

Quality Assurance of Administrative Data: Timber sales

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Forest Research is the Research Agency of the Forestry Commission and is the leading UK organisation engaged in forestry and tree related research.

The Agency aims to support and enhance forestry and its role in sustainable development by providing innovative, high quality scientific research, technical support and consultancy services.

Table of Contents

Introduction.....	4
Approach to assessment	5
Assessment against QAAD risk and profile matrix	7
Areas of quality assurance of administrative data (QAAD)	7
Operational context and administrative data collection	7
Communication with data supply partners	9
QA principles, standards and checks applied by data suppliers	10
Producer’s QA investigations and documentation	11
Conclusions/next steps	13
Annex	14

Introduction

This report contains information about administrative data on timber sales used by Forest Research, as well as a quality assessment of each source.

Administrative data on timber sales is used in the production of statistics on two topics:

- Timber prices, released in 'Timber Price Indices'
- Wood production (removals) from UK public sector woodland, released in 'UK Wood Production and Trade (provisional figures)' and other releases

Statistics on timber prices comprise the Coniferous Standing Sales Price Index (CSSPI) and the Softwood Sawlog Price Index (SSPI). They are both based on sales of softwood (conifers) by Forestry England, Forestry and Land Scotland and Natural Resources Wales but they do not include any private sector data. The indices only cover roundwood from woodland; they do not cover sawmill products or other end products. New sub-indices of the softwood sawlog index (for spruce and for other conifers) and a new small roundwood index are being developed and will be introduced from the November 2021 edition of Timber Price Indices.

Statistics on wood production (removals) from Forestry England, Forestry & Land Scotland, Natural Resources Wales and Northern Ireland Forest Service (FE/FLS/NRW/FS) woodland is also compiled from administrative records of timber sales. Administrative data is then combined with estimates obtained from surveys of the UK timber industry to produce statistics on total UK wood production.

Our assessment of data sources is carried out in accordance with the Office for Statistics Regulation's Quality Assurance of Administrative Data (QAAD) toolkit. This report is part of an ongoing process of dialogue with our suppliers, to increase our understanding of any quality concerns in the source data and provide information and assurance to users that the sources used to construct timber prices

indices and to produce statistics on wood production are sufficient for the purposes for which they are used.

Approach to assessment

We have conducted our assessment of administrative timber sales data sources used by Forest Research using the Office for Statistics Regulation's QAAD toolkit (available at <https://uksa.statisticsauthority.gov.uk/wp-content/uploads/2015/12/Quality-Assurance-Toolkit.pdf>), which sets out four levels of quality assurance that may be required of a dataset:

A0 – no assurance

Not compliant with Code of Practice for Statistics.

A1 – basic assurance

The statistical producer has reviewed and published a summary of the administrative data quality assurance (QA) arrangements.

A2 – enhanced assurance

The statistical producer has evaluated the administrative data QA arrangements and published a fuller description of the assurance.

A3 – comprehensive assurance

The statistical producer has investigated the administrative data QA arrangements, identified the results of independent audit and published detailed documentation about the assurance and audit.

Each administrative data source has been evaluated according to the toolkit's risk and profile matrix (Annex), reflecting the level of risk to data quality and the public interest profile of the statistics.

The following steps were taken to ensure proper assessment:

- establish the risk of quality concerns with the data;
- establish the level of public interest in the item that the data are being used to measure;
- contact the suppliers of administrative data to understand their own practices and approach to quality assurance;
- review our own quality assurance and validation procedures and processes;
- conduct an assessment of each data source using the four practice areas of the QAAD toolkit:
 - operational context and data collection;
 - communication with data suppliers;
 - quality assurance procedures of the data supplier;
 - quality assurance procedures of producer;
- determine an overall quality assurance level based on our assessment;
- potentially put steps in place to achieve the desired level of quality assurance;
- review the quality assurance on an ongoing basis; aim to publish a QAAD update every 5 years.

Assessment against QAAD risk and profile matrix

The level of risk for data quality concern and for public interest profile in timber sales data are rated by:

- a. The possibility of quality concerns arising in the administrative data that may affect quality of statistics
- b. The nature of the public interest served by the statistics

For administrative data on timber sales:

- a. As the data are extracted from systems that are subject to annual audit, the level of risk for quality concerns is considered to be low.
- b. Similarly, both publications are considered niche statistical outputs, with relatively low public interest.

Areas of quality assurance of administrative data (QAAD)

Operational context and administrative data collection

This area of quality assurance relates to the need for statistical producers to gain an understanding of the environment and processes in which the administrative data are being compiled and the factors that might increase the risks to the quality of the administrative data.

Each data source is considered in turn.

Sales Recording Package (Forestry England)

Forest District staff manually create pre-sale contracts, which pose the main risk to data itself. However, contract managers are responsible for checking the data before sale. Pre-sale contract data contains information on species, length and quantity in unit of sale.

Forestry England monitors the volume of sales offered to the market as the sales are compiled and published. The contracts are monitored on a regular (weekly/monthly) basis to compare contract quantity against quantity dispatched, ensuring robustness of figures.

Timber Sales System (Natural Resources Wales)

Dispatch records are created for each lorry movement once a contract goes live. Each record contains data on contract reference, product line, date etc. Initial estimated load weight is later reconciled with weighbridge actuals to initiate timber billing.

The main risk to the data is conversion back to volumetric quantities. This is done based on assumed conversion factors, which are known to be incorrect for timber which has had weight loss and assume a harvesting weight loss.

Current limitations (a lack of reliable data for sales, rather than dispatches, and a size breakdown for standing sales) have resulted in NRW data being excluded from the Timber Price Indices until these issues can be resolved.

Sales Recording Package (Forestry and Land Scotland)

FLS Marketing and Sales team produce reports from the SRP Database with no further manipulation.

The risk to the data is minimal, as values are driven from sale contracts which undergo a quality assurance check prior to the publication of sales. SRP also

contains an audit log of any changes applied to a contract thereafter. Any such changes are subject to random sample audit checks.

Timber Permit Management System (Northern Ireland Forest Service)

DAERA Forest Service staff have administrative access to input sale lot attributes, removal data are captured electronically by the system and verified for invoicing and reporting purposes.

The main risk to the data is in the correct input of attribute data, but each individual removal event is verified by a permit check and 100% of load tonnages and associated attribute data are checked.

Communication with data supply partners

This area of quality assurance relates to the need to maintain effective relationships with suppliers, which include change management processes and the consideration of statistical needs when changes are being made to relevant administrative systems.

EXCEL templates are sent to data suppliers to collect the information required. This occurs twice a year for the collection of price data and annually for the collection of removals data. Each template includes space for data suppliers to indicate if there are any specific factors in the latest period that may have influenced the data. In order to reduce the burden on suppliers, data can also be provided in original report format from the relevant administrative system, without the need to transfer the results to the templates.

Agreement to sharing data for statistical purposes is covered in a Memorandum of Understanding on cross-border provision of forestry functions and research delivery between relevant Ministers in Defra, Scottish Government and Welsh Government (April 2019). More specifically, the continued collection of administrative data on

timber sales was agreed by Harvesting and Marketing officers in Forestry England, Forestry & Land Scotland and Natural Resources Wales in March 2017, with EXCEL templates approved in September 2017.

For data from Northern Ireland, there is a more informal agreement for the sharing of data to enable the production of UK estimates for a range of forestry topics, including wood production.

QA principles, standards and checks applied by data suppliers

This area of quality assurance relates to the validation checks and procedures undertaken by the data supplier, any process of audit of the operational system and any steps taken to determine the accuracy of the administrative data.

Sales Recording Package (Forestry England)

Sale data is scrutinised by the National Office team to check for obvious data entry errors. The National Office also have a regular timetable of audit/support visits to Forest Districts every 3 years. As part of the audit, a random sample of contracts are checked to confirm Contract Managers are checking and validating pre-sale contract data.

Timber Sales System (Natural Resources Wales)

As weighbridge data is used to provide weight actuals, there is an internal demand from weighing stations to provide Annual Weighbridge calibration certificates to maximise accuracy of the figures.

Timber security measures ensure nearly all dispatched loads are accounted for.

Sales Recording Package (Forestry and Land Scotland)

The Marketing & Sales team undertake a quarterly compliance check of sale contract standards as part of the timber sale governance. As an additional security measure, standard data tables in SRP cannot be accessed or changed by users.

Audit Scotland undertake a review of timber sale contract procedures and sample check sale prices as part of the end of year audit.

Timber Permit Management System (Northern Ireland Forest Service)

Each individual removal event is verified by a permit check and 100% of load tonnages and associated attribute data are checked by Forest Service staff.

Annual data on the value of load removals are subject to mid year and year end internal and external audit.

Producer's QA investigations and documentation

This area of quality assurance relates to the quality assurance conducted by the statistical producer, including corroboration against other data sources.

Forest Research undertakes a number of checks on the data to ensure accuracy. These include, but are not limited to, checks against data for previous years, verifying whether sales data for each single year is less than the sum of previous & subsequent overlapping 12-month periods etc. The Expert Group on Timber and Trade Statistics are consulted on expected trends in UK wood production, and data on total softwood production is compared with estimates for total softwood deliveries. Any queries are raised with data providers, as required.

The data provided in Timber Price Indices are the only official statistics published for roundwood timber prices in the UK. Both the Coniferous Standing Sales Price Index and the Softwood Sawlog Price Index include sales by long term contract, where the volume of roundwood covered by the contract is sold over a period of

more than one year. To take account of changes in price over the term of the contract, price adjustments are made periodically, as part of the contract. At present, price adjustments are not fully accounted for in the indices.

Quality reports have been produced for Timber Price Indices and for UK Wood Production and Trade and are regularly updated:

- Timber Price Indices quality report, available at www.forestresearch.gov.uk/tools-and-resources/statistics/statistics-by-topic/timber-statistics/uk-wood-production-and-trade-provisional-figures/
- UK Wood Production & Trade quality report, available at www.forestresearch.gov.uk/tools-and-resources/statistics/statistics-by-topic/timber-statistics/timber-price-indices/

Conclusions/next steps

Forest Research considers the main strengths of administrative data on timber sales to be that:

- data supply partners have quality assurance processes in place and data are subject to regular audit;
- the statistics team carry out extensive quality assurance throughout the statistical production process.

The current limitations are:

- conversion from weight to volumetric quantities are based on assumed conversion factors; these may be incorrect in some cases;
- lack of comparable, consistent data for timber prices in Wales.

In conclusion, sources for administrative data on timber sales are assessed as being assured to level A1 (basic assurance) as outlined by the Office for Statistics Regulation's QAAD toolkit.

If you are of the view that this report does not adequately provide this level of assurance, or you have any other feedback, please contact us via email at statistics@forestresearch.gov.uk with your concerns.

Annex

Table 1 Quality assurance of administrative data (QAAD) risk and profile matrix

Level of risk of quality concerns	Low public interest	Medium public interest	High public interest
Low	Statistics of lower quality concern and lower public interest [A1]	Statistics of low quality concern and medium public interest [A1/A2]	Statistics of low quality concern and higher public interest [A1/A2]
Medium	Statistics of medium quality concern and lower public interest [A1/A2]	Statistics of medium quality concern and medium public interest [A2]	Statistics of medium quality concern and higher public interest [A2/A3]
High	Statistics of higher quality concern and lower public interest [A1/A2/A3]	Statistics of higher quality concern and medium public interest [A3]	Statistics of higher quality concern and higher public interest [A3]
Level of risk of quality concerns	Low public interest	Medium public interest	High public interest

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