

Provisional Woodland Statistics

2021 Edition

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United Kingdom

Geographical breakdown:

Country

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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.

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National Statistics status

National Statistics status means that our statistics meet the highest standards of trustworthiness, quality and public value, and it is our responsibility to maintain compliance with these standards.

The continued designation of these statistics as National Statistics was confirmed in March 2012 following an assessment by the UK Statistics Authority (now the Office for Statistics Regulation) against the Code of Practice for Statistics.

Since the latest assessment of these statistics in 2012, we have made improvements including:

- Adding charts, to illustrate how the statistics have changed over time.
- Expanding the release to include Woodland Carbon Code Statistics and renaming the release to better reflect its content.
- Expanding the Annex to provide more detailed information on the data used in the release.



Introduction

This release contains provisional statistics for the year to March 2021 on:

- UK woodland area;
- certified woodland area;
- areas of new planting and publicly funded restocking; and
- projects registered under the Woodland Carbon Code¹.

These provisional statistics will be superseded on 30 September 2021 with the publication of final and more detailed results in Forestry Statistics 2021.

Estimates for England, Wales, Scotland and Northern Ireland are included in addition to UK totals. Figures at March 2021 and for the period 2020-21 are published for the first time in this release. Some figures for earlier years have been revised from those previously released. For further details, see the Revisions section of the Annex.

Please refer to the Annex for a glossary of terms used in this release.

¹ The Woodland Carbon Code is a voluntary standard, initiated in July 2011, for woodland creation projects that make claims about the carbon they sequester (take out of the atmosphere).

Key findings

- The area of woodland in the UK at 31 March 2021 is estimated to be 3.23 million hectares. This represents 13% of the total land area in the UK, 10% in England, 15% in Wales, 19% in Scotland and 9% in Northern Ireland.
- Of the total UK woodland area, 0.86 million hectares is owned or managed by Forestry England, Forestry and Land Scotland, Natural Resources Wales or the Forest Service (in Northern Ireland).
- The total certified woodland area in the UK at 31 March 2021 is 1.41 million hectares, including all Forestry England/Forestry and Land Scotland/Welsh Government Woodland Estate/Forest Service woodland. Overall, 44% of the UK woodland area is certified.
- Around thirteen thousand hectares of newly created woodland were reported in the UK in 2020-21.
- Around fourteen thousand hectares of publicly-funded woodland restocking were reported in the UK in 2020-21.
- Woodland Carbon Code projects in the UK that were validated (including those that were also verified) were predicted to sequester a total of 5.7 million tonnes of carbon dioxide over their lifetime of up to 100 years². This represents 4.5 million tonnes in Scotland, 981 thousand tonnes in England, 218 thousand tonnes in Wales and 11 thousand tonnes in Northern Ireland.

² Figures for carbon sequestration indicate the total projected sequestration of the projects over their lifetime of up to 100 years and include the amount claimable by a project plus the amount allocated to a shared "buffer" in case of unanticipated losses.

Area of woodland

Woodland is defined in UK forestry statistics as land under stands of trees with a minimum area of 0.5 hectares and a canopy cover of at least 20% (25% in Northern Ireland), or having the potential to achieve this. The definition relates to land use, rather than land cover, so integral open space and felled areas that are awaiting restocking are included as woodland. Further information, including how this UK definition compares with the international definition of woodland, is provided in the Annex.

Statistics on woodland area are used to inform government policy and resource allocation, to provide context to UK forestry and land management issues and are reported to international organisations. They are also used in the compilation of natural capital accounts.

Increases in woodland area result from the creation of new woodland. This can be achieved through new planting or by natural colonisation of trees. Further information is available in the section on new planting.

Decreases in woodland area result from the conversion of woodland to other land uses. Regulatory approval is usually required before trees can be felled. Felling approval will normally require the area to be restocked, but there are some cases in which trees may be permanently removed, generally for environmental reasons. The permanent removal of trees may also be authorised under planning regulations, to enable development.

Most public sector woodland is owned and managed by Forestry England (FE), Forestry and Land Scotland (FLS), Natural Resources Wales (NRW) and the Forest Service (FS) in Northern Ireland. Other public sector woodland (e.g. owned by local authorities) is included with privately owned woodland as "private sector" in this release.

The Natural Resources Wales woodland areas shown in this release 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.

The area of woodland in the UK at 31 March 2021 is estimated to be 3.23 million hectares (Table 1). This represents 13% of the total land area in the UK, 10% in England, 15% in Wales, 19% in Scotland and 9% in Northern Ireland.

0.86 million hectares of woodland in the UK (27%) is owned or managed by Forestry England, Forestry and Land Scotland, Natural Resources Wales or the Forest Service (in Northern Ireland).

Conifers account for around one half (51%) of the UK woodland area, although this proportion varies from 26% in England to 74% in Scotland.

Table 1 Area of woodland, 2021

thousands of hectares

	England	Wales	Scotland	Northern Ireland	UK
FE/FLS/NRW/FS¹					
Conifers	151	96	426	55	728
Broadleaves	63	19	41	7	130
Total	214	115	467	62	858
Private sector²					
Conifers	191	56	662	8	917
Broadleaves	916	140	350	48	1,454
Total	1,107	195	1,012	56	2,370
Total Woodland					
Conifers	342	152	1,088	64	1,645
Broadleaves	979	158	392	55	1,584
Total	1,320	310	1,480	119	3,229

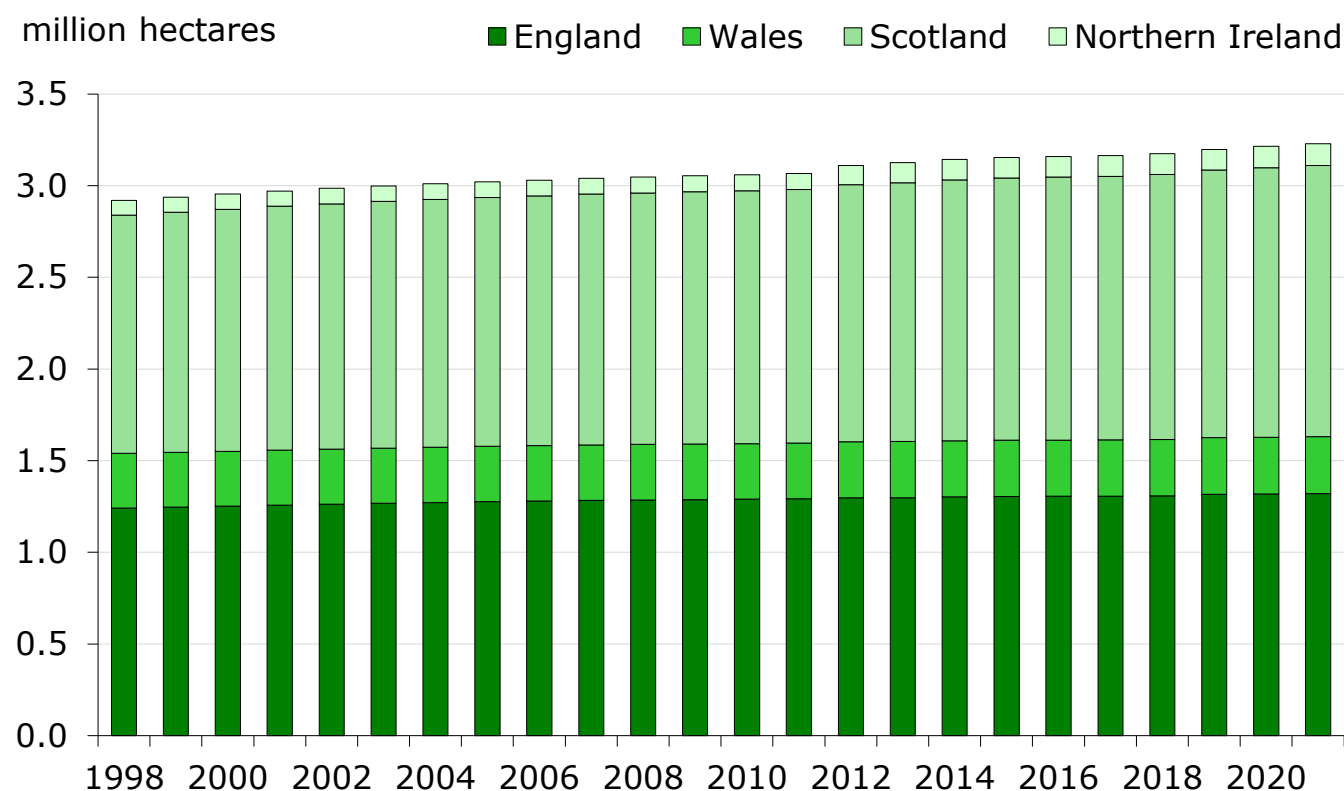
Source: Forestry Commission, Forestry England, Scottish Forestry, Forestry and Land Scotland, Welsh Government, Natural Resources Wales, Forest Service, National Forest Inventory.

Note:

1. FE: Forestry England (England), FLS: (Forestry and Land Scotland), NRW: Natural Resources Wales, FS: Forest Service (Northern Ireland). NRW estimates only relate to the Welsh Government Woodland Estate (WGWE).
2. Private sector: all other woodland. Includes woodland managed by NRW outside the WGWE, other publicly owned woodland (e.g. owned by local authorities) and privately-owned woodland.
3. Areas as at 31 March 2021. Figures are provisional.
4. Figures for England, Wales and Scotland are based on data obtained from the National Forest Inventory and adjusted for new planting, but at present no adjustment is made for woodland recently converted to another land use. Further information on how the figures have been estimated is available in the Annex.
5. Figures for Northern Ireland are obtained from the Northern Ireland Woodland Register.
6. Broadleaves include coppice and coppice with standards.

Figure 1 shows woodland area by country since 1998. Woodland area has risen by around 300 thousand hectares since 1998, an increase of 11% over the period.

Figure 1 Area of woodland, 1998 to 2021



Source: Forestry Commission, Forestry England, Scottish Forestry, Forestry and Land Scotland, Welsh Government, Natural Resources Wales, Forest Service, National Forest Inventory.

Note:

1. Woodland areas for England, Wales and Scotland shown in this figure are based on data from the National Forest Inventory. The trends shown take account of areas of new planting and identifiable permanent woodland loss. Areas of woodland loss that are not yet identifiable (e.g. conversion of woodland for the restoration of open habitats) are not accounted for. Further information on the National Forest Inventory is available at www.forestresearch.gov.uk/tools-and-resources/national-forest-inventory/.

Area of certified woodland

Certified woodland in the UK has been independently audited against the UK Woodland Assurance Standard. Forestry certification schemes are owned by international non-governmental organisations and exist to promote good forest practice. They offer product labels to demonstrate that wood or wood products come from well-managed forests.

Figures for certified woodland areas are often used as an indicator of sustainable forest management. However, it should be noted that woodland that is not certified may also be managed sustainably.

Most changes to the certified woodland area figures over time are a result of new areas being certified or certificates not being renewed upon expiry. Temporary changes can also occur if there is a time lag between expiry and renewal.

Table 2 shows the area of certified woodland. The total area of certified woodland in the UK at 31 March 2021 is 1.41 million hectares. This represents 44% of the total UK woodland area, 24% of the woodland area in England, 47% in Wales, 60% in Scotland and 55% in Northern Ireland.

Table 2 Area of certified woodland, 2021

	thousands of hectares				
	England	Wales	Scotland	Northern Ireland	UK
FE/FLS/NRW/FS ¹	214	115	467	62	858
Private sector ²	103	30	419	3	554
Total	316	145	886	65	1,413
% of woodland area	24%	47%	60%	55%	44%

Source: Forest Stewardship Council, Programme for the Endorsement of Forest Certification, Forestry England, Forestry and Land Scotland, Natural Resources Wales, Forest Service

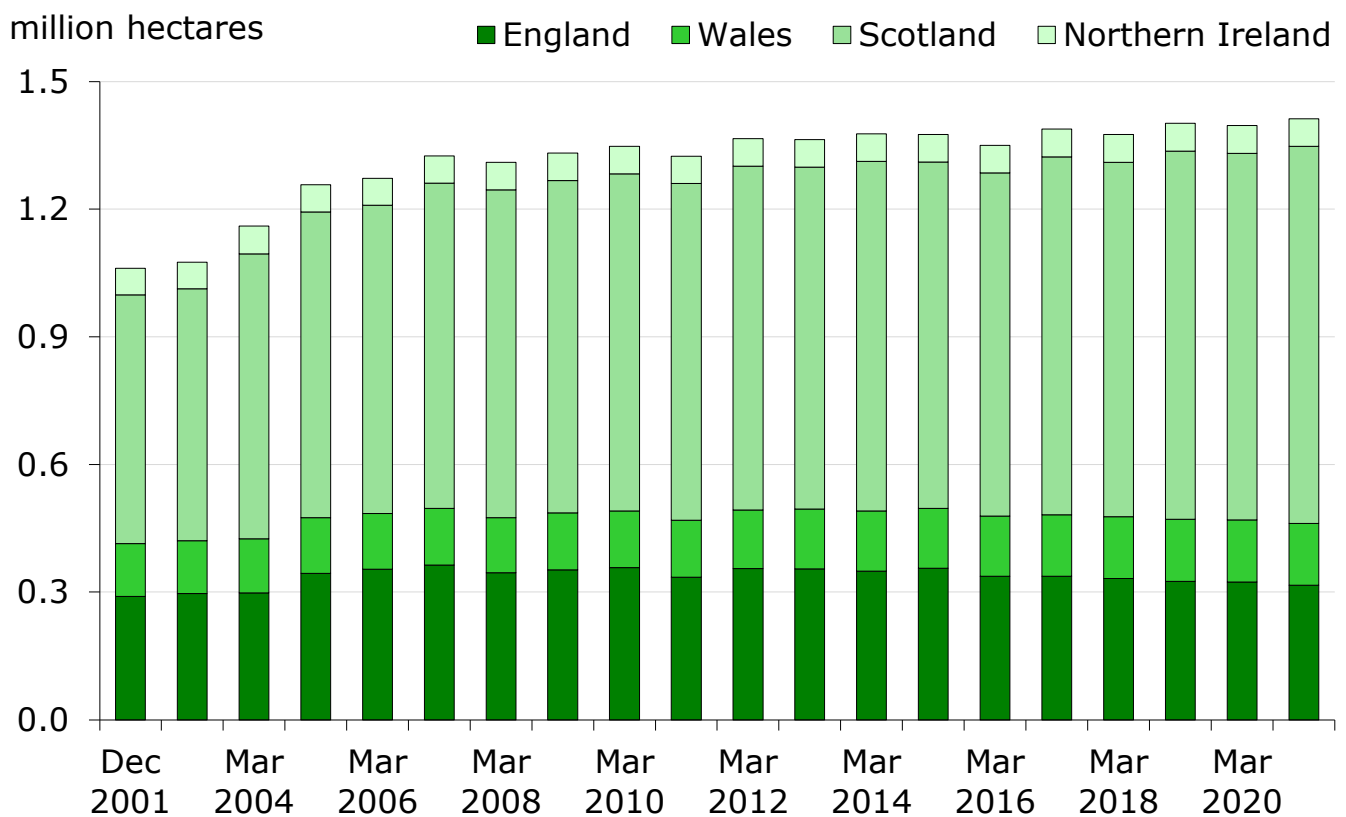
Note:

1. FE: Forestry England, FLS: Forestry and Land Scotland, NRW: Natural Resources Wales, FS: Forest Service (Northern Ireland). NRW estimates only relate to the Welsh Government Woodland Estate (WGWE).
2. Private sector: all other woodland. Includes woodland managed by NRW outside the WGWE , other publicly owned woodland (e.g. owned by local authorities) and privately owned woodland.
3. Areas as at 31 March 2021.
4. All certified woodland in 2021 is certified under the Forest Stewardship Council (FSC) scheme or the Programme for the Endorsement of Forest Certification (PEFC) scheme, with many woodlands certified under both schemes.
5. The estimates are based on UK data published by FSC and PEFC, supplemented by data from individual certificates and other sources. Where possible, figures are for the woodland area certified, rather than the land area certified.
6. All Forestry England/Forestry and Land Scotland/ Natural Resources Wales WGWE/Forest Service woodland is certified. The Forestry England/Forestry and Land Scotland/ Welsh Government Woodland Estate /Forest Service areas are the latest areas, as shown in Table 1, rather than the areas shown on certificates.

Figure 2 presents certified woodland area by country since December 2001. This shows an increase in certified woodland area of around 350 thousand hectares (33%) since December 2001.

The 1.41 million hectares of certified woodland at March 2021 represents a 1.1% increase on the previous year. All of this increase occurred in Scotland.

Figure 2 Area of certified woodland, 2001 to 2021



Source: Forest Stewardship Council, Programme for the Endorsement of Forest Certification, Forestry England, Forestry and Land Scotland, Natural Resources Wales, Forest Service

Note:

1. All certified woodland is certified under the Forest Stewardship Council (FSC) scheme or the Programme for the Endorsement of Forest Certification (PEFC) scheme, with many woodlands certified under both schemes.
2. The estimates are based on UK data published by FSC and PEFC, supplemented by data from individual certificates and other sources. Where possible, figures are for the woodland area certified, rather than the land area certified.

New planting

New planting is the creation of new areas of woodland by planting trees on land that was not previously woodland. The statistics presented here also include new woodland that is created by natural colonisation of trees (where known). Statistics on new planting are used to inform government policy and resource allocation and are used in producing annual estimates of woodland area.

Table 3 shows the area of new woodland that was created in the year to 31 March 2021. The total area of new planting in the UK in 2020-21 was 13.41 thousand hectares. Conifers accounted for 54% of the total area of new planting. Most new planting (95%) took place on private sector land. 79% of the total new planting area took place in Scotland, 16% in England, 2% in Wales and 2% in Northern Ireland.

Table 3 Area of new planting, 2020-21

thousands of hectares

	England	Wales	Scotland	Northern Ireland	UK
New planting by forest type					
Conifers	0.11	0.08	6.94	0.07	7.19
Broadleaves	2.07	0.21	3.72	0.22	6.22
All new planting	2.18	0.29	10.66	0.28	13.41
New planting by ownership					
FE/FLS/NRW/FS ¹	0.01	0.06	0.57	0.00	0.64
Private sector ²	2.17	0.23	10.09	0.28	12.78
All new planting	2.18	0.29	10.66	0.28	13.41

Source: Forestry Commission, Forestry England, Scottish Forestry, Forestry and Land Scotland, Welsh Government, Natural Resources Wales, Forest Service, grant schemes.

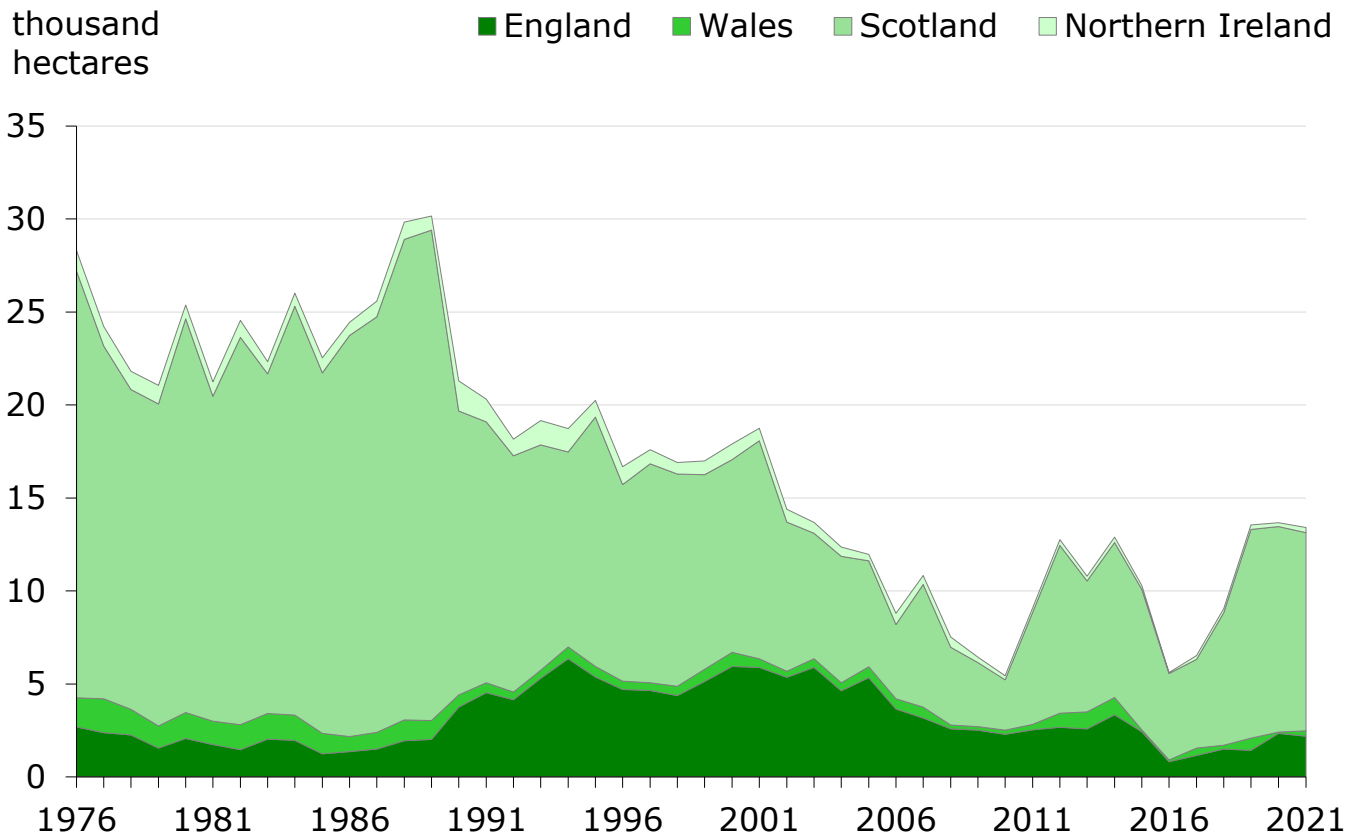
Note:

1. FE: Forestry England, FLS: Forestry and Land Scotland, NRW: Natural Resources Wales, FS: Forest Service (Northern Ireland).
2. Private sector: all other woodland. Includes other publicly owned woodland (e.g. owned by local authorities) and privately owned woodland.
3. Figures for grant-aided planting relate to areas for which grants were paid during the year.
4. Estimates for areas planted without grant aid are believed to be under-reported and, as a result, the reported figures are likely to under-estimate the true level of planting activity. For England, woodland planting funded by sources other than the Countryside Stewardship Woodland Creation Grant include planting supported by the Woodland Trust, by the Environment Agency, by Natural England and land acquired by the National Forest Company. For Scotland, a small amount of new planting without grant aid was included.
5. The planting season lies both sides of 31 March, and the weather can cause planting to be advanced or delayed.
6. Includes woodland formed by natural colonisation (where known).
7. Figures are provisional.

Figure 3 shows areas of new planting by country since the year ending March 1976. Trends in new planting rates have been influenced by changes to the incentives available to land owners (in the form of grants) and the availability of land for planting.

In the last 10 years, areas of new planting in the UK have ranged from under 6 thousand hectares to around 13 thousand hectares.

Figure 3 Area of new planting, 1976 to 2021



Source: Forestry Commission, Forestry England, Scottish Forestry, Forestry and Land Scotland, Welsh Government, Natural Resources Wales, Forest Service, grant schemes.

Note:

1. Private sector figures are based on grant-supported new planting and (where possible) with estimates for areas planted without grant aid.
2. Figures for grant-aided planting relate to areas for which grants were paid during the year.
3. Estimates for areas planted without grant aid are believed to be under-reported and, as a result, the reported figures are likely to under-estimate the true level of planting activity. For England, woodland planting funded by sources other than the Countryside Stewardship Woodland Creation Grant include planting supported by the Woodland Trust, by the Environment Agency, by Natural England and land acquired by the National Forest Company. For Scotland, a small amount of new planting without grant aid was included for 2016-17 to 2019-20.
4. The planting season lies both sides of 31 March, and the weather can cause planting to be advanced or delayed.
5. Includes woodland formed by natural colonisation (where known).
6. Figures are provisional.

Publicly funded restocking

Restocking is the replacement of trees on areas of woodland that have been felled; this can be done either through replanting or natural regeneration. The statistics presented here include felled areas that have been restocked by both natural regeneration and replanting.

As restocking takes place on woodland that has been previously harvested and it is a condition of most felling licences that the area is restocked, restocking rates are mainly driven by harvesting levels (with a time lag, often of around 2 years, between harvesting and restocking).

Economic factors, including grant rates, may have some effect on species choice at restocking. In addition, the precise timing of restocking may be affected by weather conditions.

This release only covers publicly funded restocking, that is:

- restocking of Forestry England/ Forestry and Land Scotland/ Natural Resources Wales/ Forest Service woodland and
- grant-aided restocking of private sector woodland.

Grant support for restocking in Scotland has been limited since 2008. The Forestry Grant Scheme was launched in Scotland in March 2015 and does include support for restocking in most but not all circumstances. As a result, grant-aided restocking does not represent all private sector restocking in Scotland. It is therefore likely that conifer restocking in Scotland in recent years is under-reported in this release and other statistics.

Grant support in England is now provided by the Countryside Stewardship scheme, which opened for applications in early 2016. Funding for restocking under Countryside Stewardship is only available under limited circumstances (through the tree health grant). The restoration (and restocking with native species) of PAWS

(plantations on ancient woodland sites) is also supported by the HS2 Woodland Fund. No estimate has been made for restocking in England that is no longer supported by grants and therefore restocking in England in recent years is under-reported in this release and other statistics.

Table 4 shows the reported area of publicly funded restocking that took place in the year to 31 March 2021. As private sector figures are based on areas receiving grants for restocking, and restocking is not supported (or only supported in limited circumstances) by some grant schemes, these figures under-estimate the true level of restocking in the UK. In addition, the table excludes all private sector restocking in England as estimates for grant-funded restocking in 2020-21 are not yet available.

In 2020-21, a total 13.64 thousand hectares of restocking was publicly funded. Conifers accounted for over four fifths (83%) of the total area of restocking. Most reported restocking (68%) took place on FE/FLS/NRW/FS land.

Around two thirds of all publicly funded restocking (67%) took place in Scotland, 15% in England, 14% in Wales and the remaining 5% in Northern Ireland.

Table 4 Area of publicly funded restocking, 2020-21

thousands of hectares

	England	Wales	Scotland	Northern Ireland	UK
Restocking by forest type					
Conifers	1.55	1.16	7.96	0.62	11.29
Broadleaves	0.44	0.68	1.21	0.02	2.35
All restocking	1.98	1.85	9.17	0.64	13.64
Restocking by ownership					
FE/FLS/NRW/FS ¹	1.98	1.67	5.00	0.60	9.26
Private sector ²	0.00	0.18	4.16	0.04	4.38
All restocking	1.98	1.85	9.17	0.64	13.64

Source: Forestry Commission, Forestry England, Scottish Forestry, Forestry and Land Scotland, Welsh Government, Natural Resources Wales, Forest Service, grant schemes.

Note:

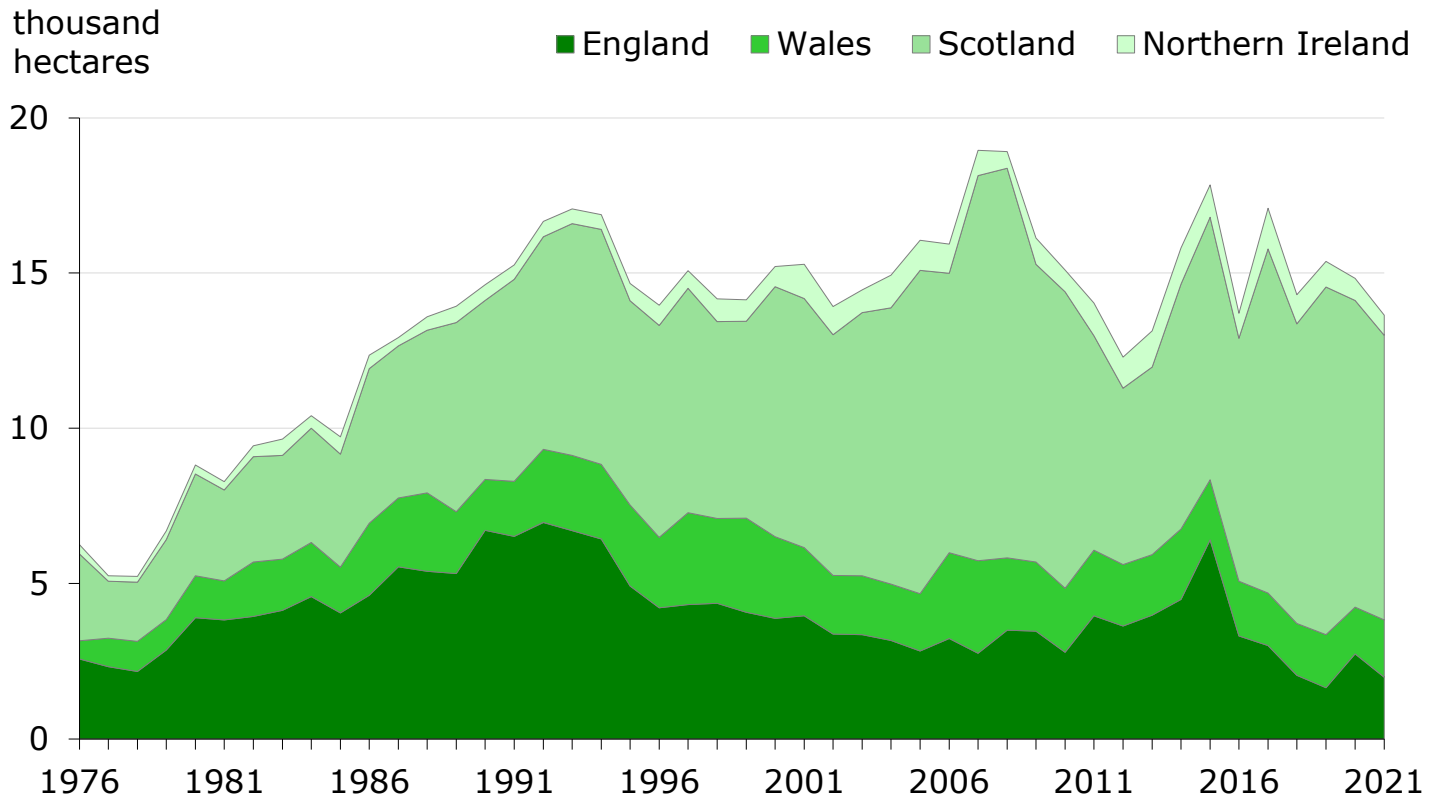
1. FE: Forestry England, FLS: Forestry and Land Scotland, NRW: Natural Resources Wales, FS: Forest Service (Northern Ireland).
2. Private sector: all other woodland. Includes other publicly owned woodland (e.g. owned by local authorities) and privately-owned woodland. Excludes all private sector restocking in England as estimates for grant-funded restocking in 2020-21 are not yet available.
3. Private sector figures are based on areas for which grants were paid during the year. No estimate of areas planted without grant aid was included.
4. The planting season lies both sides of 31 March, and the weather can cause planting to be advanced or delayed.
5. Includes woodland restocked by natural regeneration.
6. Restocking by natural regeneration in non-clearfell areas may be under-represented in the above table.
7. Figures are provisional.

Figure 4 shows reported areas of restocking by country since the year ending March 1976. It indicates an overall increase in restocking rates during the period. Over the same period, there has been a general increase in UK wood production (see www.forestresearch.gov.uk/tools-and-resources/statistics/statistics-by-topic/timber-statistics/uk-wood-production-and-trade-provisional-figures/).

The reported area of restocking fell significantly after a peak of 19 thousand hectares in 2006-07. This followed changes to grant support for restocking in Scotland, that resulted in some non-grant aided Sitka spruce restocking being excluded from the estimates.

The chart shows a dip in the area of restocking in 2015-16, following changes to grant schemes across the UK. Reported restocking has continued to fall in England, where grant aid is now only available in very limited circumstances. The reported area of publicly funded restocking in the UK in 2020-21 excludes all private sector restocking in England as estimates for grant-funded restocking in the latest year are not yet available. For further information, see the Data Sources and Methodology section of the Annex.

Figure 4 Area of restocking, 1976 to 2021



Source: Forestry Commission, Forestry England, Scottish Forestry, Forestry and Land Scotland, Welsh Government, Natural Resources Wales, Forest Service, grant schemes.

Note:

1. Private sector figures are based on areas for which grants were paid during the year. Excludes all private sector restocking in England in 2020-21 as estimates for grant-funded restocking in the latest year are not yet available.
2. Estimates of areas planted without grant aid are also included (where possible) up to 2009-10, but no estimates are available since then. As a result, the reported figures are likely to underestimate the true level of planting activity.
3. The planting season lies both sides of 31 March, and the weather can cause planting to be advanced or delayed.
4. Includes woodland restocked by natural regeneration.
5. Restocking by natural regeneration in non-clearfell areas may be under-represented.
6. Figures are provisional.

Woodland Carbon Code

A total of 302 projects across the UK were validated at 31 March 2021 and are projected to sequester 5.7 million tonnes of carbon dioxide over their lifetime of up to 100 years (Table 5). This represents 4.5 million tonnes of carbon dioxide in Scotland, 981 thousand tonnes of carbon dioxide in England, 218 thousand tonnes in Wales and 11 thousand tonnes in Northern Ireland.

A total of 708 projects were registered under the Woodland Carbon Code by the end of March 2021, covering around 32 thousand hectares of woodland and projected to sequester 11.1 million tonnes of carbon dioxide over their lifetime.

Table 5 Woodland Carbon Code projects in the UK at 31 March 2021

	England	Wales	Scotland	NI	UK
Number of projects¹					
Awaiting validation	165	55	181	5	406
Validated only	60	24	123	1	208
Verified	39	3	51	1	94
Total validated	99	27	174	2	302
All projects	264	82	355	7	708
Area of woodland (hectares)					
Awaiting validation	3,645	629	12,329	60	16,662
Validated only	1,390	399	10,478	14	12,281
Verified	402	52	2,379	9	2,841
Total validated	1,793	451	12,857	22	15,123
All projects	5,438	1,079	25,186	82	31,785
Projected carbon sequestration² (thousand tonnes of carbon dioxide equivalent)					
Awaiting validation	1,545	197	3,603	22	5,368
Validated only	762	185	3,487	8	4,442
Verified	220	33	1,044	3	1,299
Total validated	981	218	4,531	11	5,741
All projects	2,527	415	8,134	33	11,109

Source: UK Woodland Carbon Registry (Scottish Forestry).

Note:

1. Projects can be validated/verified individually or as part of a group. The statistics presented here show the number of projects validated or verified whether they were administered individually or as part of a group.
2. Figures for carbon sequestration indicate the total projected sequestration of the projects over their lifetime of up to 100 years and include the amount claimable by a project plus the amount allocated to a shared "buffer" in case of unanticipated losses.

3. Awaiting validation: these projects are registered with the Woodland Carbon Code but have not yet been assessed by the validator.
4. Validated: is the initial evaluation of a project or group against the requirements of the Woodland Carbon Code. Upon completion a project/group will receive a 'Validation Opinion Statement'. The project/group will then be certified for a period of up to 5 years.
5. Verified: Verification is the evaluation of a project as it progresses to confirm the amount of CO₂ sequestered to date as well as that it continues to meet the requirements of the Code.

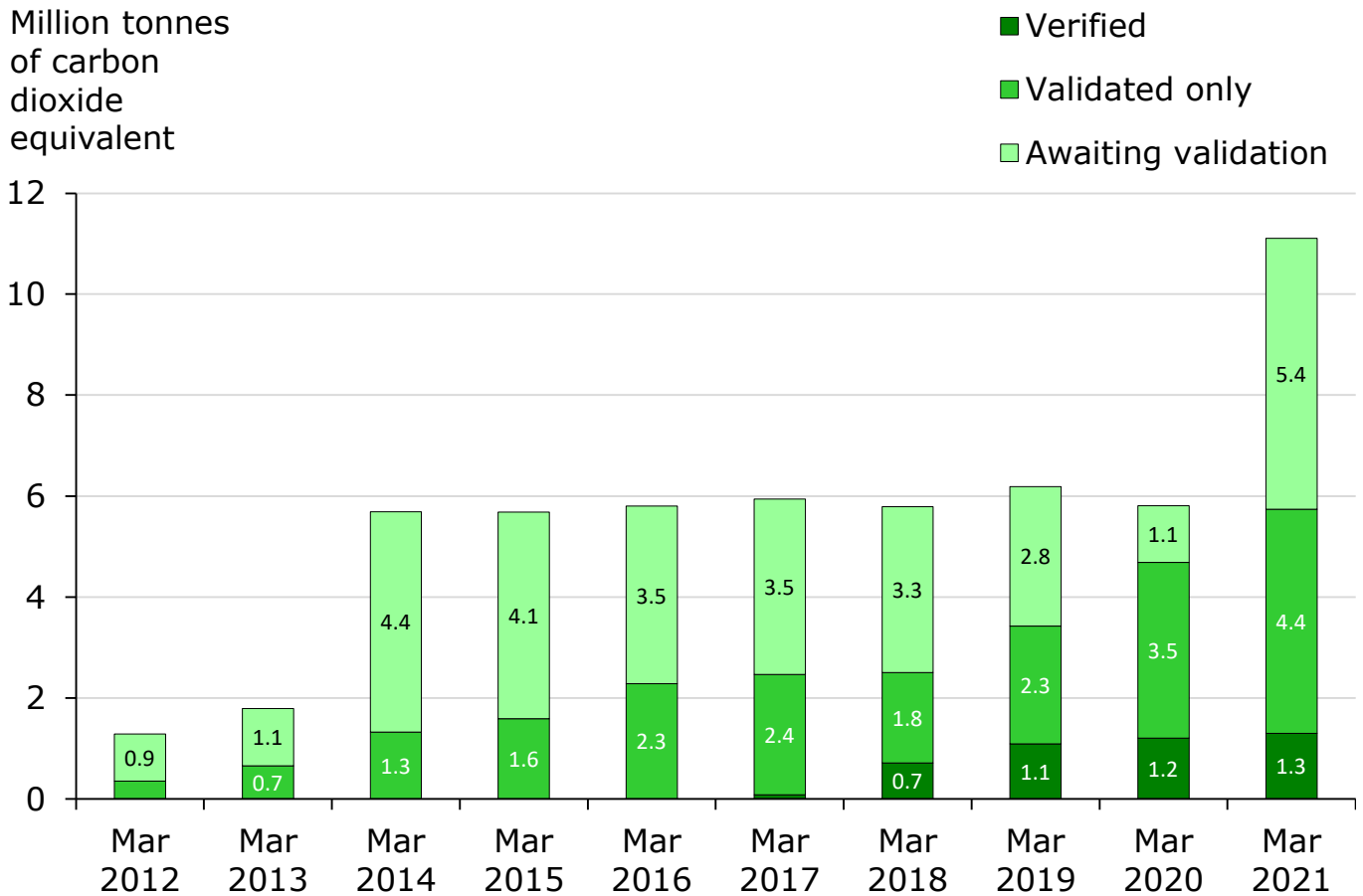
Figure 5 shows projected carbon sequestration for all projects in the UK since March 2012. The data presented here represent net changes in projects (i.e. additions less deletions). Projects can be removed from the register if they do not meet the Code's standards, planned woodland creation projects do not go ahead, or the landowner no longer wishes to claim the carbon benefit of the project.

There has been a 22% increase in projected carbon sequestration for validated projects (including those verified) in the latest year, from March 2020 to March 2021.

Total projected carbon sequestration for all projects registered (including those awaiting validation) increased by 91% in the year to March 2021.

These changes in the latest year reflect increases in both the number of projects registered and the number validated between March 2020 and March 2021.

Figure 5 Projected carbon sequestration by Woodland Carbon Code projects in the UK¹



Source: UK Woodland Carbon Registry (Scottish Forestry).

Note:

1. Figures for carbon sequestration indicate the total projected sequestration of the projects over their lifetime of up to 100 years and include the amount claimable by a project plus the amount allocated to a shared "buffer" in case of unanticipated losses.
2. Awaiting validation: these projects are registered with the Woodland Carbon Code but have not yet been assessed by the validator.
3. Validated: is the initial evaluation of a project or group against the requirements of the Woodland Carbon Code. Upon completion a project/group will receive a 'Validation Opinion Statement'. The project/group will then be certified for a period of up to 5 years.
4. Verified: Verification is the evaluation of a project as it progresses to confirm the amount of CO₂ sequestered to date as well as that it continues to meet the requirements of the Code.
5. Additional data, including quarterly estimates to March 2018, are available in the accompanying data tables.

Annex

Introduction

This annex provides background information on the woodland area, planting, publicly funded restocking and woodland carbon code statistics presented in this release. It covers the data sources and methodology used to produce the statistics, information on quality measures and on any revisions to historic data and links to further information.

Glossary

Broadleaves

Trees that do not have needles or cones, such as oak, birch and beech. A few, such as alder, have cone-like structures for their seeds which are not true cones.

Clearfell areas

Sites where all trees have been felled at once. In non-clearfell areas, only some of the trees are felled at any one time.

Conifers

Trees with needles and cones, such as spruce, pine and larch.

Coppice

Trees that are cut near ground level (or sometimes higher, in which case they are called pollards), causing them to produce many small shoots. These shoots are harvested every few years at a relatively early age for products such as staves, fencing, fuel and charcoal. "Coppice with standards" includes scattered trees that are left to grow as normal ("standards").

Establishment

The first five to ten years or formative period that ends once young trees are of sufficient size that, given adequate protection, they are likely to survive at the required stocking.

Forest

In the United Kingdom, there is no formal definition of “forest”; the term is often used for large woodland areas (especially conifers) or for old Royal hunting preserves such as the New Forest or the Forest of Dean.

Forest Research (FR)

The Forestry Commission agency responsible for forestry and tree related research (including statistics).

Forest Service (FS)

An executive agency of the Department of Agriculture, Environment and Rural Affairs (DAERA). Forest Service fulfils DAERA’s legal obligations for forestry in Northern Ireland.

Forestry and Land Scotland (FLS)

The Scottish Government agency responsible for managing the national forests and lands in Scotland, created on 1 April 2019.

Forestry Commission (FC)

The government department responsible for forestry matters in England. The Forestry Commission’s functions in Wales transferred to the Welsh Government and to Natural Resources Wales on 1 April 2013. The Forestry Commission’s functions in Scotland transferred to Scottish Forestry and to Forestry and Land Scotland on 1 April 2019. The Forestry Commission is supported by two agencies; Forestry England and Forest Research.

Forestry England (FE)

The Forestry Commission agency responsible for managing the national forests in England. Prior to April 2019, Forestry England was known as Forest Enterprise England.

FSC

Forest Stewardship Council.

Great Britain (GB)

England, Wales and Scotland.

Hectare (ha)

unit of area defined as 10,000 square metres (100 m by 100 m), approximately equivalent to 2.47 acres.

Natural colonisation

The creation of new woodland by natural means, i.e. without sowing or planting.

Natural regeneration

The regeneration of existing woodland by natural means, i.e. without sowing or planting.

Natural Resources Wales (NRW)

The organisation responsible for advising the Welsh Government on the environment, created on 1 April 2013.

New planting

Establishing woodland on ground that was not woodland in the recent past.

NFI

National Forest Inventory.

NIWT

1995-99 National Inventory of Woodland and Trees.

PEFC

Programme for the Endorsement of Forest Certification.

Restocking

The replacement of trees on areas of woodland that have been felled; this can be done either through replanting or natural regeneration.

Scottish Forestry

The Scottish Government agency responsible for forestry policy, support and regulations, created on 1 April 2019. Scottish Forestry also has responsibility for managing the UK Woodland Carbon Code on behalf of the Forestry Commission in England, the Welsh Government and the Northern Ireland Forest Service.

Tonne of carbon dioxide equivalent (tCO₂e)

Emissions and sequestration can be presented as tonnes carbon or tonnes carbon dioxide (CO₂) equivalent. To convert from tonnes CO₂ to tonnes carbon multiply by 12/44.

United Kingdom (UK)

Great Britain and Northern Ireland.

Validated

The initial evaluation of a project or group against the requirements of the Woodland Carbon Code. Upon completion a project/group will receive a 'Validation Opinion Statement'. The project/group will then be certified for a period of up to 5 years.

Verified

Verification is the evaluation of a Woodland Carbon Code project as it progresses to confirm the amount of CO₂ sequestered to date as well as that it continues to meet the requirements of the Code.

Woodland

Land under stands of trees with a minimum size of 0.5 hectares and a canopy cover of at least 20% (25% in Northern Ireland), or having the potential to achieve this, including integral open space, and including felled areas that are awaiting restocking. Generally (including the UK) woodland is defined as having a minimum area of 0.5 ha.

Data sources and methodology

Area of woodland

The woodland areas in Great Britain at March 2021 provided in this release (see Figure 1) are based on the NFI provisional woodland area map of Great Britain at March 2021. The map is overlaid with a map of Forestry England land, Forestry and Land Scotland land and the Welsh Government Woodland Estate, to enable a breakdown by ownership type to be estimated, and the figures derived from these maps are then updated to March 2021 by adding areas of new planting in 2020-21. Initial estimates of conifer stocked area and broadleaved stocked area at March 2012, derived from NFI interim field survey results, were used to estimate the breakdown by type of woodland. More information can be found on the Methodology and Outputs web page at www.forestresearch.gov.uk/tools-and-resources/statistics/about-our-statistics/methodology-and-outputs/.

The provisional 2020 woodland map differs from the figures for woodland area provided in the NFI report on Tree cover outside woodland in Great Britain, that were based on the NFI 2013 map and the National Tree Map™ (NTM™), the latter

in combination with samples of visual aerial photograph interpretation and field sampling outside of areas on the NFI map. The estimates in the tree cover report include estimates of woodland area outside the NFI map derived from the other sources. Work is ongoing to calibrate the figures, and the NFI woodland map for 2020 incorporates amendments made to date as a result of the calibration (as well as additional areas of woodland creation since 2013). 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 at www.forestresearch.gov.uk/tools-and-resources/national-forest-inventory/.

The annual NFI maps take account of changes since the previous map. These changes include new planting in the latest year, permanent observed woodland loss and other changes (e.g. arising from the work to calibrate the NFI map with the data from other sources that was used in the NFI report on Tree cover outside woodland in Great Britain). These revisions do not take account of woodland loss that may arise when woodland is converted to open habitats.

In the time series presented in Figure 1, woodland area estimates for years before 2011 were revised from those originally published for consistency with results from the National Forest Inventory, to enable comparisons over time.

The Natural Resources Wales woodland areas 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.

Figures for Northern Ireland (Forest Service and non-Forest Service woodland) are provided by the Northern Ireland Forest Service. County breakdowns are available from the Forest Service Woodland Register at www.daera-ni.gov.uk/publications/woodland-register.

Certified area

Data on certified woodland areas are obtained from the Forest Stewardship Council (FSC), the Programme for the Endorsement of Forest Certification (PEFC) and contact with individual land owners and managers. Some of the certified woodland has dual certification, i.e. it is certified under both the FSC scheme and the PEFC scheme.

The data collected from FSC and PEFC are the areas that are certified for each certificate holder. Follow-up enquiries with larger certificate holders are used to check the certified areas and to provide a country breakdown.

As all Forestry England/Forestry and Land Scotland/Natural Resources Wales (Welsh Government Woodland Estate)/Forest Service woodland is certified, the areas used are those provided in Table 1, rather than the areas shown on the certificates.

New planting and restocking

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

Information about Forestry England, Forestry and Land Scotland, Natural Resources Wales and Forest Service new planting and restocking comes from administrative systems. For new planting and restocking by Forestry and Land Scotland and by Natural Resources Wales, the figures obtained relate to net areas (i.e. excluding integral open space). These are converted to estimates of gross areas (i.e. including integral open space) for consistency with other planting and woodland area data, by using an assumption of 15% open space.

Information about other woodland has come principally from grant schemes, including Countryside Stewardship in England, the English Woodland Grant Scheme

(EWGS), Glastir in Wales, Better Woodlands for Wales (BWW), Forestry Grant Scheme in Scotland, Rural Development Contracts in Scotland, Scottish Forestry Grant Scheme (SFGS) and Woodland Grant Scheme (WGS).

Areas receiving grant are allocated to years by date of payment. For natural colonisation and regeneration, the areas are generally those for which the second instalment of grant has been paid during the year. The second instalment is approved when woodland reaches a certain stage and density of growth, so this 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 between countries or over time. Grant support for restocking of conifers changed with the introduction of Rural Development Contracts in Scotland in 2008 and again with the introduction of the Forestry Grant Scheme in 2015. This will have led to a reduction in the proportion of private sector restocking that is grant aided and therefore reported for Scotland. New planting estimates for England also include areas supported by the Woodland Trust and areas funded by Natural England (Higher Level Stewardship / Countryside Stewardship). From 2016-17, the estimated area of new planting includes new woodland creation supported by the Woodland Trust under the MOREwoods and Partnerships England projects. From 2017-18, the estimated area of new planting also includes new woodland creation supported by the Environment Agency.

Areas of land acquired by the National Forest Company for new planting have been included from 2015-16. To avoid potential double counting, areas of new planting by the National Forest Company that are believed to be supported by grant aid or by the Woodland Trust (and have therefore already been included in the figures reported for these other sources) have been excluded.

This release excludes all private sector restocking in England in 2020-21 as estimates for grant-funded restocking in the latest year are not yet available.

Estimates will be included in revised figures, to be released in Forestry Statistics 2021 and Forestry Facts & Figures 2021 (September 2021).

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. A small estimate for broadleaved new planting without grant aid in Scotland in 2016-17 to 2019-20 was also included. No estimates have been included for restocking with 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.

Planting estimates for Wales in 2015-16 to 2018-19 have been revised 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.

Figures for Northern Ireland (Forest Service and private sector woodland) are provided by the Forest Service (www.daera-ni.gov.uk/topics/forestry).

The methodology and outputs relevant to UK woodland area, planting and restocking were reviewed in 2014. The review report is available at www.forestresearch.gov.uk/tools-and-resources/statistics/about-our-statistics/methodology-and-outputs/.

Woodland Carbon Code data

Information about Woodland Carbon Code projects comes from the UK Land Carbon Registry. Further information is available at <https://woodlandcarboncode.org.uk/uk-land-carbon-registry>.

Quality

The statistics on woodland area presented here refer to woodland as a land use rather than a land cover, so felled areas and newly planted areas are included within the definition of woodland. Some statistics on woodland area as a land cover are available from other sources (e.g. Land Cover Map 2015, available at <https://countrysidesurvey.org.uk/content/land-cover-map>).

Detailed information on the quality of the statistics presented in this publication is available in the Quality Report on Woodland Statistics, available at www.forestresearch.gov.uk/tools-and-resources/statistics/statistics-by-topic/woodland-statistics/.

Revisions

Figures at March 2021 and for 2020-21 are provisional and published for the first time in this release.

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.

As the woodland area estimates are also used to estimate certified area for FE/FLS/NRW/FS woodland, the certified woodland area figures for 2019 and 2020 have also been revised, resulting in revisions of up to 0.3%.

Other figures have not been revised from those previously published in Forestry Statistics 2020.

Our revisions policy sets out how revisions and errors to these statistics are dealt with, and is available at www.forestresearch.gov.uk/tools-and-resources/statistics/about-our-statistics/code-of-practice/quality-of-official-statistics/.

Further information

Accompanying tables to this release, available at www.forestresearch.gov.uk/tools-and-resources/statistics/statistics-by-topic/woodland-statistics/, provide longer time series data by country for new planting and publicly funded restocking and for certified woodland.

Further information on the National Forest Inventory is available at www.forestresearch.gov.uk/tools-and-resources/national-forest-inventory/.

Additional woodland area statistics are available in Forestry Statistics 2020 (published September 2020) and Forestry Facts & Figures 2020 (published September 2020), available at www.forestresearch.gov.uk/tools-and-resources/statistics/forestry-statistics/.

Figures in tables have been independently rounded, so may not add to the totals shown.

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 (www.fao.org/forestry/fra/en), and Forest Europe for the 4-yearly State of Europe's Forests (<https://foresteurope.org/publications/>). The most recent results use UK data submitted in early 2019.

Figures for woodland area and new planting are also 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, <https://unfccc.int/>). Statistics on UK greenhouse gas emissions are published by the Department of Business, Energy and Industrial Strategy (BEIS) at www.gov.uk/government/collections/uk-greenhouse-gas-emissions-statistics.

The international definition of forests differs slightly from the UK definition of woodland in terms of the minimum canopy cover threshold. For the UK, there is a requirement for canopy cover of at least 20%, whilst the international definition specifies a minimum of 10% canopy cover.

Supplementary data are available in the accompanying spreadsheet at: www.forestresearch.gov.uk/tools-and-resources/statistics/statistics-by-topic/woodland-statistics/.

Further information on the Woodland Carbon Code is available at: www.woodlandcarboncode.org.uk/.

More statistics on carbon can be found in Forestry Statistics 2020: www.forestresearch.gov.uk/tools-and-resources/statistics/forestry-statistics/.

Release schedule

Final results for (the year to) March 2021 will be published on 30 September 2021 in Forestry Statistics 2021 and Forestry Facts & Figures 2021.

Provisional figures for (the year to) March 2022 will be published on 16 June 2022 in the 2022 Edition of this release.

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