

# Quality assurance of administrative data (QAAD) report for forestry activities

Investigation of the administrative data sources used in the production of short-term economic output indicators by ONS's National Accounts and Economic Statistics Group.

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# 1 . Introduction

## 1.1 Background

The National Accounts and Economic Statistics (NAES) Group within Office for National Statistics (ONS) receives data from the Forestry Commission on forestry activities (Standard Industrial Classification (SIC) 02). These data are one source of many in the calculation of short-term economic output indicators, which contribute towards gross domestic product (GDP(O)) for the UK.

This report outlines the process data taken from initial collection through to the output of the release. It identifies potential risks in data quality and accuracy as well as details of how those risks are mitigated.

This report forms the latest in a series of quality assurance of administrative data (QAAD) reports produced by NAES to investigate the administrative data sources that are used in the production of short-term economic output indicators as set out by the [UK Statistics Authority](#). As such, this report focuses only on the use of administrative data for forestry activities (SIC 02). Separate industries where administrative data are used, will be considered in other QAAD reports in the series. Methodology for the short-term economic output indicators is available in the [gross domestic product \(GDP\) Quality and Methodology Information report](#).

## 1.2 Standard Industrial Classification (SIC) overview

Forestry activities covers the activities under division 02 of the [UK Standard Industrial Classification 2007: SIC 2007](#).

This division includes the production of roundwood as well as the extraction and gathering of wild growing non-wood forest products. Besides the production of timber, forestry activities result in products that undergo little processing, such as firewood, charcoal and roundwood used in an unprocessed form (for example, pit-props, pulpwood and so on). These activities can be carried out in natural or planted forests.

Forestry is classified as follows:

- 2.10 Silviculture and other forestry activities
- 2.20 Logging
- 2.30 Gathering of wild growing non-wood products
- 2.40 Support services to forestry

For the national accounts purposes and to best portray the industry with data available, forestry components of gross domestic product (GDP) are split between market and non-market activities in the following way:

- 2.01 Woodland production (FC/FS)
- 2.02 Woodland production (Other)
- 2.03 Woodland maintained (FC/FS)
- 2.04 Woodland maintained (Other)
- 2.05 Restocking (FC/FS)
- 2.06 Restocking (Other)
- 2.07 New planting (FC/FS)
- 2.08 New planting (Other)

According to the Inter-Department Business Register (IDBR)<sup>1</sup>, there are 4,060 enterprises classified under division 02, which is a decline compared with the previous year of nearly 200 enterprises. Over half of all the enterprises are in SIC 02.1 Silviculture and other forestry activities.

#### **Notes for: Introduction**

1. The [Inter-Departmental Business Register \(IDBR\)](#) is a comprehensive list of UK businesses that is used by government for statistical purposes. It provides the main sampling frame for business surveys carried out by both the ONS and other government departments. It is also a main data source for analyses of business activity.

## **2 . Quality assurance of administrative data (QAAD) assessment**

### **2.1 UK Statistics Authority QAAD toolkit**

The assessment of our administrative data sources has been carried out in accordance with the [UK Statistics Authority Quality Assurance of Administrative Data \(QAAD\) toolkit](#).

Each administrative data source investigated has been evaluated according to the toolkit's risk and profile matrix (see Table 1), reflecting the level of risk to data quality and the public interest profile of the statistics.

Table 1: UK Statistics Authority quality assurance of administrative data (QAAD) risk and profile matrix

Level of risk of quality concern	Public interest profile		
	Lower	Medium	Higher
Low	Statistics of lower quality concern and lower public interest [A1]	Statistics of low quality concern and medium public interest [A1/A2]	Statistics of a 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]

Source: Office for National Statistics

The toolkit outlines four specific areas for assurance and the rest of this report will focus on these areas in turn. These are:

- operational context and administrative data collection
- communication with data supply partners
- quality assurance principles, standards and checks applied by data suppliers
- producer's quality assurance investigations and documentation

In the assurance of our data source, there is a separate risk and profile matrix score for each of the four areas of assurance. This will allow us to focus our investigatory efforts on areas of particular risk or interest to our users.

## 2.2 Assessment and justification against the QAAD risk and profile matrix

Table 2: QAAD risk and profile matrix assessment of administrative data used to measure forestry activities

	Low [A1]	Medium [A2]	High [A3]
Operational context and administrative data collection	[A1]		
Communication with data supply partners	[A1]		
Quality assurance principles, standards and checks by data supplier	[A1]		
Producers quality assurance investigations [A1] and documentation			

Source: Office for National Statistics

The risk of quality concern and public interest profile have both been set as “low” because the contribution of forestry to gross domestic product (GDP) is less than 0.2%. As such, a score of A1 is deemed appropriate for these data sources.

All scoring was carried out by the National Accounts and Economic Statistics (NAES) Group based on the level of risk of the data and interest of our users. Results for each area of assurance are shown in Table 2. If you feel that this report does not adequately provide this level of assurance or you have any other feedback, please contact [stoi.development@ons.gov.uk](mailto:stoi.development@ons.gov.uk) with your concerns.

## 3 . Areas of quality assurance of administrative data (QAAD)

This 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.

National Accounts and Economic Statistics (NAES) use data published by the [Forestry Commission](#). This is a non-ministerial government department responsible for protecting and expanding Britain's woods and forests. They are also managing forestry land owned by the government and regulate the UK's privately owned forests and woodlands. They are supported by Forest enterprise (England) and Forest Research.

NAES uses figures published in National Statistics on Woodland Area, Planting and Publicly Funded Restocking produced by the Forestry Commission, which contains information on:

- UK woodland area
- certified woodland area
- areas of new planting
- publicly funded restocking

That information is compiled by the Forestry Commission from several sources, including:

- estimates of Great Britain woodland area from national forest inventories
- Forest Service (FS) administrative records of FS woodland areas
- Forest Service estimates of non-FS woodland area in Northern Ireland
- Forestry Commission (FC), Natural Resources Wales (NRW) and Forest Service administrative records of new planting and restocking – FC, NRW and FS woodlands and grant schemes
- [Forest Stewardship Council](#) and follow-up enquiries with certificate holders for data on certified woodland areas<sup>1</sup>

More information about the [data sources that Forestry Commission uses](#) to compile their statistics is available. Accuracy information on the data used by NAES are described in the [Statement of Administrative Sources](#)<sup>2</sup> with more information available on the [National Forest Inventory page](#).

Statistics on woodland area are not only used by NAES but are also used to provide context to UK forestry and land management issues. They are also used in several statistical publications produced by international reporting for the [Food and Agriculture Organisation \(FAO\) of the United Nations on Global Forest Resources Assessment](#); Forestry Commissions publications are also used to compile the [UK's Greenhouse Gas Inventory for the Land Use](#).

For transparency, the Forestry Commission provides further information on the production of their statistics and the relationship with data suppliers.

The information provided by Forestry Statistics includes:

- [Sources](#)
- [Admin Sources](#)
- [Surveys](#)
- [Methodology](#)
- [Quality assurance](#)
- [Code of Practice](#)

### 3.1 Woodland production and woodland maintained statistics

#### Woodland area

Data on woodland area from the Forestry Commission publication<sup>3</sup>, which are used by NAES, are derived from the following sources:

- Forestry Commission (FC) and Natural Resources Wales (NRW) administrative records of FC and NRW land areas
- National Forest Inventory (NFI) woodland map (Great Britain)
- statistics on new planting in Great Britain
- Northern Ireland Woodland Register
- Forest Service (FS) administrative records of FS woodland areas
- Forest Service estimates of non-FS woodland area in Northern Ireland

Estimates of woodland area in Great Britain are based on figures produced from forest inventories. Those inventories have been taken every 15 years, however, the Forestry Commission is currently devising a process where the National Forest Inventory will be run on a five-year cycle with a process for updating the results on an annual basis.

The data processing takes place in Excel. The main outputs are aggregates of the source data, or breakdowns expressed as percentages, this does not require complex data analysis techniques.

Information for Great Britain, woodland area estimates are based on the latest NFI woodland area map of Great Britain available. The map is overlaid with a map of Forestry Commission and Natural Resources Wales (previously Forestry Commission Wales only) land, to enable a breakdown by ownership to be estimated. This also enables FC and NRW "other land" areas to be derived. The woodland area breakdown by type of woodland (conifer or broadleaf) is estimated from the conifer or broadleaf breakdown of stocked woodland area, with areas of felled and open space allocated to conifer or broadleaf pro-rata.

The woodland area figures were updated to March 2018 by adding areas of new planting in 2017 to 2018, broken down by ownership and type. Information on previous methodologies can be found on the [Methodology and outputs page of the Forest Research](#) website. The methodology and outputs relevant to UK woodland area, planting and restocking were reviewed in 2014 in the [Woodland Area, Planting and Restocking Review: 2014 \(PDF, 35KB\)](#). Further information on the [methodology used by the National Forest Inventory](#) and comparisons of results from the NFI and previous woodland area estimates is available.

Figures for Northern Ireland (Forest Service and non-Forest Service woodland) are provided by the [Forest Service](#) where woodland areas from 2012 have been obtained from the Northern Ireland woodland register. The Northern Ireland woodland register is based on a combined dataset derived from 14 individual datasets from statutory bodies. The minimum area of woodland that has been included in the register is 0.1 hectares. The use of the Northern Ireland woodland register has resulted in a step change in the non-Forest Service woodland areas reported for Northern Ireland. This should be interpreted as an improvement in the data reported, as opposed to an actual increase in woodland area. Further [information on administrative sources](#) used is available.

## **Restocking and new planting**

New planting is the creation of new areas of woodland while restocking is the replanting of areas of woodland that have been felled. New planting can use planting or seeding or natural colonisation. Restocking can also use planting or seeding or natural regeneration.

Information about Forestry Commission, Natural Resources Wales and Forest Service new planting and restocking comes from administrative systems. Information about other woodland has come principally from grant schemes. When woodland reaches a certain stage and density of growth, the second instalment of the grant is paid, so information corresponds approximately to the amount of new and restocked woodland created. The coverage and level of grant support differ across schemes, so that figures on grant-aided planting are not directly comparable. New planting estimates for England also include areas supported by the Woodland Trust and areas funded by Natural England.

Local estimates for private sector areas of planting and restocking that are not grant aided were relatively small (less than 1,000 hectares annually), and it has been assumed that all of this area is broadleaves. It is assumed that there is no private sector non-grant aided new planting and restocking in Northern Ireland.

The use of natural regeneration in non-clearfell systems is increasing substantially – particularly for broadleaves in England. These systems are not satisfactorily represented by measuring restocking area within any given year, and so broadleaf planting is likely to be under-reported in this release and other statistics. Figures for Northern Ireland (Forest Service and private sector woodland) are provided by the Forest Service.

The methodology and outputs relevant to UK woodland area, planting and restocking were reviewed in 2014 in the [Woodland Area, Planting and Restocking Review: 2014 \(PDF, 35KB\)](#).

### **3.2 Producer's quality assurance investigations and documentation (risk QAAD matrix score A1)**

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

The annual Forestry Statistics publication is available on the [Forestry Commission website](#). This provides the most comprehensive results, including background information on the sources, data collected, methodology, and revisions. Excel versions of all tables are also available to download from Forestry Statistics. Longer time series data, for new planting and restocking and for certified area, are published in accompanying tables to Woodland Area, Planting and Restocking. These tables are available to download from the Forestry Commission website in Excel and PDF formats. Summary results are also published in [Forestry Facts and Figures](#), available on the Forestry Commission website.

Data from Forestry Commission is downloaded by NAES specialists. Time series are taken from the Woodland Area and Planting and Publicly Funded Restocking publications when the provisional results are published. These series are later replaced by the information from the final publication, namely the "Forestry Statistics" bulletin. The commentary on any changes are included in those publications. Once data are downloaded to Excel, NAES analysts carry out sense checks to make sure the data look reasonable and in line with previous returns.

Once all checks are completed the data are uploaded into an internal ONS system as a CSV file where seasonal adjustment is applied. There is no imputation to perform for these data. As a safeguard, there is also an internal procedure of the final sign off before publication with the branch head. Data are then published and NAES keeps a full audit trail of any previous versions of the data and all previous CSV files are stored on an internal drive. Therefore, if there are any revisions, NAES can identify where and to what extent a change has taken place.

There is a full set of desk instructions to explain each step of the process.

#### **Notes for: Areas of quality assurance of administrative data (QAAD)**

1. Quality Report: Woodland Area, Planting and Publicly Funded Restocking, [download available from Forest Research](#).
2. Please note that the Statement of Sources is a comprehensive list of Admin sources used by the Forestry Commission.
3. Information is taken from background information section from the [Forestry statistics and forestry facts and figures page](#).

## 4 . Summary

In investigating the administrative data sources for forestry activities (Standard Industrial Classification (SIC) 02), the National Accounts and Economic Statistics (NAES) Group considers the main strengths of the data for its purpose to be:

- high level of coverage
- minimal revisions
- NAES quality checks and compares with the previous year's trends
- compliance with the Code of Practice for Statistics

The current limitations for this data source are believed to be:

- no direct contact with the Forestry Commission
- data are only available on an annual basis

Considering these risks and the low weight of this industry in gross domestic product (GDP), NAES considers this data source to be fit for purpose.