	38	453
Supervising & managerial	429	0	429
Clerical staff	359	2	361
Marketing & sales staff	217	0	217
Haulage from mill	188	651	839
Haulage to mill	124	317	441
TOTAL	5,545	1,049	6,594

1996 Annual Survey Responses

1. In the 1996 Survey 460 questionnaires were sent out in January 1997 to all sawmills known to UK Forest Products Association or Forestry Commission as possible users of British timber. One reminder was issued in early March to all non-respondents. The largest non-respondents, each estimated to have annual production of over 10,000 m³, were contacted again by telephone and by letter. At the end of this process, responses had been received for 39 of the 42 largest mills (a response rate of over 90%), 88 of the 153 mills between 1,000 and 10,000 m³ (58% response), 78 of the estimated 212 smaller mills (37% response) and 47 mills were reported as having closed or having consumed no British timber in the year. In total, 252 responses were returned in some form, a response rate of 55%. Because of the much higher response rate from large mills, the respondents are estimated to have represented 87% of total softwood consumption and 60% of total hardwood consumption. This response rate was about the same as for 1995, but much lower than the 1994 survey, for which (after extended pursuit of non-respondents) the final response rate (by number of mills) was over 80%.

2. Of the 252 responses for 1996:

- 119 completed the full (pink) questionnaire, intended for mills over 1000 m³ production,
- 75 completed the shorter (yellow) questionnaire, intended for smaller mills,
- 11 reported their consumption figures in some other way,
- 47 reported that the sawmill no longer exists, or they didn't saw any British logs in 1996.

Revisions to 1994 and 1995 and Estimates for Non-Respondents

3. During the processing of the 1996 Sawmill Survey, the data for 1994 and 1995 were subjected to further checks, enabling some errors and anomalies to be corrected. The largest change was to remove the double-counting of one of the largest sawmills, for which a second return had been made each year giving (slightly different) figures for the large mill, instead of figures for a different small mill owned by the same company.

4. Other corrections to data for 1994 and 1995 did not make much difference to the totals, but enabled better estimates to be imputed for non-respondents. For example, where a mill reported consumption but left production blank, an estimate could be based on the ratio of production to consumption reported for that mill in another year. Or if the reported consumption and production figures were incompatible (e.g. production greater than consumption), then the figures for other years could suggest what was the likely mistake.

5. A total of 473 mills were either recorded in the 1994 survey, or have been added for 1995 or 1996. Each has been given a unique reference number for the Sawmill survey. Of the 473 mills, 12 were taken out after the 1995 survey as no longer being in existence, so the full 1996 tables are based on 461 mills. We estimate that only 407 of these were active in 1996, as 47 reported for 1996 that the mill no longer exists or sawed no British timber, and 7 non-respondents for 1996 reported no sawmill activity on their previous year's return.

6. For each of the 473 mills, we have either reported figures or estimates of consumption and production for 1994. For 1995, the estimate for each non-respondent was set equal to that mill's figures for 1994, as the mills reporting figures showed little change between the two years. For 1996, the estimate for each non-respondent was based on that mill's figure for 1995 (if available) or 1994, but was increased or decreased in line with the trends reported by other mills: an increase of 10% for softwood for mills with production of at least 10,000 m³, no change for softwood from smaller mills, and a decrease of 15% for all hardwood.

7. The tables below illustrate how the 1996 figures have been derived, using responses to the 1996 survey and data from the 1995 or 1994 surveys for mills that did not respond in 1996.

Number of Sawmills 1996

	Size category (000 m ³ production)						All
	<1	1-5	5-10	10-25	25-50	50+	
from 1996 survey	78	61	27	18	14	7	205
from 1995/94	134	52	13	2	1	0	202
GB Total	212	113	40	20	15	7	407
<i>1996 response rate</i>	37%	54%	68%	90%	93%	100%	50%

Softwood consumption and production 1996

	Size category (000 m ³ production)						All
	<1	1-5	5-10	10-25	25-50	50+	
Consumption (000 m ³ underbark)							
from 1996 survey	33	173	282	487	958	998	2,931
from 1995/94	53	184	106	48	55	0	446
GB Total	86	357	388	535	1,013	998	3,377
<i>1996 response rate</i>	38%	48%	73%	91%	95%	100%	87%
Production (000 m ³ sawnwood)							
from 1996 survey	20	102	159	281	522	546	1,629
from 1995/94	29	114	57	28	31	0	259
GB Total	49	216	216	309	553	546	1,888

Hardwood consumption and production 1996

	Size category (000 m ³ total production: hard + soft)				
	<1	1-5	5-10	10+	All
Consumption (000 m ³ underbark)					
from 1996 survey	11	76	32	28	147
from 1995/94	12	24	55	4	96
GB Total	23	101	87	32	243
<i>1996 response rate</i>	<i>48%</i>	<i>75%</i>	<i>37%</i>	<i>88%</i>	<i>60%</i>
Production (000 m ³ sawnwood)					
from 1996 survey	6	45	22	15	85
from 1995/94	6	17	32	2	60
GB Total	12	62	54	17	145

Full Triennial Survey Responses and Rating Factors

8. Of the estimated 195 mills producing over 1000 m³ sawnwood, 114 completed a full questionnaire, 13 reported their 1996 figures in some other form (e.g. on the short yellow questionnaire), and 68 did not report any figures for 1996, so estimates based on 1995/4 were used in the report on the Annual Survey. The response rate to the full questionnaire is 58% if measured by the number of mills, but 85% by softwood volume and 60% by hardwood volume. The full questionnaire was also completed for 5 mills that produced less than 1000 m³ sawnwood; these were excluded from the triennial survey analysis. The response rate (number of mills) for each size category is shown below.

	Size category (000 m ³ production)					All
	1-5	5-10	10-25	25-50	50+	
Mills with full (pink) questionnaire	52	24	17	14	7	114
Other mills	61	16	3	1	0	81
Total	113	40	20	15	7	195
<i>Response rate</i>	<i>46%</i>	<i>60%</i>	<i>85%</i>	<i>93%</i>	<i>100%</i>	<i>58%</i>

9. In all paragraphs and tables for the full triennial survey, data reported by the 114 respondents were rated up to give estimates for all 195 mills producing over 1000 m³ sawnwood. Separate rating factors were used for each of the 5 size categories. Capacity and consumption were rated up by factors based on consumption, with separate factors for hardwood and softwood. Production and residues were rated up by factors based on production, again with separate factors for hardwood and softwood. This ensured that production and consumption estimates in these tables are consistent with those given in the report on the Annual Survey. Responses to all other questions were rated up by factors based on the number of mills - the inverse of the response rates shown above.

HOME GROWN TIMBER ADVISORY COMMITTEE SUB-COMMITTEE ON SUPPLY AND DEMAND

SAWMILL SURVEY - YEAR ENDING DECEMBER 1996

1. THE SAWMILL : Please tick either A, B or C

- A** **This sawmill no longer exists.**
Please ignore the enclosed questionnaires - just return this form.
- B** **The sawmill had total sawnwood production (British and imported timber) of up to 1000 cubic metres during the year ending December 1996.**
Please just fill in the short (yellow) questionnaire, and return it with this form.
- C** **The sawmill had total sawnwood production (British and imported timber) of more than 1000 cubic metres during the year ending December 1996.**
Please answer the full (pink) questionnaire about the sawmill, and return it with this form.
If you are unable to provide exact figures then estimates are acceptable.

2. OTHER ACTIVITIES

If your company is a round fencing manufacturer, using British timber, and you have not received an HGTAC fencing questionnaire, please tick this box.

If your company also harvests softwood timber from private estates, please tick this box and indicate the approximate quantity harvested in 1996, in green tonnes.

Quantity green tonnes

Please return this form to Forestry Commission Statistics Branch in the Freepost envelope provided.

SAWMILLS - 1996 : SHORT QUESTIONNAIRE

- FOR MILLS PRODUCING UP TO 1000 m³

Mills with production of more than 1000 m³ are requested to complete the full (pink) questionnaire instead of this short (yellow) questionnaire.

UNITS USED

For consumption of logs, you can give volumes in metric units (cubic metres underbark, m³ ub) or in imperial units (hoppus feet, Hft), or figures in tonnes. For production of sawnwood, you can give figures in cubic metres (m³) or cubic feet (cu ft). **Please indicate which units you are using by circling the appropriate units.**

CONSUMPTION OF LOGS

Q. What was the total consumption of British and imported logs in the year ending December 1996? (This should be the volume put to the saw in the year rather than the volume purchased or delivered in the year).

	Softwood	Circle units used	Hardwood	Circle units used
British timber	<input type="text"/>	m ³ ub Hft	<input type="text"/>	m ³ ub Hft
Imported timber	<input type="text"/>	tonnes	<input type="text"/>	tonnes

PRODUCTION OF SAWNWOOD

Q. What was the total volume of sawnwood produced by the mill in the year ending December 1996, from British and imported timber?

	Softwood	Circle units used	Hardwood	Circle units used
Sawnwood	<input type="text"/>	m ³ cu ft	<input type="text"/>	m ³ cu ft

[end of short questionnaire]

SAWMILLS - 1996: FULL QUESTIONNAIRE

- FOR MILLS WITH PRODUCTION MORE THAN 1000 m³

If production is less than 1000 m³, please discard this (pink) questionnaire, and just complete the short (yellow) questionnaire.

UNITS USED

For quantities in the questionnaire, you can give figures in metric units (cubic metres) or imperial units (Hoppus feet and cubic feet). If you need to convert to these units from others, please read "Conversion Factors" in the covering letter. **Please indicate which units you will be using, by circling the appropriate code here; if you do this then there is no need to circle the units in the rest of the questionnaire.**

Metric (m³) 1
Imperial (Hft and cu ft) 2

1. WORKING HOURS IN 1996

- a. Number of days the mill operated in 1996 days
- b. Average number of hours per day the mill operated hours/day

2. ESTIMATED CAPACITY

What is the annual capacity of the mill?

Capacity is the practical maximum input volume of logs which can be sawn, making full use of equipment, with adequate supplies of suitable logs, and assuming full demand, but allowing for normal mechanical availability and usual shift patterns.

m³ or Hft

Softwood

Hardwood

3. MAXIMUM LOG SIZE

What is the maximum butt diameter of log you can cut?

Softwood cm

Hardwood cm

4. LONG LENGTH LOGS

Do you convert long length logs into shorter lengths before primary breakdown?

Please circle "Yes" or "No"

YES NO

5. CONSUMPTION OF LOGS

What was the total consumption of British and imported logs in the year ending December 1996?
 (This should be the volume sawn in the year rather than the volume purchased or delivered in the year. Please give **underbark** volume. If the size breakdown is not known, then an estimate is acceptable.)

a. Softwood

Total volume	<input type="text"/>	m ³ or Hft
of which :		
- 18 cm and over top diameter	<input type="text"/>	m ³ or Hft
- under 18 cm top diameter	<input type="text"/>	m ³ or Hft

Please state minimum top diameter normally used cm

b. Hardwood

Total volume	<input type="text"/>	m ³ or Hft
of which :		
- 40 cm and over top diameter	<input type="text"/>	m ³ or Hft
- under 40 cm top diameter	<input type="text"/>	m ³ or Hft

Please state minimum top diameter normally used cm

6. IMPORTED LOGS

Do you convert imported sawlogs?

Please circle "Yes" or "No"

YES NO

6a. If "Yes" what is the total consumption of imported timber?

Softwood	<input type="text"/>	m ³ or Hft
Hardwood	<input type="text"/>	m ³ or Hft

7. SPECIES OF WOOD CUT

Please break down the total of softwood and the total of hardwood, to give the estimated percentage represented by each species.

a. Softwoods

Spruce	<input type="text"/>	%
Pine	<input type="text"/>	%
Other conifers	<input type="text"/>	%
	100 %	

b. Hardwoods

Oak	<input type="text"/>	%
Ash	<input type="text"/>	%
Beech	<input type="text"/>	%
Sycamore	<input type="text"/>	%
Elm	<input type="text"/>	%
Other white hardwoods	<input type="text"/>	%
Other hardwoods	<input type="text"/>	%
Total	100 %	

8. TYPES OF PRODUCT

Sawnwood produced in the year ending December 1996.

	Softwood	Hardwood	m ³ or cu ft
Total volume produced	<input type="text"/>	<input type="text"/>	

Market classification: Please give the percentage of sawnwood production going to each of the following markets.

a. Construction (including agricultural buildings)	<input type="text"/>	%	<input type="text"/>	%
b. Fencing	<input type="text"/>	%	<input type="text"/>	%
c. Package and pallets	<input type="text"/>	%	<input type="text"/>	%
d. Sawn mining timber	<input type="text"/>	%	<input type="text"/>	%
e. Furniture	<input type="text"/>	%	<input type="text"/>	%
f. Other	<input type="text"/>	%	<input type="text"/>	%
	100 %		100 %	

9. ADDITIONAL FACILITIES OF THE SAWMILL

Does the mill have any of the following facilities? Please circle YES or NO for each.

a. Debarker	YES	NO
b. Log sorter	YES	NO
c. Drop sorter	YES	NO
d. Automatic sticker/stacker	YES	NO
e. Additional resawing / cross-cutting	YES	NO
f. Machining (eg planing, moulding)	YES	NO
g. Treatment plant	YES	NO

For the following facilities, please circle YES or NO. If YES, please also show the annual capacity and actual throughput in 1996.

			Annual Capacity	Actual throughput	
h. Machine stress grading	YES	NO	<input type="text"/>	<input type="text"/>	m ³ or cu ft
i. Kiln drying	YES	NO	<input type="text"/>	<input type="text"/>	m ³ or cu ft

10. EMPLOYMENT

Please provide estimates of the numbers of employees and contractors paid by the sawmill, for each of the categories shown below. Please include estimates for part-time workers or contractors who work for the mill for part of the week or part of the year as a fraction - eg a contractor who works for the mill half the time counts as 0.5.

	Direct employees	Contractors & sub-contractors
Sawmill line workers	<input type="text"/>	<input type="text"/>
Secondary process workers	<input type="text"/>	<input type="text"/>
Others (eg fitters)	<input type="text"/>	<input type="text"/>
Haulage of timber to the mill	<input type="text"/>	<input type="text"/>
Haulage of products from the mill	<input type="text"/>	<input type="text"/>
Clerical staff	<input type="text"/>	<input type="text"/>
Marketing and sales staff	<input type="text"/>	<input type="text"/>
Supervising/managerial	<input type="text"/>	<input type="text"/>

11. RESIDUES

Total residue disposal in the year ending December 1996. Please give quantities in green tonnes.

	Softwood	Hardwood
a. Sold to wood processing industries		
Sawdust	<input type="text"/>	<input type="text"/>
Slabwood	<input type="text"/>	<input type="text"/>
Peeled Chips	<input type="text"/>	<input type="text"/>
Unpeeled Chips	<input type="text"/>	<input type="text"/>
Other	<input type="text"/>	<input type="text"/>

b. Other sales, including those to agriculture

Sawdust	<input type="text"/>	<input type="text"/>
Slabwood	<input type="text"/>	<input type="text"/>
Peeled Chips	<input type="text"/>	<input type="text"/>
Unpeeled Chips	<input type="text"/>	<input type="text"/>
Firewood	<input type="text"/>	<input type="text"/>
Other	<input type="text"/>	<input type="text"/>

c. Burnt for heat consumption

d. Disposed of by burning or as rubbish

e. Sold as bark

(END OF QUESTIONNAIRE)



Forestry Commission

231 Corstorphine Road
Edinburgh
EH12 7AT
<http://www.forestry.gov.uk>