

Quality Report: Sawmill Survey

Introduction

The sawmill survey is one of a series of annual surveys and data requests used to produce statistics on the UK timber industry. The survey is run by Forest Research (on behalf of the Forestry Commission, Natural Resources Wales and the Northern Ireland Forest Service) to collect data from sawmills in the UK that are believed to use UK-grown logs.

The survey comprises 2 parts. A detailed questionnaire now goes to around 30 sawmills that have annual production of at least 25,000 m³ of sawnwood and a short questionnaire, asking for summary data only, is sent to all other sawmills (around 140 mills in 2017).

The list of sawmills covered by the survey is maintained by Forest Research and is updated regularly, following consultations with the Expert Group on Timber and Trade Statistics and others, to add new mills and remove those that have closed. Occasional exercises are also undertaken to check the list against businesses held in the Inter-Departmental Business Register.

Relevance

The sawmill survey requests data annually from all sawmills in the UK that are believed to use UK-grown logs. It asks for data on consumption of logs, production of sawnwood, woodfuel use & sales, certification and total employment. For sawmills receiving the detailed questionnaire (accounting for around 85% of total sawnwood production in the UK), more detail is requested, covering the source of logs, sawnwood product markets, other products and employment.

Figures on consumption of UK-grown roundwood from the sawmill survey are combined with data from other sources to produce estimates of total deliveries of UK-grown roundwood.

Estimates are made for non-respondents by rolling forward data from previous years for these mills. For larger mills, these estimates may be modified to take account of advice from the Expert Group on Timber and Trade Statistics.

The main uses of the sawmill survey include:

- Deliveries of roundwood – Trends in the supply of, and demand for, UK grown timber are monitored by the Forestry Commission, the UK timber industry and others;
- International reporting – Deliveries of logs and sawnwood production in the UK are provided to Eurostat, UNECE, FAO and others as part of the Joint Forest Sector Questionnaire (covering wood production and trade);
- Scottish Forestry Strategy Indicators – Sawmill log consumption and sawnwood output by sawmills in Scotland are reported annually;

- Woodlands for Wales Indicators - Sawmill log consumption by source of logs and UK sawnwood production are reported annually;
- UK Government Departments and devolved administrations – deliveries of roundwood and/or sawnwood production are used in a number of statistical publications produced by others, including the Office for National Statistics (Environmental Accounts) and the Scottish Government (High Level Summary of Statistics).

The Expert Group on Timber and Trade Statistics (EGTTS), comprising representatives from the UK timber industry, the Forestry Commission, Natural Resources Wales and Forest Service are consulted regularly to ensure that UK wood production and trade statistics remain relevant to users (details on the EGTTS can be found at www.forestry.gov.uk/forestry/infid-5rabj3).

Accuracy

As the survey approaches all relevant businesses, there are no sampling errors. There are, however, a number of non-sampling errors associated with this survey, related to errors of coverage, measurement, processing and non-response. The following tables provide an indication of the response rates (overall and for key items), level of imputed values and the editing rate, to assist users in understanding the quality of the data.

Unit response rates

Survey response rates for 2017 by size of sawmill and by country are provided in tables 1 and 2 below. The overall response rate to the sawmill survey in 2017 was 41% of mills. The weighted response rate (taking account of the total sawnwood production of each mill) was 86%, reflecting the higher response rate amongst larger mills. The high weighted response rates indicate that non-response to the survey has a relatively small effect on the accuracy of the results.

Table 1: Survey response rates by size of mill, 2017

Size of mill (total production) ¹	Number of respondents	Number of non respondents	Total mills	Response rate (unweighted) ²	Response rate (weighted) ³
< 1	15	48	63	24%	21%
1 - < 5	14	27	41	34%	32%
5 - < 10	5	9	14	36%	40%
10 - < 25	11	11	22	50%	49%
25 - < 50	5	0	5	100%	100%
50 - < 100	7	3	10	70%	71%
100+	12	0	12	100%	100%
All mills	69	98	167	41%	86%

Notes:

1. Size categories are based on total sawnwood production (softwood and hardwood), in thousand m³.
2. Survey response rates reported here are calculated as the number of returns (full or partial) divided by the number of returns (full or partial) + number of non-respondents. Nil returns (e.g. where sawmills have closed) are excluded from this calculation.
3. Weighted by total sawnwood production (softwood and hardwood).

Table 2: Survey response rates by country, 2017

Country	Number of respondents	Number of non respondents	Total mills	Response rate (unweighted) ¹	Response rate (weighted) ²
England	30	59	89	34%	80%
Wales	4	10	14	29%	83%
Scotland	27	28	55	49%	88%
Northern Ireland	8	1	9	89%	100%
All mills	69	98	167	41%	86%

Notes:

1. Survey response rates reported here are calculated as the number of returns (full or partial) divided by the number of returns (full or partial) + number of non-respondents. Nil returns (e.g. where sawmills have closed) are excluded from this calculation.
2. Weighted by total sawnwood production (softwood and hardwood).

Key item response rates

Table 3 presents the response rates for the following key items: total consumption, total sawnwood production, total employment, certified input (for those with a Chain of Custody certificate) and total other products (detailed survey only). These item response rates are restricted to respondents to the survey. The high response rates indicate that item non-response has very little impact on the accuracy of the results for key items.

Table 3: Key item response rates, 2017

Key item	Response	Non response	Total	Response rate (unweighted) ¹	Response rate (weighted) ²
Consumption	68	1	69	99%	100%
Production	66	3	69	96%	100%
Employment	64	5	69	93%	99%
Certified input ³	41	2	43	95%	100%
Other products ⁴	23	1	24	96%	94%

Notes:

1. Unweighted item response rate is the number of responses to that item divided by total respondents.
2. Weighted by total estimated value of key item.
3. Item only requested from mills with Chain of Custody certificate.
4. Covers responses to the detailed sawmill survey only.

Total contribution to key items from imputed values

In compiling results from the sawmill survey, values are imputed to estimate for non-response (either to specific questions or to the entire survey). Most values for survey non-respondents are imputed by rolling forward the values for that mill in the previous year, although values for larger non-respondents may be modified to take account of advice from the Expert Group on Timber & Trade Statistics. For item non-response, imputed values will also take account of responses to the rest of the survey.

Table 4 presents the percentage of the total value that is imputed for the following key items: total consumption, total sawnwood production, total employment, certified input (for those with a Chain of Custody certificate) and total other products (detailed survey only).

Table 4: Total contribution to key items from imputed values, 2017

Key item	Imputed	Not imputed	Total	% imputed
Consumption (thousand green tonnes)	1,019	5,908	6,927	15%
Production (thousand m ³)	528	3,242	3,770	14%
Employment (full-time equivalents)	1,165	3,429	4,594	25%
Certified input (thousand m ³) ¹	16	4,450	4,467	0%
Other products (thousand green tonnes) ²	174	2,799	2,973	6%

Notes:

1. Item only requested from mills with Chain of Custody certificate.
2. Covers responses to the detailed sawmill survey only.

Editing rate for key items

The responses received to the survey are checked to ensure that the values provided to questions are consistent with each other and with previous responses from the same mill. Where there are clear inconsistencies that cannot be explained, values are revised to a more realistic level.

Table 5 presents the percentage of sawmills for which a value was edited for the following key items: total consumption, total sawnwood production, total employment, certified input (for those with a Chain of Custody certificate) and total other products (detailed survey only). The low editing rates indicate that editing has very little impact on the accuracy of the results for key items.

Table 5: Editing rate for key items, 2017

Key item	Value corrected	Value uncorrected	Total	Editing rate
Consumption	4	64	68	6%
Production	5	61	66	8%
Employment	0	64	64	0%
Certified input ²	0	41	41	0%
Other products ³	1	22	23	4%

Notes:

1. Results on employment, certified input and other products will not be released until September. At this stage limited data checking and analysis has been undertaken on these items.
2. Item only requested from mills with Chain of Custody certificate.
3. Covers responses to the detailed sawmill survey only.

Timeliness and punctuality

Provisional results from the sawmill survey are published in *UK Wood Production and Trade: provisional figures* in mid-May, 4.5 months after the end of the reference period (calendar year).

Final results are published in *Forestry Statistics* at end September, 9 months after the end of the reference period (calendar year).

Accessibility and clarity

The annual *Forestry Statistics* publication, available on the Forestry Commission website at www.forestry.gov.uk/statistics provides the most comprehensive results from the sawmill survey, including background information on the data collected, response rates, methodology, revisions and reporting. *Forestry Statistics* is published in line with the Forestry Commission's website accessibility statement.

Longer time series data, providing additional breakdowns for some statistics, are published in accompanying tables to *UK Wood Production and Trade: provisional figures*. Longer time series are also available for *Forestry Statistics*. Excel and PDF versions of all tables in *UK Wood Production and Trade: provisional figures* and *Forestry Statistics* are available to download from the Forestry Commission website.

Summary results are also published in *Forestry Facts & Figures*.

Comparability

The sawmill survey has been run annually by the Statistics team in the Forestry Commission since 1994. Results for a 10-year period are published in *Forestry Statistics*.

The coverage and periodicity of the detailed survey has changed as follows:

- 1996 and earlier: triennial for mills producing at least 1 thousand m³ sawnwood;
- 1998-2004: biennial for mills producing at least 5 thousand m³ sawnwood;
- From 2005: annual for mills producing at least 10 thousand m³ sawnwood.
- From 2016: annual for mills producing at least 25,000 m³ of sawnwood.

A number of other refinements have been made to the survey, in response to consultation with the Expert Group on Timber and Trade Statistics and suggestions/issues raised by users and data providers. These include the addition of new data items on the short questionnaire (sales to bioenergy from the 2006 survey; firewood sales, internal use of woodfuel and total employment from the 2008 survey; other products from the 2010 survey; sawlog consumption by country from the 2015 survey) and changes to some of the items requested on the detailed questionnaire (e.g. reduction in employment categories, adjustments to other product categories, etc).

Coherence

Data on UK softwood deliveries (obtained from the sawmill survey and other surveys and data requests) are compared with estimates of total UK softwood removals (obtained from Forestry Commission/Natural Resources Wales/Forest Service administrative systems and the Forestry Commission's Private Sector Softwood Removals Survey), available in the annual *Forestry Statistics* publication.

Data on GVA and employment for Standard Industrial Classification (SIC 2007) 16.1, covering sawmilling and planing of wood, from the Annual Business Inquiry is presented in *Forestry Statistics*. However, this is not directly comparable to the results from the sawmill survey, as SIC 16.1 includes businesses involved in treatment of wood and businesses solely processing imported wood, both of which are excluded from the scope of the sawmill survey. In addition, businesses included in the sawmill survey whose main activity is assigned to another SIC code are not included in the Annual Business Inquiry results for SIC 16.1. There were estimated to be 164 active sawmills processing UK-grown roundwood in 2016, as identified by the sawmill survey. The Office for National Statistics publication *UK Business: Activity, Size and Location* indicates that there were 540 businesses in SIC 16.1 in 2017.

Revisions

The Forestry Commission's Revisions Policy outlines our general approach to revisions.

All the main results from the sawmill survey (number of mills, consumption, production) are subject to revision annually, as information becomes available about mills opening or closing, or new information becomes available for previous non-respondents. The most common revisions are relatively small downward changes, as late information is incorporated about mill closures, but this can vary from year to year as special exercises are run to validate the survey population. Information about new mills opening can on occasion cause much larger upward revisions to softwood volumes. Results from the survey of larger mills (biennial to 2004, subsequently annual), which provides more detailed information, are not normally revised.

Information on significant revisions made to published statistics is available in the Annex.

Other issues related to quality

Statistical disclosure control checks are run on the sawmill survey annually, prior to publication, to ensure that the results to be released are not likely to be disclosive for individual businesses. A paper, produced in May 2008, describes the statistical disclosure control checks undertaken.

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Annex: Significant revisions to published statistics

UK Timber Statistics 2006, released in August 2006, was republished in December 2006. This was primarily to correct a reporting error in the Sawmill Survey, in which data for two mills were switched. The UK totals were unaffected, but the corrections resulted in an increase in consumption and production in Scotland and a corresponding decrease in England. The opportunity was also taken to make some other revisions, taking account of some late returns and making some other minor amendments. These revisions resulted in a slight drop in sawmills' certified consumption and production, a slight increase in the percentage of other products being sold for bio-energy and a corresponding drop in other products being sold to wood processing industries.

Revisions were made to the sawmill survey in 2004 to take account of new mills opening. These sawmills first responded to the 2003 survey, but were believed to have opened before then. These revisions resulted in an uplift to softwood consumption and sawn softwood production figures for 2001 and 2002 of around 5%.