

# Quality report: Woodland Statistics

Last updated:

June 2022

Next update due:

June 2023

## Introduction

Annual UK woodland statistics comprise the following:

- Woodland area,
- Certified woodland area,
- New planting,
- Publicly funded restocking, and
- Woodland Carbon Code.

The data are compiled by Forest Research from a number of sources:

- [National Forest Inventory](#) (estimates of GB woodland area),
- [Northern Ireland Woodland Register](#) (woodland area in Northern Ireland),
- Forestry Commission, Forestry England, Scottish Forestry, Forestry and Land Scotland, Welsh Government, Natural Resources Wales and Forest Service administrative records of new planting and restocking – FE/FLS/NRW (Welsh Government Woodland Estate)/FS woodlands and grant schemes,

- [Forest Stewardship Council, Programme for the Endorsement of Forest Certification](#) and follow-up enquiries with certificate holders for data on certified woodland areas, and
- [UK Land Carbon Registry](#) for information on Woodland Carbon Code projects.

## Relevance

The main uses of woodland statistics include:

- Statistics on woodland area, planting and restocking are used to inform government policy and resource allocation;
- Statistics on woodland area, often in the form of percentage land cover, are frequently used to provide context to UK forestry and land management issues;
- Woodland Carbon Code statistics are used to monitor the uptake of this voluntary standard for woodland creation projects in the UK;
- National indicators – woodland area and planting statistics are published in the Forestry Commission England Corporate Plan Performance Indicators, and the Woodland for Wales Indicators (Welsh Government), and will be monitored under the Scottish Forestry Strategy;
- UK Government Departments and devolved administrations – statistics on woodland area, often combined with other figures on land use, are used in a number of statistical publications produced by others, including the Office for National Statistics (UK Environmental Accounts, Sustainable Development Indicators) and the Scottish Government (Key Scottish Environment Statistics);
- International reporting – Figures for woodland area in the UK are provided to international organisations; the Food and Agriculture Organisation of the United Nations (FAO) for the 5-yearly Global [Forest Resources Assessment](#),

and Forest Europe for the 4-5-yearly [State of Europe's Forests](#). Data on planting and restocking also contribute to these reports;

- Figures for woodland area and new planting are used to compile the UK's Greenhouse Gas Inventory for the Land Use, Land Use Change and Forestry (LULUCF) sector, submitted to the [United Nations Framework Convention on Climate Change](#) (UNFCCC). [Statistics on UK greenhouse gas emissions](#) are published by the Department of Business, Energy and Industrial Strategy (BEIS).

Those responsible for the international and national reporting are consulted regularly to ensure that the statistics remain relevant to users.

## Accuracy

A number of checks are performed on the data to ensure accuracy, including checks against data for previous years.

Sampling standard errors are produced for the field survey of the [National Forest Inventory](#).

Figures for woodland area (and consequently certified woodland area) may be revised between the provisional figures (released in June) and the final figures (released in September) or in subsequent releases if an updated woodland map is available from the National Forest Inventory. Other figures are rarely revised.

## Timeliness and punctuality

Provisional results are published in Provisional Woodland Statistics in mid-June, around 2.5 months after the end of the reference period (year to March).

Provisional Woodland Statistics was first released in June 2019 and replaced the annual National Statistics release Woodland Area, Planting and Publicly Funded Restocking and the previously quarterly Official Statistics release Woodland Carbon Code statistics.

Final results are published in Forestry Statistics at end September, 6 months after the end of the reference period (year to March).

## Accessibility and clarity

The annual [Forestry Statistics publication](#) provides the most comprehensive results, including background information on data sources, data collection, methodology, revisions and reporting. OpenDocument Spreadsheet (ODS) versions of the data are available to download.

Longer time series data are published in accompanying data sets to Provisional Woodland Statistics and to Forestry Statistics. These tables are available to download (ODS) from our [Data Downloads page](#).

Summary results are also published in [Forestry Facts & Figures](#).

## Comparability

Statistics on woodland area, new planting and restocking have been produced for some time, with limited data available back to 1919. Woodland inventories have been run in Great Britain every 15 years or so, with slight differences in definitions of woodland between inventories. Certified woodland data have been collected since 2001 and annually since 2004. Complete new planting and restocking data for the UK are available since 1976.

Woodland Carbon Code statistics were first collected in 2012. There are no other directly comparable statistics on projects registered under the Woodland Carbon Code.

The UK definition of woodland is land under stands of trees with a minimum size of 0.5 hectares and a canopy cover of at least 20%, or having the potential to achieve this, including integral open space, and including felled areas that are awaiting restocking. For the [National Forest Inventory](#) (NFI), a minimum width of 20 metres

is also applied. The UK definition differs slightly from the international definition which has a 10% minimum canopy cover (or the potential to achieve it) threshold.

The figures shown for Natural Resources Wales in Provisional Woodland Statistics (and previously Woodland Area, New Planting and Restocking), in Forestry Facts and Figures and in Forestry Statistics relate to the Welsh Government Woodland Estate. There is approximately 900 hectares of woodland on National Nature Reserves and other land managed by Natural Resources Wales that is not included in the Natural Resources Wales figures.

## Coherence

Statistics on woodland cover are also available from the [Land Cover Map](#) (LCM) 2015. The LCM is based on satellite imagery.

The carbon sequestration calculations conform to the guidelines of the [Woodland Carbon Code](#).

## Revisions

Our [Revisions Policy](#) outlines our general approach to revisions.

Statistics on woodland area in Great Britain are potentially subject to major revision when results become available from new national forest inventories, and minor revisions when new woodland maps are produced. Other statistics on woodland area and planting, and on the woodland carbon code are not normally revised.

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

## Other issues related to quality

Data from the National Forest Inventory have been used for estimates of both FE/FLS/NRW and private sector woodland areas since the 2011 edition of Woodland Area, Planting and Restocking (see Annex). Revised estimates for woodland areas

in Great Britain, based on the National Forest Inventory, were produced for 1998 to 2009, to give a consistent time series (enabling comparisons over time).

New planting estimates for England also include areas supported by the Woodland Trust and (until 2014-15) areas funded under Natural England's Higher Level Stewardship Scheme. Areas of land acquired by the National Forest Company for new planting have been included from Woodland Area, Planting and Restocking: 2017 Edition for 2015-16 and 2016-17.

Local estimates for private sector areas of planting and restocking which are not grant-aided were included for England, Wales and Scotland up to 2009-10, where possible. Estimates of non-grant-aided planting and restocking were relatively small (less than one thousand hectares annually), and it has been assumed that all of this area is broadleaves. Small estimates for broadleaved new planting without grant aid in Scotland in 2016-17 to 2019-20 have also been included. No estimates have been included for restocking of Sitka spruce in Scotland, or for restocking in England, that are no longer supported by grants. It is assumed that there is no non-FS non-grant aided new planting and restocking in Northern Ireland.

The use of natural regeneration in non-clearfell systems may be increasing - particularly for broadleaves in England. These systems are not satisfactorily represented by measuring restocking area within any given year, and so broadleaf regeneration may be under-reported in this release and other statistics.

## Annex: Significant revisions to published statistics

### Revisions arising from the National Forest Inventory

#### 2011 edition

Initial results from the new National Forest Inventory (NFI), providing revised estimates of woodland area at March 2010, were released in Spring 2011. The 2011 edition of Woodland Area, Planting and Restocking used these initial NFI results, resulting in an upward revision to the total woodland area in 2011 by 227 thousand hectares. This revision was largely a result of the new inventory identifying small areas of woodland not reported in the previous inventory (the 1995-99 National Inventory of Woodland and Trees) and methodology adjustments.

The rebasing of woodland area estimates to use the same definition of woodland as the National Forest Inventory also resulted in an upward revision by 72 thousand hectares to the estimated Forestry Commission (now referred to as Forestry England/Forestry and Land Scotland/Natural Resources Wales) woodland area. This change also resulted in a revision to the certified woodland area estimates.

#### 2012 edition

The methodology used to estimate woodland area was further refined in the 2012 edition of Woodland Area, Planting and Restocking, to take into account additional and updated data from the NFI. These further refinements resulted in the following changes:

- very small (less than 0.5%) downwards revisions to the overall woodland area estimates in each country for 2010 and 2011 from those provided in Forestry Statistics 2011 and Forestry Facts & Figures 2011;
- decreases in the conifer woodland area for 2010 and 2011 of 7% for GB (19% in England, 10% in Wales and 2% in Scotland); and
- increases in the broadleaf woodland area for 2010 and 2011 of 8% for GB (8% in England, 12% in Wales and 6% in Scotland).

In addition, revisions to earlier estimates of woodland areas (to produce a consistent time series, enabling comparisons over time) resulted in increases in overall woodland areas for 2009 and earlier years of up to 8% for GB (14% in England, 6% in Wales and 3% in Scotland).

As the Forestry England, Forestry and Land Scotland, Natural Resources Wales (and Forest Service) woodland area estimates are also used as the certified woodland areas for the Forestry England, Forestry and Land Scotland, Natural Resources Wales (and Forest Service), the revisions described above also led to changes to the estimates for certified woodland area. This resulted in a 1% increase to the Natural Resources Wales certified woodland area in 2011 and small changes (less than 0.5%) to the Forestry England and Forestry and Land Scotland certified woodland areas. Revisions to certified woodland areas for 2009 and earlier years, to produce a consistent time series, resulted in increases to the Forestry England, Forestry and Land Scotland, and Natural Resources Wales certified woodland areas of up to 7% for England, 9% for Wales and 8% for Scotland.

### 2013 edition

Woodland area figures for 2012 were revised in June 2013 to take account of further checks on the NFI woodland area map.

The revisions to the woodland area map have resulted in very small (less than 0.3%) revisions upwards to the overall woodland area estimates in England and Wales for 2012 from those provided in Forestry Statistics 2012. For Scotland the revision was larger (0.8% upwards).

### 2014 edition

Woodland area figures for 2010 to 2013 were revised in June 2014 from those provided in Forestry Statistics 2013 as a result of:



- The correction of an error in the estimate of non-FC broadleaved stocked areas in 2011, used in estimating conifer/broadleaf breakdowns of woodland area in Great Britain in 2010 and 2011;
- The use of estimated stocked areas at 2012 (first released in the National Forest Inventory reports 50 year forecast of softwood availability, and 50 year forecast of hardwood availability, on 30 April 2014) to estimate conifer/broadleaf breakdowns of woodland area in Great Britain in 2012 and 2013;
- The revision of the 2013 woodland area to take account of further checks on the National Forest Inventory woodland area map.

Overall, these revisions resulted in a very minor downwards revision of 2 thousand hectares (less than 0.1%) to the 2013 estimate of UK woodland area from the figure published in Forestry Statistics 2013. This comprised an increase of 12 thousand hectares (+1%) in the UK broadleaf area and a decrease of 14 thousand hectares (-1%) in the UK conifer area.

At a country level, the revisions to 2013 estimates for broadleaf and for conifer areas resulted in changes of -2% to +5%.

As a result of the revisions above, the 2013 UK certified area were revised upwards by less than 0.1%.

### 2015 edition

Woodland area figures at March 2014 were revised from those provided in Forestry Statistics 2014 to take account of further checks on the NFI woodland area map. This resulted in very small revisions to the overall woodland area estimates in Wales (-0.2%), Scotland (+0.4%) and the UK (+0.2%).

### 2016 edition

Woodland area figures at March 2015 were revised from those provided in Forestry Statistics 2015 to take account of updates to the NFI woodland area map. This

resulted in very small revisions to the overall woodland area estimates in England (+0.1%).

#### 2017 edition

Woodland area figures at March 2016 were revised from those provided in Forestry Statistics 2016 to take account of updates to the NFI woodland area map. This resulted in very small revisions to the woodland area estimates in England, Wales and Scotland (<0.3%).

#### 2018 edition

Woodland area figures at March 2017 were revised from those provided in Forestry Statistics 2017 to take account of updates to the NFI woodland area map. This resulted in very small revisions to the woodland area estimates in England, Wales and Scotland (<0.3%).

#### 2019 edition

Woodland area figures at March 2017 and at March 2018 were revised from those provided in Forestry Statistics 2018 to take account of updates to the NFI woodland area maps for 2017 (final revised map) and 2018 (provisional map). This resulted in very small revisions to the woodland area estimates in England, Wales and Scotland (<0.3%) for each of these years.

#### 2020 edition

Woodland area figures at March 2018 and at March 2019 were revised from those provided in Forestry Statistics 2019 to take account of updates to the NFI woodland area maps for 2018 (final revised map) and 2019 (provisional map). This resulted in very small revisions to the woodland area estimates in England, Wales and Scotland (<0.1%) for each of these years.

#### 2021 edition

Woodland area figures at March 2019 and at March 2020 have been revised from those provided in Forestry Statistics 2020 to take account of updates to the NFI

woodland area map. A revision to the 2019 NFI woodland map to add in woodland identified through other sources has resulted in increases to the woodland area estimates for 2019 of around 7 thousand hectares in England, 1 thousand hectares in Wales and 3 thousand hectares in Scotland; these changes have resulted in similar upwards revisions to the 2020 estimates. Revised woodland areas at March 2019 (obtained from the NFI revised woodland area map of Great Britain at March 2019) and at March 2020 (obtained from the NFI provisional woodland area map of Great Britain at March 2020), are provided in the Excel tables accompanying this release.

### 2022 edition

Woodland area figures at March 2020 and at March 2021 have been revised from those provided in Forestry Statistics 2021 to take account of updates to the NFI woodland area map. A revision to the 2020 NFI woodland map to reflect land use change and mapping errors have resulted in a decrease in the woodland area estimate for 2020 of 1.2 thousand hectares in England, and an increase of 0.2 thousand hectares in Scotland and 0.2 thousand hectares in Wales. Revisions to the 2021 woodland map have resulted in an increase in the woodland area estimate for 2021 of 4 thousand hectares in Scotland and 0.5 thousand hectares in Wales, and a decrease of 0.5 thousand hectares in England. Revised woodland areas at March 2020 (obtained from the NFI revised woodland area map of Great Britain at March 2020) and at March 2021 (obtained from the NFI provisional woodland area map of Great Britain at March 2021), are provided in the accompanying data set (Table S1 and S2).

As the woodland area estimates are also used to estimate certified area for FE/FLS/NRW/FS woodland, the certified woodland area figures for 2020 and 2021 have also been revised, resulting in revisions of up to 0.7%.

## Other revisions

Revisions to new planting data for Forestry England have resulted in changes of up to 20 hectares per year for 2012-13 to 2021-22. These changes were introduced in Provisional Woodland Statistics 2022, following receipt of more up-to-date data.

Revisions to new planting data for Wales have resulted in changes of up to 150 hectares per year for new planting in 2015-16 to 2018-19 and up to 260 hectares per year for restocking over the same period. These changes were introduced for the 2020 edition of Provisional Woodland Statistics following the addition of further grant schemes that had not been previously covered and revisions to the methodology for reporting on Rural Payments Wales data.

Revisions to new planting and restocking data for 2015-16 and earlier years has resulted in:

- An increase of 0.1 thousand hectares in the new planting area for England, following inclusion of areas of land acquired for planting by the National Forest Company; and
- Increases of 0.2 thousand hectares in 2014-15 and 0.1 thousand hectares in 2015-16 in the restocking areas in Northern Ireland, following revisions to historic data by the NI Forest Service.

The estimate for the area of private sector new planting in England for 2011-12 was revised upwards by 2.4% in June 2015, with the availability of improved data.

Estimates for "other" woodland new planting were revised in June 2014 for 2010-11 to 2012-13 with the availability of improved data. The estimate for 2010-11 was revised upwards by 12%, while revisions for 2011-12 and 2012-13 were each smaller than 0.1%.

For Northern Ireland, FS restocking figures were revised upwards in June 2017 by 0.2 thousand hectares in 2014-15 and 0.1 thousand hectares in 2015-16. FS

restocking figures for conifers in Northern Ireland for 2011-12 were revised upwards in June 2013 by 0.4 thousand hectares from those provided in Forestry Statistics 2012 as a result of changes to the administrative systems.

The introduction of the Northern Ireland Woodland Register has resulted in an upward revision of 17 thousand hectares (19%) in the Northern Ireland woodland area at March 2012 presented in Forestry Statistics 2012 and Forestry Facts & Figures 2012 from the figures in Woodland Area, Planting and Restocking: 2012 Edition.

Revisions to the 2011-12 new planting and restocking figures have been made to take account of revised planting data for the Forest Service. This resulted in a decrease of around 0.5 thousand hectares (48%) in the level of restocking in Northern Ireland presented in Forestry Statistics 2012 and Forestry Facts & Figures 2012 from the figure previously released.

The figures for private sector new planting in Wales in 2000-01 to 2009-10 were revised upwards between Forestry Statistics 2010 (table 1.12) and the 2011 edition of Woodland Area, Planting and Restocking (and accompanying time series data), by up to 0.1 thousand hectares per year. This amendment was made to include grant aided planting under the Tir Gofal agri-environment scheme, administered by the Welsh Assembly Government. A further revision was made for Forestry Statistics 2011 (and accompanying time series data), to improve the estimates of new planting in Wales from the Woodland Grant Scheme. This resulted in changes of between -0.1 and +0.1 thousand hectares per year for private sector new planting in Wales between 2001-02 and 2008-09.

The figures for new planting and restocking by the Forestry Commission in England in 2004-05 were revised upwards in 2006 publications, from 0.0 and 1.6 thousand hectares to 0.1 and 1.8 thousand hectares respectively. Figures for 2004-05 had been reported and published as net area, but were revised to include a standard

estimate for integral open space, for consistency with other years and other planting data.

The figures for new planting by the Forestry Commission in England in 2001-02 and 2002-03 were revised upwards between Forestry Facts & Figures 2003 (table 4) and Forestry Statistics 2003 (table 1.11), from 0.1 and 0.0 thousand hectares to 0.6 and 0.7 thousand hectares respectively. This amendment was made to correct the figures extracted from administrative systems, which had incorrectly excluded new planting by the Forestry Commission in community forests, which had been recorded separately.

When results from the 1995-99 National Inventory of Woodland and Trees were incorporated in 1999 and 2000, the total woodland area was revised up by 238 thousand hectares, largely as a result of the new inventory identifying areas of broadleaves not reported in previous censuses.