



Forestry Commission

Forestry Statistics 2016

A compendium of statistics about woodland, forestry and
primary wood processing in the United Kingdom



Chapter 1: Woodland Areas and Planting

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1 Woodland Areas and Planting

Introduction

This chapter contains statistics on:

- UK woodland area;
- certified woodland area;
- areas of new planting and restocking; and
- felling.

Estimates for England, Wales, Scotland and Northern Ireland are included in addition to UK totals. International comparisons are provided in the International Forestry chapter. Further information on the data sources and methodology used to compile the figures is provided in the Sources chapter.

Figures on woodland area and certified woodland area at March 2016 and on new planting and restocking for the period 2015-16 were previously published in "Woodland Area, Planting and Restocking: 2016 edition", released on 16 June 2016. Some figures for previous years have been revised from those previously published. For further details on revisions, see the Woodland Areas and Planting section of the Sources chapter.

A copy of all woodland area and planting tables is available to download as an Excel spreadsheet from the Tables for Download page. Longer time series are also available for some tables. These can be accessed from our Woodland Area and Planting Statistics web page at www.forestry.gov.uk/forestry/infd-7aqknx.

Key findings

The main findings are:

- The area of woodland in the UK at 31 March 2016 is estimated to be 3.16 million hectares. This represents 13% of the total land area in the UK, 10% in England, 15% in Wales, 18% in Scotland and 8% in Northern Ireland.
- Of the total UK woodland area, 0.86 million hectares (27%) is owned or managed by the Forestry Commission (in England and Scotland), Natural Resources Wales (in Wales) or the Forest Service (in Northern Ireland).
- The total certified woodland area in the UK at 31 March 2016 is 1.35 million hectares, including all Forestry Commission/Natural Resources Wales/Forest Service woodland. Overall, 43% of the UK woodland area is certified.
- Six thousand hectares of new woodland were created in the UK in 2015-16, mostly with broadleaved species.
- Fourteen thousand hectares of woodland restocking were reported in the UK in 2015-16, mostly with conifers.
- A total of 186 sites were served with a Statutory Plant Health Notice in 2015-16, requiring a total of 1.8 thousand hectares of woodland to be felled.

1.1 Woodland Area

Woodland is defined in UK forestry statistics as land under stands of trees with 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 Sources chapter.

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 on land near existing woodland. 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 the Forestry Commission (FC) in England and Scotland, Natural Resources Wales (NRW) in Wales 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 and land areas shown in this release relate to areas previously owned or managed by Forestry Commission Wales. They exclude any areas previously owned or managed by other parts of Natural Resources Wales, such as the former Environment Agency in Wales and the former Countryside Council for Wales.

1.1.1 Area of Woodland: 2016

The area of woodland in the UK at 31 March 2016 is estimated to be 3.16 million hectares (Table 1.1). Of this total, 1.4 million hectares (45%) is in Scotland, 1.3 million hectares (41%) is in England, 0.3 million hectares (10%) is in Wales and 0.1 million hectares (4%) is in Northern Ireland.

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

Table 1.1 Area of woodland by ownership & forest type at 31 March 2016

Forest type and ownership^{1,2}	England	Wales	Scotland	Northern Ireland	UK
thousand hectares					
Conifers					
FC/NRW/FS woodland	151	98	431	56	735
Private sector woodland	189	53	628	11	880
Total	340	150	1 059	66	1 615
Broadleaves⁵					
FC/NRW/FS woodland	64	19	40	7	129
Private sector woodland	903	136	337	39	1 416
Total	966	156	377	46	1 545
Total					
FC/NRW/FS woodland	215	117	471	62	864
Private sector woodland	1 091	189	965	50	2 296
Total	1 306	306	1 436	112	3 160

Source: Forestry Commission, Natural Resources Wales, Forest Service, National Forest Inventory.

Notes:

1. FC: Forestry Commission (England and Scotland), NRW: Natural Resources Wales, FS: Forest Service (Northern Ireland). NRW estimates only relate to woodland formerly owned/managed by FC Wales.

2. Private sector: all other woodland. Includes woodland previously owned/managed by the Countryside Council for Wales and the Environment Agency in Wales, other publicly owned woodland (e.g. owned by local authorities) and privately owned woodland.

3. Figures for England, Wales and Scotland are based on data obtained from the National Forest Inventory (NFI) 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 Sources chapter.

4. Figures for Northern Ireland are obtained from the Northern Ireland Woodland Register.

5. Broadleaves include coppice and coppice with standards.

1.1.2 Area of woodland: changes over time

The 3.16 million hectares of woodland in the UK in 2016 represents 13% of the total land area. This comprises 10% in England, 15% in Wales, 18% in Scotland and 8% in Northern Ireland (Table 1.2).

Table 1.2 Woodland area in the United Kingdom

Year	England		Wales		Scotland		Northern Ireland ²		UK	
	Area (000 ha)	% ¹	Area (000 ha)	% ¹	Area (000 ha)	% ¹	Area (000 ha)	% ¹	Area (000 ha)	% ¹
1086	..	~15	..	..	..	..	..	..	..	..
c1350	..	~10	..	..	..	~4	..	..	..	;..
17thC	..	~8	..	..	..	~4	..	~1.5	..	..
1905	681	5.2	88	4.2	351	4.5	15	1.1	1 140	4.7
1924	660	5.1	103	5.0	435	5.6	13	1.0	1 211	5.0
1947	755	5.8	128	6.2	513	6.6	23	1.7	1 419	5.9
1965	886	6.8	201	9.7	656	8.4	42	3.1	1 784	7.4
1980	948	7.3	241	11.6	920	11.8	67	4.9	2 175	9.0
1995-99	1 097	8.4	287	13.8	1 281	16.4	81	6.0	2 746	11.3
2016 ^{3,4}	1 306	10.0	306	14.8	1 436	18.4	112	7.8	3 160	13.0

Source: Forestry Commission, Natural Resources Wales, Forest Service, National Forest Inventory.

Notes:

1. Percentage of the total surface area excluding inland water. The total surface areas, excluding inland water, are taken from the UK Standard Area Measurements (published by the Office for National Statistics).

2. For Northern Ireland, 17th century figure is estimate for all Ireland, 1905 figure is estimate for Ulster 1908, 1947 figure assumes no change from 1939-40 Census.

3. Figures for England, Wales and Scotland are based on data obtained from the National Forest Inventory (NFI) 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 Sources chapter.

4. Figures for Northern Ireland are obtained from the Northern Ireland Woodland Register.

.. Denotes data not available.

These figures are outside the scope of National Statistics

Figure 1.1 shows woodland area by country since 1998. Figures for 1998 to 2009 for England, Wales and Scotland have been revised from those initially published, to produce results that are consistent with the National Forest Inventory and enable comparisons over time. The chart indicates that the UK woodland area has risen by around 240 thousand hectares since 1998, an increase of 8% over the period.

Figure 1.1 Area of woodland, 1998-2016



Source: Forestry Commission, Natural Resources Wales, Forest Service, National Forest Inventory.

Notes:

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.forestry.gov.uk/inventory.

These figures are outside the scope of National Statistics

1.1.3 Woodland area by ownership

The Forestry Commission, Natural Resources Wales and the Forest Service owned or managed 27% of the total woodland area in the UK in 2016 (Table 1.3). This proportion ranged from 16% of the woodland area in England to 55% in Northern Ireland.

Table 1.3 Area of woodland in the UK by ownership, 2012-2016

Ownership	England	Wales	Scotland	Northern Ireland	UK
thousand hectares					
FC/NRW/FS woodland¹					
2012	214	117	481	62	874
2013	214	117	481	62	874
2014	215	117	477	62	871
2015	215	117	478	62	871
2016	215	117	471	62	864
Private sector woodland²					
2012	1 083	188	922	44	2 236
2013	1 084	188	930	49	2 252
2014	1 087	189	947	50	2 273
2015	1 091	189	954	50	2 283
2016	1 091	189	965	50	2 296
Total woodland					
2012	1 298	305	1 403	105	3 110
2013	1 298	305	1 411	111	3 125
2014	1 302	306	1 424	111	3 143
2015	1 305	306	1 432	112	3 155
2016	1 306	306	1 436	112	3 160

Source: Forestry Commission, Natural Resources Wales, Forest Service, National Forest Inventory.

Notes:

1. FC: Forestry Commission (England and Scotland), NRW: Natural Resources Wales, FS: Forest Service (Northern Ireland). NRW estimates only relate to woodland formerly owned/managed by FC Wales.

2. Private sector: all other woodland. Includes woodland previously owned/managed by the Countryside Council for Wales and the Environment Agency in Wales, other publicly owned woodland (e.g. owned by local authorities) and privately owned woodland.

3. Figures for England, Wales and Scotland are based on data obtained from the National Forest Inventory (NFI) 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 Sources chapter.

4. Northern Ireland figures are obtained from the Northern Ireland Woodland Register.

5. Areas as at 31 March.

1.2 Certified woodland area

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.

1.35 million hectares of woodland in the UK were certified in March 2016 (Table 1.4). This represented 43% of the total UK woodland area, 26% in England, 46% in Wales, 56% in Scotland and 58% in Northern Ireland.

Table 1.4 Woodland area certified, March 2016

Ownership	England	Wales	Scotland	Northern Ireland	UK
thousand hectares					
FC/NRW/FS woodland ¹	215	117	471	62	864
Private sector woodland ²	123	24	336	3	486
Total woodland area certified	337	141	807	65	1 350

Source: Forest Stewardship Council, Forestry Commission, Natural Resources Wales, Forest Service, National Forest Inventory.

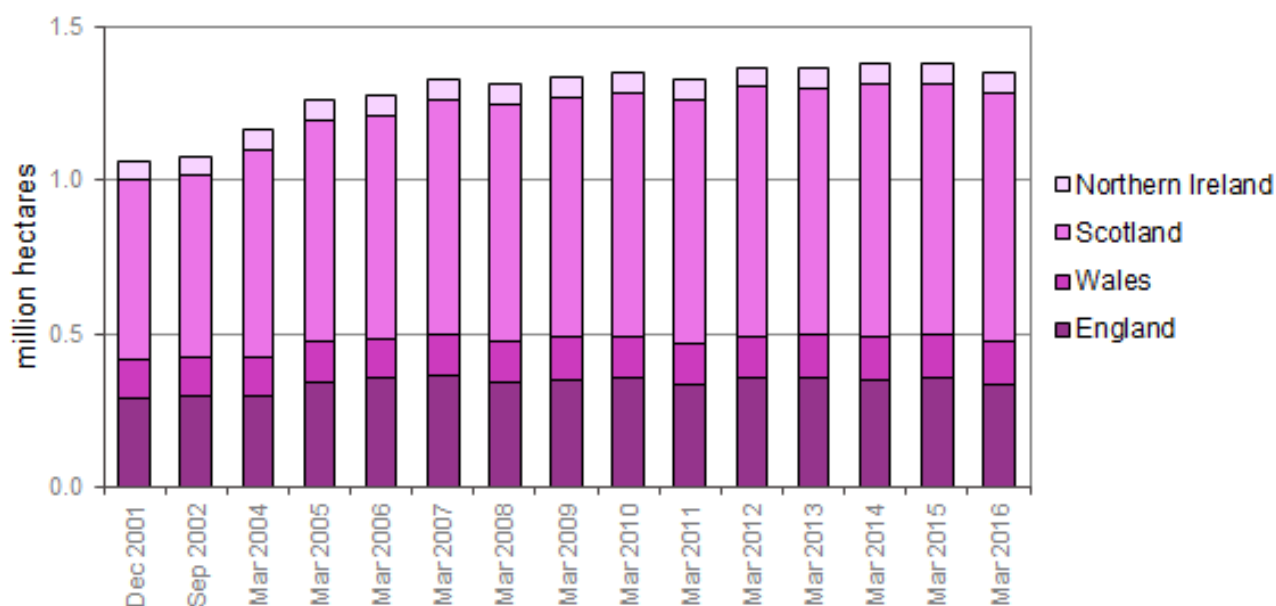
Notes:

1. FC: Forestry Commission (England and Scotland), NRW: Natural Resources Wales, FS: Forest Service (Northern Ireland). NRW estimates only relate to woodland formerly owned/managed by FC Wales.
2. Private sector: all other woodland. Includes woodland previously owned/managed by the Countryside Council for Wales and the Environment Agency in Wales, other publicly owned woodland (e.g. owned by local authorities) and privately owned woodland.
3. All certified woodland in 2016 is certified under the Forest Stewardship Council (FSC) scheme. Some of these woodlands are also certified under the Programme for the Endorsement of Forest Certification (PEFC) scheme.
4. The estimates are based on UK data published by FSC, supplemented by data from individual certificates and other sources. Where possible, figures are for the woodland area certified, rather than the land area certified.
5. All FC/NRW/FS woodland is certified. The FC/NRW/FS areas are the latest areas, as shown in Table 1.1, rather than the areas shown on the certificates.

Data: Longer time series of the above table are available from the [Data Downloads](#) webpage.

Figure 1.2 presents certified woodland area by country since December 2001, with figures for earlier years revised for consistency with results from the National Forest Inventory. This shows that, despite a decrease of 2% in the area of woodland certified between March 2015 and March 2016, there was an overall increase in certified woodland area of around 290 thousand hectares (27%) from December 2001 to March 2016.

Figure 1.2 Area of certified woodland, 2001-2016



Source: Forest Stewardship Council, Forestry Commission, Natural Resources Wales, Forest Service.

Notes:

1. All certified woodland is certified under the Forest Stewardship Council (FSC) scheme. Some of these woodlands are also certified under the Programme for the Endorsement of Forest Certification (PEFC) scheme.

2. The estimates are based on UK data published by FSC, supplemented by data from individual certificates and other sources. Where possible, figures are for the woodland area certified, rather than the land area certified.

Figures showing volumes of certified timber and Chain of Custody certificates are provided in tables 2.28 and 2.29.

1.3 Land use

Not all land that is owned or managed by the Forestry Commission, Natural Resources Wales or the Forest Service in Northern Ireland is woodland; other land uses include agricultural land and mountain areas and moorland.

The Natural Resources Wales woodland areas and land areas shown relate to areas previously owned or managed by Forestry Commission Wales. They exclude any areas previously owned or managed by other parts of Natural

Resources Wales, such as the former Environment Agency Wales and the former Countryside Council for Wales.

Woodland accounted for 79% of all Forestry Commission/Natural Resources Wales/Forest Service land in the UK at 31 March 2016 (Table 1.5). This proportion was highest in Wales (95%) and lowest in Scotland (74%).

Table 1.5 Land use of the FC, NRW and FS¹, 2012-2016

Year	England	Wales	Scotland	Northern Ireland	UK
thousand hectares					
Woodland					
2012	214	117	481	62	874
2013	214	117	481	62	874
2014	215	117	477	62	871
2015	215	117	478	62	871
2016	215	117	471	62	864
Other land²					
2012	38	7	170	14	229
2013	38	7	171	14	230
2014	38	7	170	14	228
2015	38	7	171	13	229
2016	38	7	170	13	228
Total FC/NRW/FS land area					
2012	253	124	651	75	1 103
2013	253	124	652	75	1 104
2014	253	124	647	75	1 099
2015	253	124	649	75	1 100
2016	253	124	640	75	1 092

Source: Forestry Commission, Natural Resources Wales, Forest Service.

Notes:

1. FC: Forestry Commission (England and Scotland), NRW: Natural Resources Wales, FS: Forest Service (Northern Ireland). NRW estimates only relate to woodland formerly owned/managed by FC Wales.

2. "Other land" includes agricultural land and areas of moorland and mountain.

3. Areas as at 31 March.

1.4 National Forest Inventory

This section contains interim results from the National Forest Inventory (NFI). The statistics are based on field survey data combined with information from the NFI woodland map, which is a spatial representation of woodland areas in Great Britain.

The first cycle of the NFI field survey began in 2010 and was completed in 2015. Analysis is ongoing and therefore full field survey results from the NFI are not yet available. Figures presented in this chapter are interim estimates at 31 March 2012, published in the NFI "50-year forecast of softwood timber availability" and "50-year forecast of hardwood timber availability" reports, released in April 2014. Both reports are available at www.forestry.gov.uk/inventory.

The figures presented in Tables 1.6 to 1.9 (and Figures 1.3, 1.4a and 1.4b) relate to stocked areas. These differ from the woodland areas presented in earlier tables, as stocked areas exclude felled areas and (for non-FC land) areas of integral open space.

The figures on growing stock presented in Tables 1.10 and 1.11 form the basis for the Forestry Commission's availability forecasts (see Tables 2.4a and 2.4b).

Further information on the National Forest Inventory is available at www.forestry.gov.uk/inventory

1.4.1 Woodland area by age: conifers

Table 1.6 presents the area of conifers, broken down by age class, ownership and country.

Sixty-one percent of the coniferous woodland area in Great Britain was occupied by stands of 40 years old or younger (Table 1.6). A further 9% of stands were aged over 60 years.

Table 1.6 Stocked woodland area in GB by ownership and age class: Conifers

Age class (years)	England	Wales	Scotland	GB
FC¹				
0-20	33	24	76	134
21-40	38	25	145	208
41-60	39	25	111	176
61-80	12	7	25	44
81-100	4	1	6	11
100+	1	0	3	4
All age classes	128	82	367	576
Private sector²				
0-20	17	8	126	151
21-40	54	22	231	306
41-60	83	15	116	214
61-80	19	1	18	38
81-100	3	2	6	11
100+	3	1	9	12
All age classes	179	47	505	732
Total				
0-20	51	32	202	285
21-40	92	46	376	514
41-60	123	39	227	389
61-80	31	8	43	82
81-100	7	2	12	22
100+	3	1	12	16
All age classes	307	129	872	1 308

Source: National Forest Inventory: 50-year forecast of softwood availability (Forestry Commission, April 2014), (supporting data).

Notes:

1. FC: Forestry Commission (England, Scotland and Wales).

2. Private sector: all other woodland. Includes woodland previously owned/managed by the Countryside Council for Wales and the Environment Agency in Wales, other publicly owned woodland (e.g. owned by local authorities) and privately owned woodland.

3. Stocked area only: excludes felled areas and (for private sector land) open space.

4. Areas at 31 March 2012.

These figures are outside the scope of National Statistics

1.4.2 Woodland area by age: broadleaves

Table 1.7 presents the area of broadleaves, broken down by age class, ownership and country.

Around one half (53%) of the broadleaved area was occupied by stands of 40 years old or younger (Table 1.7). More than one quarter (28%) of stands were aged over 60 years.

Table 1.7 Stocked woodland area in GB by ownership and age class: Broadleaves

Age class (years)	England	Wales	Scotland	GB
FC¹				
0-20	8	7	11	25
21-40	6	2	5	13
41-60	13	2	4	19
61-80	13	2	4	19
81-100	4	1	2	7
100+	10	3	5	18
All age classes	54	16	32	102
Private sector²				
0-20	217	30	84	332
21-40	227	33	84	344
41-60	145	22	58	225
61-80	117	15	22	154
81-100	92	11	9	112
100+	51	10	7	67
All age classes	849	121	265	1 235
Total				
0-20	225	37	95	357
21-40	232	36	90	357
41-60	157	24	63	244
61-80	130	17	26	173
81-100	97	12	11	119
100+	61	12	12	85
All age classes	902	137	297	1 337

Source: National Forest Inventory: 50-year forecast of hardwood availability (Forestry Commission, April 2014), (supporting data).

Notes:

1. FC: Forestry Commission (England, Scotland and Wales).

2. Private sector: all other woodland. Includes woodland previously owned/managed by the Countryside Council for Wales and the Environment Agency in Wales, other publicly owned woodland (e.g. owned by local authorities) and privately owned woodland.

3. Stocked area only: excludes felled areas and (for private sector land) open space.

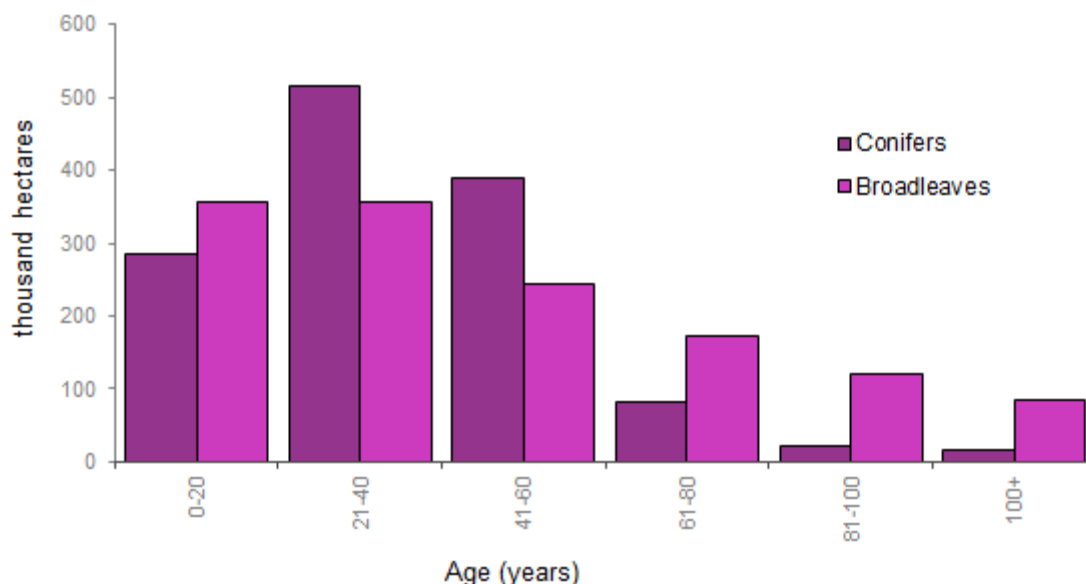
4. Areas at 31 March 2012.

These figures are outside the scope of National Statistics

1.4.3 Woodland area by age: Summary

Figure 1.3 presents the age profile of woodland in Great Britain for conifers and for broadleaves. It shows that broadleaves are more evenly distributed across the age classes than conifers.

Figure 1.3 Age profile of woodland in GB



Source: *National Forest Inventory: 50-year forecast of softwood availability (Forestry Commission, April 2014)*, *National Forest Inventory: 50-year forecast of hardwood availability (Forestry Commission, April 2014)*, (supporting data).

Notes:

1. Stocked area only: excludes felled areas and (for private sector land) open space.
2. Areas at 31 March 2012.

These figures are outside the scope of National Statistics

1.4.4 Woodland area by species: conifers

Table 1.8 presents the area of conifers, broken down by principal species, ownership and country.

Sitka spruce accounts for around one half (51%) of the conifer area in Great Britain (Table 1.8), followed by Scots pine (17%) and Larches (10%). Sitka spruce is less dominant in England, accounting for just one quarter (26%) of the conifer area there.

Table 1.8 Stocked woodland area in GB by ownership and principal species: Conifers

Principal species	England	Wales	Scotland	GB
FC¹				
Sitka spruce	49	50	225	323
Scots pine	17	2	45	64
Corsican pine	27	2	2	30
Norway spruce	7	5	11	23
Larches	10	12	26	48
Douglas fir	10	5	5	20
Lodgepole pine	4	3	49	56
Other conifers	5	3	3	11
All conifers	128	82	367	576
Private sector²				
Sitka spruce	32	27	282	341
Scots pine	45	1	109	154
Corsican pine	14	0	1	15
Norway spruce	21	3	15	38
Larches	30	8	39	78
Douglas fir	15	3	7	25
Lodgepole pine	3	1	39	44
Other conifers	19	2	8	29
All conifers	179	47	505	732
Total				
Sitka spruce	80	77	507	665
Scots pine	61	3	154	218
Corsican pine	40	2	3	46
Norway spruce	27	8	25	61
Larches	40	20	66	126
Douglas fir	25	9	12	46
Lodgepole pine	8	4	88	100
Other conifers	24	5	11	40
All conifers	307	129	872	1 308

Source: National Forest Inventory: 50-year forecast of softwood availability (Forestry Commission, April 2014).

Notes:

1. FC: Forestry Commission (England, Scotland and Wales).

2. Private sector: all other woodland. Includes woodland previously owned/managed by the Countryside Council for Wales and the Environment Agency in Wales, other publicly owned woodland (e.g. owned by local authorities) and privately owned woodland.

3. Stocked area only: excludes felled areas and (for private sector land) open space.

4. Areas at 31 March 2012.

These figures are outside the scope of National Statistics

1.4.5 Woodland area by species: broadleaves

Table 1.9 presents the area of broadleaves, broken down by principal species, ownership and country.

The most commonly occurring broadleaved species in Great Britain are Birch (accounting for 18% of broadleaf woodland), Oak (16%) and Ash (12%) (Table 1.9). Birch is more dominant in Scotland, accounting for 43% of the broadleaf area there.

Table 1.9 Stocked woodland area in GB by ownership and principal species: Broadleaves

Principal species	England	Wales	Scotland	GB
FC¹				
Oak	16	3	3	21
Beech	13	2	1	15
Sycamore	1	0	0	2
Ash	3	1	0	4
Birch	6	2	11	19
Sweet chestnut	1	0	0	1
Hazel	0	0	0	1
Hawthorn	0	0	0	0
Alder	1	0	1	1
Willow	0	0	0	0
Other broadleaves	14	9	15	38
All broadleaves	54	16	32	102
Private sector²				
Oak	151	23	23	198
Beech	59	5	15	78
Sycamore	74	9	21	105
Ash	120	18	15	153
Birch	90	11	116	217
Sweet chestnut	28	0	0	28
Hazel	64	14	8	86
Hawthorn	57	8	8	73
Alder	30	10	16	56
Willow	41	11	13	65
Other broadleaves	133	12	29	174
All broadleaves	849	121	265	1 235

Table 1.9 Stocked woodland area in GB by ownership and principal species: Broadleaves

Principal species	England	Wales	Scotland	GB
Total (FC¹ and PS²)				
Oak	167	26	26	219
Beech	72	6	15	94
Sycamore	75	9	22	106
Ash	123	19	16	157
Birch	96	12	128	236
Sweet chestnut	28	0	0	29
Hazel	65	14	8	87
Hawthorn	57	8	8	73
Alder	31	10	17	58
Willow	41	11	13	65
Other broadleaves	146	21	44	212
All broadleaves	902	137	297	1 337

Source: National Forest Inventory: 50-year forecast of hardwood availability (Forestry Commission, April 2014).

Notes:

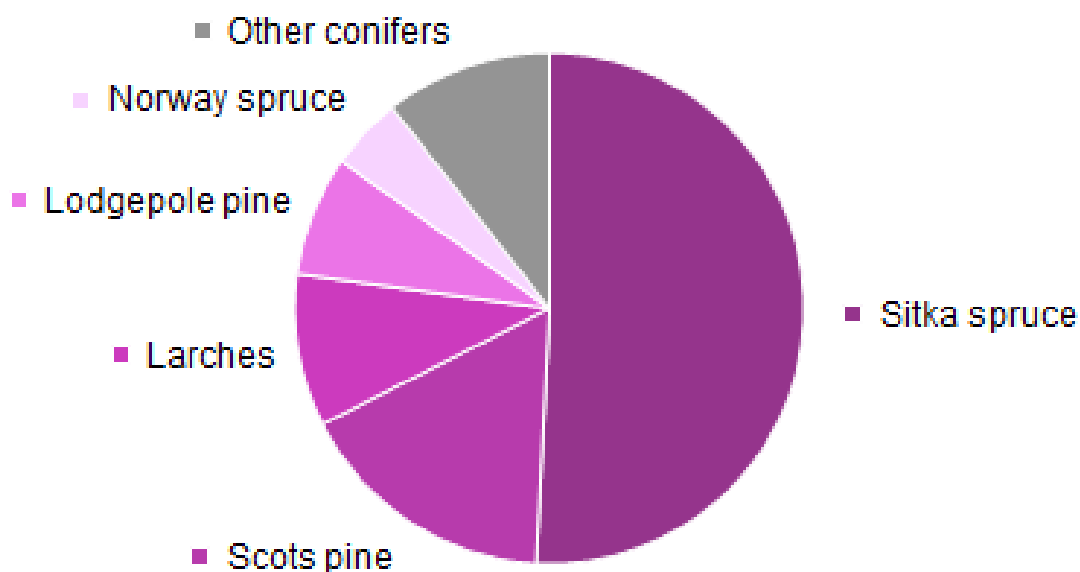
1. FC: Forestry Commission (England, Scotland and Wales).
2. Private sector (PS): all other woodland. Includes woodland previously owned/managed by the Countryside Council for Wales and the Environment Agency in Wales, other publicly owned woodland (e.g. owned by local authorities) and privately owned woodland.
3. Stocked area only: excludes felled areas and (for private sector land) open space.
4. Areas at 31 March 2012.

These figures are outside the scope of National Statistics

1.4.6 Woodland area by species: summary

Figures 1.4a and 1.4b show that, whilst the conifer area is dominated by a small number of species (Sitka spruce and Scots pine together account for around two thirds of the conifer area), broadleaves are more varied.

Figure 1.4a Principal tree species in GB by stocked area: Conifers



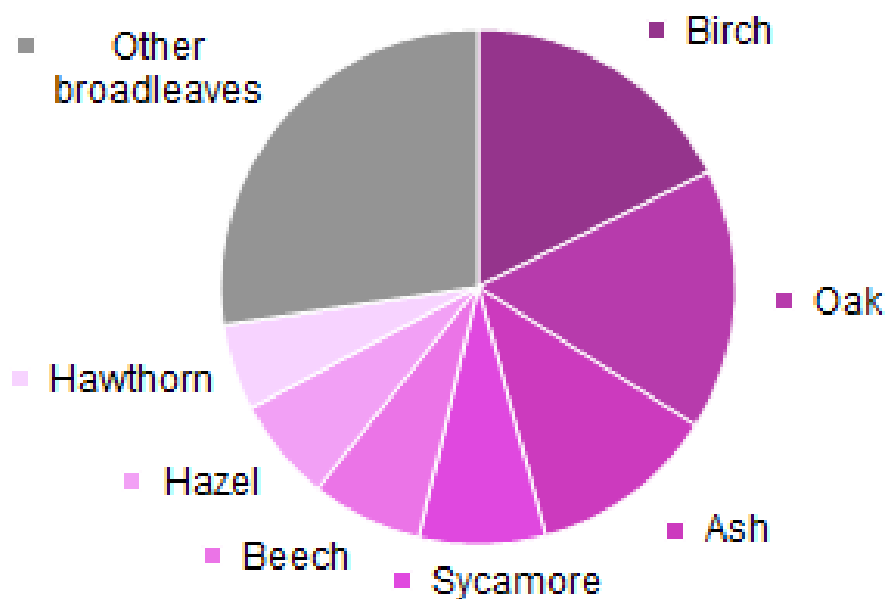
Source: National Forest Inventory: 50-year forecast of softwood availability (Forestry Commission, April 2014).

Notes:

- 1. Stocked area only: excludes felled areas and (for private sector land) open space.*
- 2. Areas at 31 March 2012.*

These figures are outside the scope of National Statistics

Figure 1.4b Principal tree species in GB by stocked area: Broadleaves



Source: National Forest Inventory: 50-year forecast of hardwood availability (Forestry Commission, April 2014).

Notes:

1. Stocked area only: excludes felled areas and (for private sector land) open space.
2. Areas at 31 March 2012.

These figures are outside the scope of National Statistics

1.4.7 Growing stock by species: conifers

Growing stock is the volume of timber in living trees. It is also often referred to as the standing volume.

Table 1.10 presents the volume of coniferous growing stock, broken down by principal species, ownership and country.

The total volume of coniferous growing stock in Great Britain in 2012 was 355 million m³ overbark standing (Table 1.10).

Sitka spruce accounted for around one half (51%) of the conifer growing stock, followed by Scots pine (15%) and Larches (10%). This largely reflects the distribution of species by area (see Table 1.8).

Table 1.10 Growing stock in GB by ownership and principal species: Conifers

Principal species	England	Wales	Scotland	GB
FC¹				
Sitka spruce	8.9	11.1	52.1	72.0
Scots pine	4.0	0.5	8.8	13.3
Corsican pine	5.5	0.6	0.4	6.4
Norway spruce	1.7	1.5	3.5	6.7
Larches	1.7	2.7	4.8	9.2
Douglas fir	2.7	1.3	1.4	5.4
Lodgepole pine	0.8	0.6	8.2	9.6
Other conifers	1.5	1.1	1.0	3.6
All conifers	26.8	19.4	80.2	126.4
Private sector²				
Sitka spruce	11.4	9.5	88.0	108.9
Scots pine	14.7	0.3	24.5	39.4
Corsican pine	4.7	0.2	0.3	5.3
Norway spruce	7.1	1.3	5.9	14.4
Larches	10.7	3.3	12.3	26.3
Douglas fir	6.4	1.6	3.5	11.5
Lodgepole pine	1.0	0.3	7.4	8.7
Other conifers	7.6	1.1	3.0	11.7
All conifers	63.7	17.9	146.7	228.4
Total				
Sitka spruce	20.3	20.6	140.0	180.9
Scots pine	18.6	0.8	33.3	52.7
Corsican pine	10.2	0.8	0.7	11.7
Norway spruce	8.8	2.8	9.4	21.1
Larches	12.4	6.0	17.1	35.6
Douglas fir	9.1	2.9	4.9	16.9
Lodgepole pine	1.8	0.9	15.5	18.3
Other conifers	9.1	2.2	4.1	15.4
All conifers	90.5	37.4	226.9	354.7

Source: National Forest Inventory: 50-year forecast of softwood availability (Forestry Commission, April 2014).

Notes:

1. FC: Forestry Commission (England, Scotland and Wales).

2. Private sector: all other woodland. Includes woodland previously owned/managed by the Countryside Council for Wales and the Environment Agency in Wales, other publicly owned woodland (e.g. owned by local authorities) and privately owned woodland.

3. Areas at 31 March 2012.

These figures are outside the scope of National Statistics

1.4.8 Growing stock by species: broadleaves

Table 1.11 presents the volume of broadleaved growing stock, broken down by principal species, ownership and country. The total volume of broadleaved growing stock in Great Britain in 2012 was 245 million m³ overbark standing (Table 1.11). Oak (28%), Ash (16%) and Beech (12%) accounted for the majority of the broadleaved volume. To some extent, this reflects the distribution of species by area (see Table 1.9).

Table 1.11 Growing stock in GB by ownership and principal species: Broadleaves

Principal species	England	Wales	Scotland	GB
million cubic metres overbark standing				
FC¹				
Oak	3.3	0.5	0.6	4.4
Beech	2.8	0.4	0.1	3.4
Sycamore	0.1	0.0	0.0	0.2
Ash	0.4	0.1	0.0	0.5
Birch	0.5	0.1	1.7	2.3
Sweet chestnut	0.1	0.0	0.0	0.1
Hazel	0.0	0.0	0.0	0.1
Hawthorn	0.0	0.0	0.0	0.0
Alder	0.1	0.0	0.1	0.2
Willow	0.0	0.0	0.0	0.0
Other broadleaves	1.3	0.8	1.2	3.3
All broadleaves	8.7	1.9	3.9	14.5
Private sector²				
Oak	51.7	7.7	5.6	65.0
Beech	19.8	1.6	5.2	26.6
Sycamore	16.2	2.4	4.8	23.4
Ash	30.1	6.9	2.8	39.8
Birch	11.3	1.2	8.5	20.9
Sweet chestnut	7.7	0.2	0.0	7.9
Hazel	5.0	0.9	0.4	6.4
Hawthorn	2.8	0.4	0.3	3.4
Alder	6.8	2.1	1.9	10.8
Willow	4.9	0.8	0.9	6.5
Other broadleaves	16.0	1.1	2.6	19.6
All broadleaves	172.3	25.4	32.9	230.6

Table 1.11 is continued on the next page.

Table 1.11 Growing stock in GB by ownership and principal species: Broadleaves

Principal species	England	Wales	Scotland	GB
Total (FC¹ and PS²)				
Oak	55.0	8.1	6.3	69.4
Beech	22.6	2.0	5.3	29.9
Sycamore	16.4	2.4	4.9	23.6
Ash	30.5	7.0	2.8	40.3
Birch	11.8	1.3	10.1	23.2
Sweet chestnut	7.8	0.2	0.0	8.0
Hazel	5.1	0.9	0.5	6.5
Hawthorn	2.8	0.4	0.3	3.4
Alder	6.9	2.2	1.9	11.0
Willow	4.9	0.8	0.9	6.5
Other broadleaves	17.2	1.8	3.8	22.9
All broadleaves	181.0	27.3	36.8	245.1

Source: National Forest Inventory: 50-year forecast of hardwood availability (Forestry Commission, April 2014).

Notes:

1. FC: Forestry Commission (England, Scotland and Wales).

2. Private sector: all other woodland. Includes woodland previously owned/managed by the Countryside Council for Wales and the Environment Agency in Wales, other publicly owned woodland (e.g. owned by local authorities) and privately owned woodland.

3. Areas at 31 March 2012.

These figures are outside the scope of National Statistics

1.5 Area of Farm Woodland

Agricultural Censuses run by Defra (Department for Environment, Food and Rural Affairs) and the devolved administrations collect annual information on the land-use of farms. Table 1.12 below shows the area of woodland on farms.

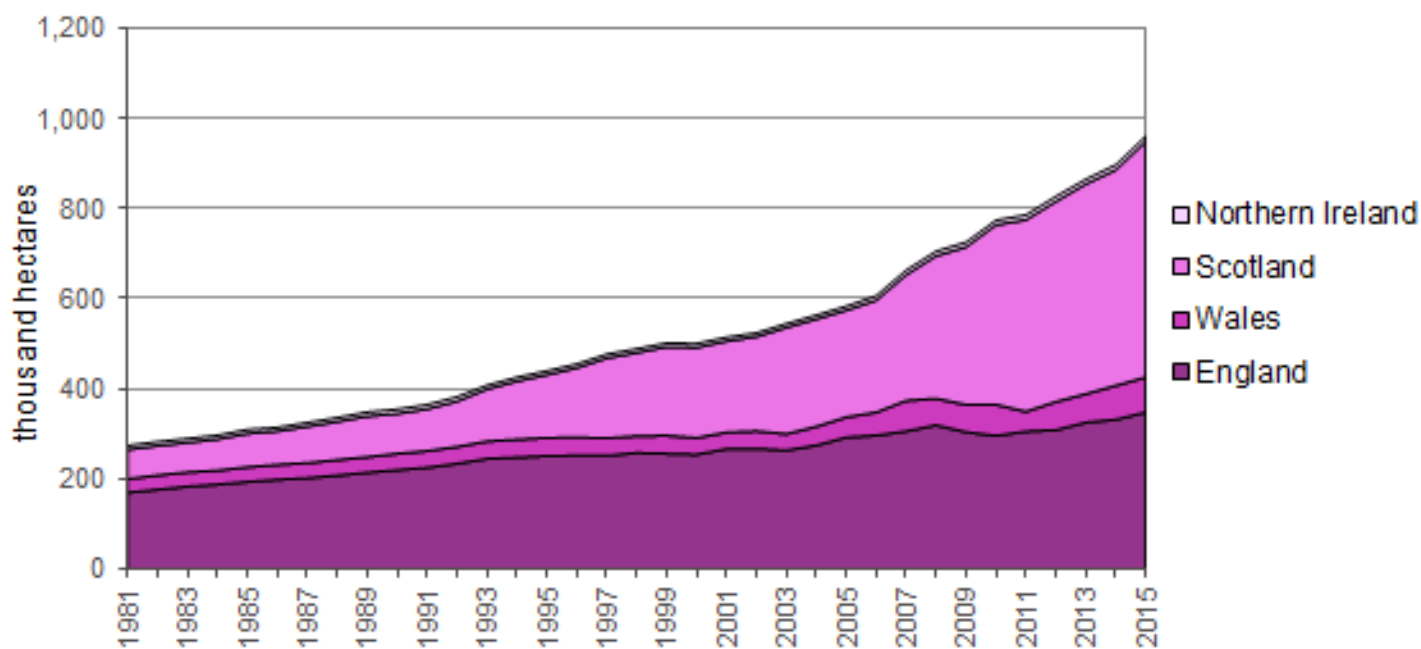
The area of farm woodland in the UK has increased from 606 thousand hectares in 2006 to 961 thousand hectares in 2015 (Table 1.12). Over one half (55%) of all farm woodland is in Scotland, with a further 36% in England, 8% in Wales and the remaining 1% in Northern Ireland.

Table 1.12 Area of farm woodland, 2006-2015

Year	England	Wales	Scotland	Northern Ireland	UK
thousand hectares					
2006	296.0	51.3	249.3	9.6	606.2
2007	305.4	67.9	279.9	9.9	663.1
2008	318.8	59.2	317.3	9.9	705.2
2009	303.7	60.8	350.8	10.3	725.6
2010	295.3	69.1	399.8	10.2	774.4
2011	304.9	44.2	426.1	10.8	786.0
2012	308.4	62.6	445.4	11.0	827.4
2013	324.9	63.4	466.8	10.3	865.4
2014	331.3	75.7	479.4	11.1	897.5
2015	347.6	78.0	524.0	11.1	960.6

Source: June Agricultural Census - Defra, The Scottish Government, Welsh Government, Northern Ireland Executive.

Figure 1.5 Area of farm woodland, 1981-2015



Source: June Agricultural Census - Defra, The Scottish Government, Welsh Government, Northern Ireland Executive.

1.6 New planting and restocking

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 on land near existing woodland. Statistics on new planting are used to inform government policy and resource allocation, and are used in producing annual estimates of woodland area.

There are a number of factors that can affect the level of new planting in the UK. These include:

- choices by landowners reflecting their own motivation and needs;
- the costs and availability of land for conversion to woodland;
- the availability of grants for new planting, the level of grant payments available and the awareness of grants among potential recipients;
- the tax benefits available from owning woodland;
- expected future markets for wood products such as timber and woodfuel;
- income from payments for ecosystem services, particularly carbon storage;
- national and local initiatives, for example on biodiversity, green infrastructure and water management.

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, usually of around 2 years, between harvesting and restocking). Figures for timber harvesting (wood production) are available in the UK-Grown Timber chapter.

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

Grant support for restocking of conifers has changed with the introduction of Rural Development Contracts in Scotland in 2008. As a result, grant aid was no longer available for restocking with Sitka spruce in many cases. No estimate has been included for restocking of Sitka spruce in Scotland that is no longer supported by grants. It is therefore likely that conifer restocking in Scotland in recent years is under-reported in this release and other statistics. A new Forestry Grant Scheme was launched in Scotland in March 2015.

Grant support in England is now provided by the Countryside Stewardship scheme, which opened for applications in early 2016. No funding is provided for restocking under Countryside Stewardship. No estimate has been made for

restocking in England that is no longer supported by grants and it is therefore likely that restocking in England is under-reported in this release.

1.6.1 New planting and restocking by forest type

Six thousand hectares of new woodland were created and 14 thousand hectares of woodland were restocked in the UK in 2015-16 (Table 1.13). Broadleaved species accounted for around two thirds (65%) of the new planting area but just 26% of the restocking area in 2015-16.

Table 1.13 New planting & restocking by forest type

Year (ending 31/3)	New planting			Restocking			Total		
	Conifers	Broadleaves	Total	Conifers	Broadleaves	Total	Conifers	Broadleaves	Total
	thousand hectares								
England									
2011-12	0.0	2.7	2.7	2.0	1.6	3.6	2.1	4.2	6.3
2012-13	0.0	2.6	2.6	2.2	1.8	4.0	2.2	4.4	6.6
2013-14	0.0	3.3	3.3	2.6	1.9	4.5	2.6	5.2	7.8
2014-15	0.1	2.3	2.4	2.0	4.4	6.4	2.1	6.7	8.8
2015-16	0.0	0.7	0.7	2.2	1.1	3.3	2.2	1.9	4.0
Wales									
2011-12	0.1	0.6	0.8	1.4	0.6	2.0	1.5	1.2	2.7
2012-13	0.1	0.8	0.9	1.4	0.6	2.0	1.5	1.4	2.9
2013-14	0.1	0.8	0.9	1.4	0.8	2.3	1.6	1.6	3.2
2014-15	0.0	0.1	0.1	1.3	0.6	1.9	1.3	0.7	2.0
2015-16	0.0	0.1	0.1	1.2	0.6	1.8	1.2	0.7	1.9
Scotland									
2011-12	3.3	5.7	9.0	4.6	1.1	5.7	7.9	6.8	14.7
2012-13	1.7	5.3	7.0	5.1	0.9	6.0	6.8	6.3	13.1
2013-14	2.0	6.3	8.3	6.5	1.4	7.9	8.5	7.7	16.2
2014-15	2.5	5.1	7.6	6.6	1.9	8.5	9.1	7.0	16.0
2015-16	1.9	2.7	4.6	6.0	1.8	7.8	7.9	4.6	12.5
Northern Ireland									
2011-12	0.0	0.3	0.3	0.9	0.1	1.0	0.9	0.4	1.3
2012-13	0.0	0.2	0.3	1.1	0.1	1.2	1.1	0.4	1.4
2013-14	0.0	0.3	0.3	1.0	0.1	1.2	1.1	0.4	1.5
2014-15	0.0	0.2	0.2	0.8	0.0	0.8	0.8	0.2	1.0
2015-16	0.0	0.1	0.1	0.7	0.0	0.7	0.7	0.1	0.8

Table 1.13 is continued on the next page.

Table 1.13 New planting & restocking by forest type

Year (ending 31/3)	New planting			Restocking			Total		
	UK								
2011-12	3.5	9.3	12.8	9.0	3.3	12.3	12.4	12.6	25.1
2012-13	1.9	8.9	10.8	9.7	3.4	13.1	11.6	12.3	23.9
2013-14	2.2	10.7	12.9	11.6	4.2	15.8	13.8	14.9	28.7
2014-15	2.6	7.7	10.3	10.7	6.9	17.6	13.3	14.7	27.9
2015-16	1.9	3.6	5.5	10.0	3.6	13.6	12.0	7.2	19.2

Source: Forestry Commission, Natural Resources Wales, Forest Service, grant schemes.

Notes:

1. Private sector figures are based on areas for which grants were paid during the year and, for England, includes new planting supported by The Woodland Trust and (to 2014-15) by Natural England. Figures for grant-aided planting under Rural Development Contracts in Scotland relate to calendar years.

2. No estimates of areas planted without grant aid are included. As a result, the reported figures are likely to under-estimate 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 natural colonisation and natural regeneration.

5. Restocking by natural regeneration in non-clearfell areas may be under-represented in the above table.

Data: Longer time series of the above table are available from the [Woodland Statistics](#) web page.

1.6.2 New planting and restocking by ownership

In 2015-16 most new planting (87%) took place on private sector land (Table 1.14). In contrast, around four fifths of reported restocking (80%) took place on FC/NRW/FS land.

Chapter 1: Woodland Areas and Planting
New Planting and Restocking

Table 1.14 New planting & restocking by ownership

Year (ending 31/3)	New Planting			Restocking			Total		
thousand hectares									
	FC/NRW/ FS	Private sector	Total	FC/NRW/ FS	Private sector	Total	FC/NRW/ FS	Private sector	Total
England									
2011-12	0.0	2.7	2.7	2.2	1.5	3.6	2.2	4.1	6.3
2012-13	0.0	2.6	2.6	2.2	1.7	4.0	2.2	4.3	6.6
2013-14	0.0	3.3	3.3	2.1	2.4	4.5	2.1	5.8	7.8
2014-15	0.0	2.4	2.4	2.3	4.2	6.4	2.3	6.6	8.8
2015-16	0.0	0.7	0.7	2.3	1.0	3.3	2.3	1.7	4.0
Wales									
2011-12	0.0	0.8	0.8	1.2	0.8	2.0	1.2	1.5	2.7
2012-13	0.0	0.9	0.9	1.3	0.6	2.0	1.3	1.6	2.9
2013-14	0.0	0.9	0.9	1.6	0.7	2.3	1.6	1.6	3.2
2014-15	0.0	0.1	0.1	1.6	0.4	1.9	1.6	0.5	2.0
2015-16	0.0	0.1	0.1	1.5	0.3	1.8	1.5	0.5	1.9
Scotland									
2011-12	1.3	7.7	9.0	4.7	1.0	5.7	6.0	8.7	14.7
2012-13	0.8	6.2	7.0	4.7	1.3	6.0	5.6	7.5	13.1
2013-14	0.6	7.7	8.3	6.2	1.7	7.9	6.8	9.4	16.2
2014-15	0.4	7.2	7.6	6.5	2.0	8.5	6.9	9.1	16.0
2015-16	0.7	3.9	4.6	6.6	1.3	7.8	7.3	5.2	12.5
Northern Ireland									
2011-12	0.0	0.3	0.3	0.9	0.1	1.0	0.9	0.4	1.3
2012-13	0.0	0.3	0.3	1.1	0.1	1.2	1.1	0.4	1.4
2013-14	0.0	0.3	0.3	1.1	0.1	1.2	1.1	0.4	1.5
2014-15	0.0	0.2	0.2	0.7	0.2	0.8	0.7	0.4	1.0
2015-16	0.0	0.1	0.1	0.7	0.1	0.7	0.7	0.1	0.8
UK									
2011-12	1.3	11.4	12.8	8.9	3.3	12.3	10.3	14.8	25.1
2012-13	0.9	9.9	10.8	9.3	3.8	13.1	10.2	13.8	23.9
2013-14	0.6	12.3	12.9	10.9	4.9	15.8	11.5	17.2	28.7
2014-15	0.4	9.9	10.3	11.0	6.6	17.6	11.4	16.5	27.9
2015-16	0.7	4.8	5.5	11.0	2.7	13.6	11.7	7.5	19.2

Source: Forestry Commission, Natural Resources Wales, Forest Service, grant schemes.
See also the notes below.

Notes (for Table 1.14):

1. Private sector figures are based on areas for which grants were paid during the year and, for England, includes new planting supported by The Woodland Trust and (to 2014-15) by Natural England. Figures for grant-aided planting under Rural Development Contracts in Scotland relate to calendar years.
2. No estimates of areas planted without grant aid are included. As a result, the reported figures are likely to under-estimate 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 natural colonisation and natural regeneration.
5. Restocking by natural regeneration in non-clearfell areas may be under-represented in the above table.

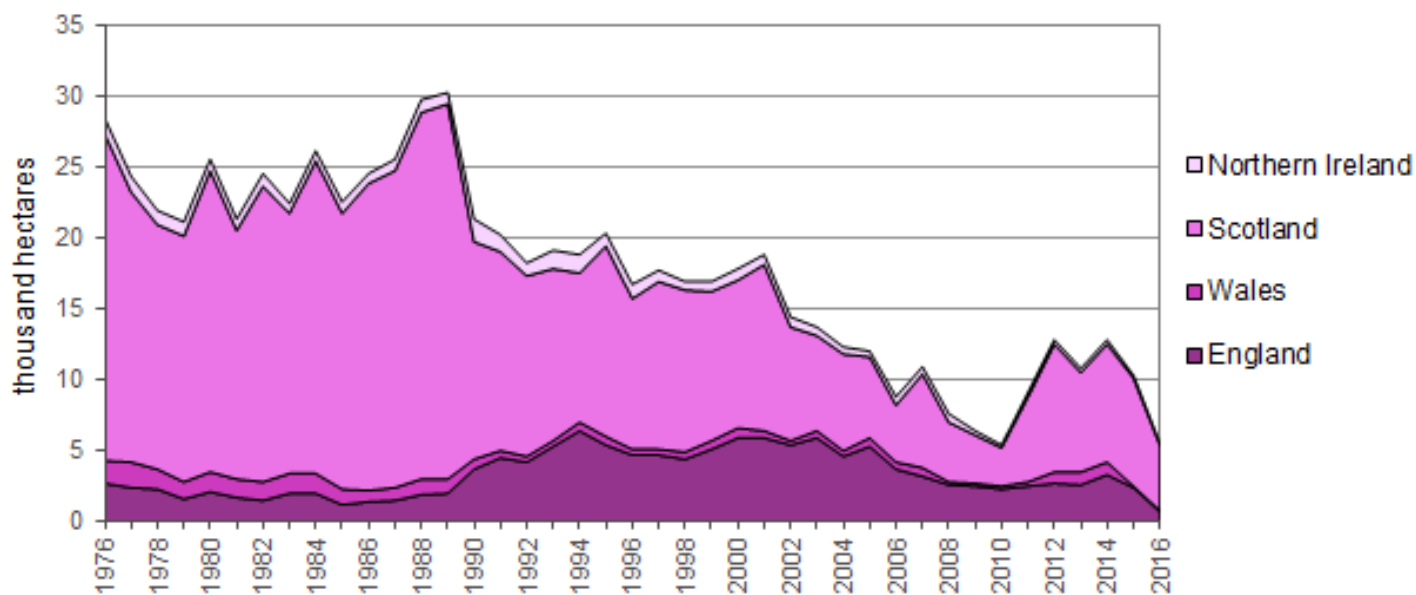
Data: Longer time series of the above table are available from the [Woodland Statistics](#) web page.

1.6.3 New planting and restocking: time series

Figure 1.6 shows areas of new planting by country since the year ending March 1976. UK new planting rates have fallen from the late 1980's, decreasing by 82% between 1988-89 and 2009-10. This followed changes to the tax benefits from owning forestry in the UK, introduced in the 1988 Finance Act (www.legislation.gov.uk/ukpga/1988/39/contents).

The area of new planting in the UK between 2010 and 2015 was around twice the level of that reported in 2009-10. This increase was largely driven by increases in Scotland following the introduction of Rural Development Contracts. New planting decreased in 2015-16 to levels similar to that reported in 2009-10. This decrease is likely to have been influenced by recent changes in grant schemes across the UK. For further information, see the New Planting and Restocking section of the Sources chapter.

Figure 1.6 New planting in the UK, 1976-2016



Source: Forestry Commission, Natural Resources Wales, Forest Service, grant schemes.

Notes:

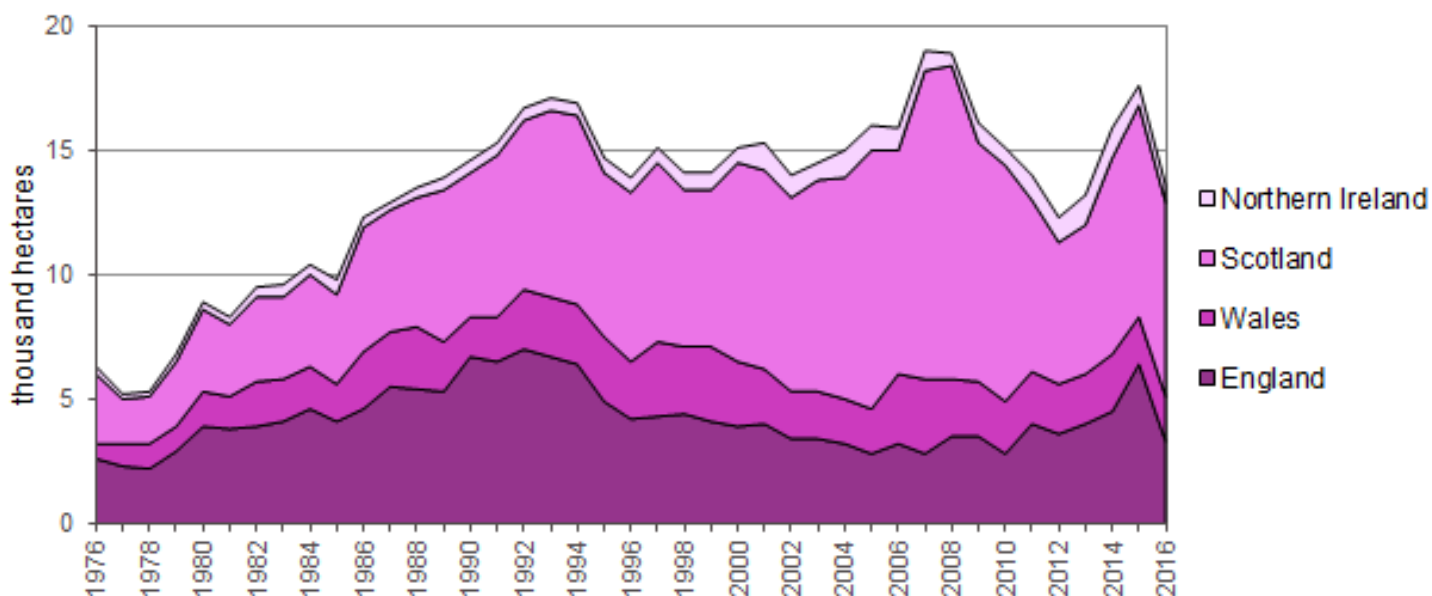
1. Private sector figures are based on areas for which grants were paid during the year. Figures for grant aided planting under Rural Development Contracts in Scotland relate to calendar years.
2. Estimate of areas planted without grant aid are also included (where possible) up to 2009-10, but no estimates are available since then. As a result, the reported figures are likely to under-estimate 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 formed by natural colonisation.

Figure 1.7 shows areas of restocking by country since the year ending March 1976. It indicates an increase in restocking rates over most of the period. Over the same period, there has been a general increase in UK wood production (see UK-Grown Timber chapter).

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. Results from the Forestry Commission's Nursery Survey (an annual survey of forest nurseries in Great Britain) indicate that, despite a dip in the 2009/10 planting year, sales of Sitka spruce plants to Scotland have been relatively stable in recent years.

The chart shows that the reported area of restocking in 2015-16 represents a 23% fall from the previous year. This has followed changes to grant schemes across the UK. For further information, see the New Planting and Restocking section of the Sources chapter.

Figure 1.7 Restocking in the UK, 1976-2016



Source: Forestry Commission, Natural Resources Wales, Forest Service, grant schemes.

Notes:

1. Private sector figures are based on areas for which grants were paid during the year. Figures for grant aided planting under Rural Development Contracts in Scotland relate to calendar years.
2. Estimate 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 under-estimate 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.

1.7 Felling

Felling

Approval for the felling (cutting down) of trees in the UK is granted through felling licences issued by the Forestry Commission, Natural Resources Wales or the Forest Service.

Felling licences may be conditional (where felling approval is granted subject to restocking) or unconditional (where tree felling is approved without the requirement to replant). Unconditional licences are routinely issued for silvicultural thinning operations and in these cases no woodland loss takes place. However, an unconditional felling licence may be issued if there are overriding environmental considerations, for example to enable the restoration of important habitats.

The removal of trees may be authorised under planning regulations, to enable development (including for windfarms). In this case, a felling licence is not required.

The removal of trees might also be required through a Statutory Plant Health Notice (SPHN). A SPHN may require the felling and destruction of infected trees or containment of infested material on site, and is issued by the Forestry Commission, Natural Resources Wales or the Forest Service to prevent the spread of pests and diseases. Similar actions are also required within woodland owned or managed by these organisations. There is no legal requirement for woodland to be restocked after felling under a SPHN.

Since 2010/2011, SPHNs have mainly been issued to attempt to slow down the spread of *Phytophthora ramorum*, first found in the UK in 2002 on viburnum, and in 2009 on Japanese larch, a significant sporulating host resulting in a dramatic upsurge in the disease.

Statutory felling of infected *P. ramorum* infected larch does not apply within a specially designated *P. ramorum* management zone in south west Scotland where the high levels of infection and proportion of larch in the area make this unfeasible. However, felling licences are still required, and movement licences are required to stop spread out of this area. In Wales' *P. ramorum* Core Disease Zone SPHNs are still served to contain material on site, but felling still requires a felling licence.

Further information on felling and Statutory Plant Health Notices is provided in the Sources chapter.

Woodland loss

Information on unconditional felling licences that do not relate to thinning may be seen as an indication of the level of woodland loss on land that is not owned or managed by the Forestry Commission, Natural Resources Wales or the Forest Service. However, the data relates only to felling licences issued, so does not provide information on whether the felling actually took place (or the timing of the felling). In addition, felling licences do not cover woodland loss that is authorised under planning regulations.

The National Forest Inventory report "Preliminary estimates of the changes in canopy cover in British woodlands between 2006 and 2015" (August 2016) has reported:

- 3.3 thousand hectares of observed permanent woodland loss between 2006 and 2015;
- a further 0.7 thousand hectares of ground under development and 0.2 thousand hectares of newly established habitats;
- 69% of the clearfelled area observed in 2006 had been restocked by 2012, leaving around 33.9 thousand hectares of woodlands in transition and open areas;
- 63% of the area observed as clearfelled between 2006 and 2009 had been restocked by 2012, leaving around 28.6 thousand hectares of woodlands in transition and open areas.

Further information is available in the report at www.forestry.gov.uk/inventory.

1.7.1 Felling licences

Table 1.15 shows the area covered by unconditional felling licences issued by the Forestry Commission in England and Scotland over the last six years. The figures do not include unconditional felling licences issued to permit thinning of woodlands. The table covers woodland in England and Scotland that is not owned or managed by the Forestry Commission only; it does not cover felling that is exempt from felling licence approval (such as authorisations for felling under planning regulations, felling required under a Statutory Plant Health Notice or felling that is approved on condition that the area is restocked).

A total of 0.2 thousand hectares of woodland in England and 0.2 thousand hectares of woodland in Scotland was covered by unconditional felling licences (with no requirement to restock) in the year to March 2016.

Table 1.15 Areas of Private sector woodland covered by unconditional felling licences¹, 2007-08 to 2015-16

Year	England	Scotland
thousand hectares		
2007-08	0.4	0.1
2008-09	0.4	0.2
2009-10	0.5	0.2
2010-11	0.5	0.1
2011-12	0.6	0.1
2012-13	0.3	0.2
2013-14	0.4	0.1
2014-15	0.2	0.1
2015-16	0.2	0.2

Source: Forestry Commission

Notes:

1. Felling licences issued in the period. Excludes areas exempt from felling licence approval or under Forestry Commission grant, and licences issued for thinning. These figures are outside the scope of National Statistics

1.7.2 Statutory Plant Health Notices

Table 1.16a shows the number of sites where a Statutory Plant Health Notice has been served in the UK since 2010-11 and Table 1.16b shows the area required to be felled under these Notices. The tables cover all woodland, including sites owned or managed by the Forestry Commission, Natural Resources Wales or the Forest Service.

A total of 186 sites were served with Statutory Plant Health Notices between April 2015 and March 2016.

Table 1.16a Number of sites where a Statutory Plant Health Notice has been served¹, 2010-11 to 2015-16

Year	England	Wales	Scotland	Northern Ireland	UK
2010-11	114	46	1	10	171
2011-12	131	90	14	16	251
2012-13	168	89	123	15	395
2013-14	225	272	76	28	601
2014-15	142	71	9	17	239
2015-16	92	57	34	3	186

Source: Forestry Commission, Natural Resources Wales, Forest Service

See also the note below.

Chapter 1: Woodland Areas and Planting
Felling

Note (Table 1.16a):

1. The number of sites where infection by *Phytophthora ramorum* has been confirmed, or where there is sufficient suspicion of infection, and a Statutory Plant Health Notice has been served on the landowner.

These figures are outside the scope of National Statistics

Areas requiring felling under Statutory Plant Health Notices totalled 1.8 thousand hectares in 2015-16. Most of the area to be felled in 2015-16 was in Wales (84%), 8% was in England, and 7% in Scotland.

Table 1.16b Felling areas under Statutory Plant Health Notices¹, 2010-11 to 2015-16

Year	England	Wales	Scotland	Northern Ireland	UK
thousand hectares					
2010-11	1.2	0.8	0.0	0.3	2.3
2011-12	0.5	0.5	0.1	0.1	1.1
2012-13	0.5	1.5	0.4	0.2	2.5
2013-14	0.8	4.6	0.3	0.5	6.2
2014-15	0.3	0.4	0.0	0.0	0.7
2015-16	0.2	1.5	0.1	0.0	1.8

Source: Forestry Commission, Natural Resources Wales, Forest Service

Note:

1. The area that is required to be felled within the Statutory Plant Health Notice.

These figures are outside the scope of National Statistics.

Estimates of the volume of softwood removed in 2015 as required by plant health legislation can be found in the Wood Production Summary section of Chapter 2.

Sources: Woodland area and planting

Introduction

The definition of woodland in United Kingdom forestry statistics is land under stands of trees with 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. There is no minimum height for trees to form a woodland at maturity, so the definition includes woodland scrub but not areas with only shrub species such as gorse or Rhododendron.

There is no minimum size for a woodland. In this report, statistics based on the National Forest Inventory (NFI), refer to woods and forests of at least 0.5 hectares, as mapped through the NFI. Previously, figures based on the 1995-99 National Inventory of Woodland and Trees included sample-based estimates for woods and forests between 0.1 hectares and 2.0 hectares in addition to mapped areas of 2.0 hectares or over.

This is a slightly different definition from that used internationally which is based on 10% canopy cover, a minimum height at maturity of 5m and minimum area of 0.5 hectares. The latest estimate of the effect of the difference in minimum canopy cover threshold, based on the 1995-99 National Inventory of Woodland and Trees, is that there are around 50 thousand hectares of land with 10-20% canopy cover in the UK (or around 2% of the total UK woodland area).

Integral open space is included in woodland area figures derived from the National Forest Inventory if the areas of open space are less than 0.5 hectares; larger areas are mapped out and excluded from the woodland area figures. This differs slightly from the approach used for the National Inventory of Woodland and Trees, where areas of open space of up to 1.0 hectare were included as woodland.

Woodland includes native and non-native trees; semi-natural and plantation areas. Woodland habitat types are not currently differentiated in these statistics.

Most public sector woodland is owned by or managed by the Forestry Commission (FC) in England and Scotland, Natural Resources Wales (NRW) in Wales, or the Forest Service (FS) in Northern Ireland. Woodland owned by local authorities, the Ministry of Defence, and other public sector bodies is included in "private sector woodland".

The Natural Resources Wales woodland areas and land areas shown in this release relate to areas previously owned or managed by Forestry Commission Wales. They exclude any areas previously owned or managed by other parts of Natural Resources Wales, such as the former Environment Agency in Wales and the former Countryside Council for Wales.

The following pages provide more detail on the data sources and methodology used to produce statistics on woodland area and planting. A quality report on Woodland Area, Planting and Restocking is available from our [Quality web page](#).

Sources: Woodland area

Data Sources and Methodology

Data on woodland area in the UK presented in this release are derived from the following sources:

- Forestry Commission and Natural Resources Wales administrative records of FC/NRW land areas;
- National Forest Inventory (NFI) woodland map (GB);
- Statistics on new planting in Great Britain;
- Northern Ireland Woodland Register;
- Forest Service administrative records of FS woodland areas and
- 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. Until recently, forest inventories in Great Britain were undertaken every 15 years or so. The current National Forest Inventory (NFI), unlike previous inventories, is planned to run on a continuous 5-year cycle.

As forest inventories are generally not designed to produce annual figures, a process is required for updating the results on an annual basis to take account of changes in woodland area. The methodology currently used to calculate annual woodland area estimates is described below.

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

- 1.** For Great Britain, woodland area estimates are based on the latest NFI woodland area map of Great Britain. In this release, final woodland area estimates at March 2015 and provisional estimates at March 2016 are both based on the NFI woodland area map at March 2015.
- 2.** The map is overlaid with a map of Forestry Commission and Natural Resources Wales (ex Forestry Commission Wales only) land, to enable a breakdown by ownership to be estimated. This also enables FC/NRW "other land" areas to be derived (Table 1.5). For final woodland area estimates at March 2015, FC/NRW legal boundaries at March 2015 are used, and for provisional estimates at March 2016, FC/NRW legal boundaries at March 2016 are used.
- 3.** The woodland area breakdown by type of woodland (conifer or broadleaf) is estimated from the conifer/broadleaf breakdown of stocked woodland area, with areas of felled and open space allocated to conifer or broadleaf pro-rata. Estimates for stocked areas at March 2012 derived from NFI interim field survey results are updated to take into account new planting since that date, for which the conifer/broadleaf breakdown is also known. As the area of new planting is much smaller than total woodland area, the effect of this update on the overall conifer/broadleaf breakdown is very small.

The steps above are sufficient to determine final woodland area estimates at March 2015, broken down by ownership and conifer/broadleaf.

To obtain provisional estimates at March 2016, two more steps need to be performed, which are described below.

4. Net ownership transfers of woodland between private sector and FC/NRW from March 2015 to March 2016, as inferred by the differences in FC/NRW legal boundaries between those two dates, are broken down by conifer/broadleaf. The breakdown is based on NFI Interpreted Forest Type (IFT) at those dates, derived from photographic interpretation of the NFI woodland map. The "Conifer" and "Mixed mainly conifer" (>80% conifer) IFT categories are assigned to conifers, and the "Broadleaves" and "Mixed mainly broadleaved" (>80% broadleaved) categories are assigned to broadleaves. For the other IFT categories, the conifer/broadleaf breakdown is allocated pro-rata based on the conifer/broadleaf breakdown of woodland area by ownership (private sector or FC/NRW) before transfer.

5. The woodland area figures are then updated to March 2016 by adding areas of new planting in 2015-16, broken down by ownership and type.

Information on previous methodologies can be found in the Methodology Note: Annual Woodland Estimates produced in May 2012, on the Methodology and Outputs web page at www.forestry.gov.uk/forestry/ahen-589ddl.

The methodology and outputs relevant to UK woodland area, planting and restocking were reviewed in 2014. The review report is available at [www.forestry.gov.uk/pdf/mrwapr.pdf/\\$FILE/mrwapr.pdf](http://www.forestry.gov.uk/pdf/mrwapr.pdf/$FILE/mrwapr.pdf).

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.forestry.gov.uk/inventory.

Figures for Northern Ireland (Forest Service and non-Forest Service woodland) are provided by the Forest Service (<http://www.daera-ni.gov.uk/topics/forestry>). Woodland areas from 2012 provided in this release have been obtained from the NI woodland register.

The NI woodland register is based on a combined dataset derived from fourteen individual datasets from statutory bodies including Forest Service, Land and Property Services, and the Northern Ireland Environment Agency, and non statutory bodies which include Woodland Trust and National Trust. The minimum area of woodland that has been included in the register is 0.1 hectares.

The use of the NI 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, rather than an actual increase in woodland area.

Further information on administrative sources can be found at: www.forestry.gov.uk/forestry/inf-d-832ey5.

Certified woodland area

Data on certified woodland areas are obtained from the Forest Stewardship Council (FSC), 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 Programme for the Endorsement of Forest Certification (PEFC) scheme.

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

As all FC/NRW/FS woodlands are certified, the total woodland area (as derived above, from the NFI map and FC boundaries and from Forest Service administrative records) is used, rather than the area provided on the certificates.

Quality

The statistics on woodland area presented here refer to woodland as a land use rather than as a land cover, so felled areas and small areas (less than 0.5 ha) of open space are included within the definition of woodland. Some statistics on woodland area as a land cover are available from other sources (e.g. Countryside Survey 2007, www.countrysidesurvey.org.uk, and associated Land Cover Map).

Detailed information on the quality of the woodland area statistics presented in this publication is available in the "Quality Report: Woodland Area, Planting and Restocking" at:
[www.forestry.gov.uk/pdf/qrwapr.pdf/\\$FILE/qrwapr.pdf](http://www.forestry.gov.uk/pdf/qrwapr.pdf/$FILE/qrwapr.pdf).

Further quality information on FC Official Statistics is available at:
www.forestry.gov.uk/forestry/inf-d-7zhk85.

Revisions

Figures at March 2016 are final; provisional figures were previously released in "Woodland Area, Planting and Restocking: 2016 Edition". Figures at March 2016 and for earlier years have not been revised from those published in "Woodland Area, Planting and Restocking: 2016 Edition".

Information on revisions made since "Forestry Statistics 2015" are provided in "Woodland Area, Planting and Restocking: 2016 Edition".

Information on significant revisions to published statistics is provided in the quality report on Woodland Area, Planting and Restocking, available from our Quality web page at www.forestry.gov.uk/forestry/inf-d-7zhk85.

The Forestry Commission's revisions policy sets out how revisions and errors are dealt with and can be found at
[www.forestry.gov.uk/pdf/FCrevisions.pdf/\\$FILE/FCrevisions.pdf](http://www.forestry.gov.uk/pdf/FCrevisions.pdf/$FILE/FCrevisions.pdf).

Further information

Accompanying tables to this release, available at www.forestry.gov.uk/forestry/infd-7aqknx, provide longer time series data by country for certified woodland.

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/forest-resources-assessment/en/), and Forest Europe for the 4-yearly "State of Europe's Forests" (www.foresteurope.org/reporting_SFM).

Figures for woodland area 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, http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/8812.php). Summary factsheets, produced by the Department for Business, Energy and Industrial Strategy (previously the Department of Energy and Climate Change), are available at www.gov.uk/government/publications/uk-greenhouse-gas-inventory-summary-factsheets.

Release schedule

Woodland area and certified woodland area data are released twice a year. Provisional figures are published in Woodland Area, Planting and Restocking in early June. Final figures are released in Forestry Statistics at the end of September.

Provisional figures for woodland area and certified woodland area at March 2017 will be published on 15 June 2017 in "Woodland Area, Planting and Restocking: 2017 Edition".

Final results for woodland area and certified woodland area at March 2017 will be published on 28 September 2017 in "Forestry Statistics 2017" and "Forestry Facts & Figures 2017".

Sources: Woodland Inventories

Introduction

The current National Forest Inventory is the first continuous inventory of British woodlands and is being conducted on a five year cycle. Prior to the National Forest Inventory, a series of one-off woodland inventories took place in Great Britain every 15 years or so.

Most inventories used slightly different definitions of woodland, so some apparent changes in area over time are due to changing definitions. The principal differences for inventories since 1905 are:

- **1905** Felled areas and scrub were not included.
- **1924** Undertaken by questionnaire; woods smaller than 2 acres (0.8 hectares) were not included.
- **1947** Woodlands with an area of less than 5 acres (2 hectares) were not included.
- **1965** Woodlands with an area of less than 1 acre (0.4 hectares) were not included.
- **1980** Woodlands with an area of less than 0.25 hectares were not included.
- **1995-99** Woodlands with an area of 0.1-2 hectares were included on a sample basis; some woodland missing from earlier surveys was included.
- **2010 on** All woodlands with an area of 0.5 hectares or more have been included; all woodlands below 0.5 hectares have been excluded.

Estimates of woodland area prior to 1905 have been obtained from a variety of sources, including:

- Domesday Survey of England - for information in 1086;
- Scottish Woodland History (TC Smout ed, 1997) - for estimate for end Middle Ages in Scotland;
- Roy maps c1750 - for Scotland 17th Century estimate.

National Forest Inventory

In the latest inventory, a digital map based on aerial photography, satellite imagery and other data sources has been produced, from which estimates of total woodland areas have been derived. Data are currently being collected for one hectare sample squares, covering a wide variety of topics, including ownership type, species and age.

Initial results for 2010 were published for countries (Great Britain, England, Wales, Scotland) in Spring 2011. Interim results, based on field survey data combined with information from the NFI map, have since been published on the National Forest Inventory web pages at www.forestry.gov.uk/inventory.

Further information on administrative sources can be found at: www.forestry.gov.uk/forestry/inf832ey5

Sources: New planting & restocking

Introduction

New planting is the creation of new areas of woodland. Restocking is the replanting of 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.

Data sources and methodology

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, including the Countryside Stewardship in England, 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. As a result, grant aid is no longer available for restocking with Sitka spruce in many cases. This will have led to a reduction in areas 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 (until 2014-15) areas funded under Natural England's High Level Stewardship Scheme.

Local estimates for private sector areas of planting and restocking that 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. 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 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 (www.daera-ni.gov.uk/topics/forestry).

Further information on administrative sources can be found at:
www.forestry.gov.uk/forestry/inf-d-832ey5.

The methodology and outputs relevant to UK woodland area, planting and restocking were reviewed in 2014. The review report is available at [www.forestry.gov.uk/pdf/mrwapr.pdf/\\$FILE/mrwapr.pdf](http://www.forestry.gov.uk/pdf/mrwapr.pdf/$FILE/mrwapr.pdf).

Revisions

Figures for 2015-16 are final; provisional figures were previously released in "Woodland Area, Planting and Restocking: 2016 Edition".

Figures have not been revised from those provided in "Woodland Area, Planting and Restocking: 2016 Edition". Information on revisions made since "Forestry Statistics 2015" are provided in "Woodland Area, Planting and Restocking: 2016 Edition".

Information on significant revisions to published statistics is provided in the quality report on Woodland Area, Planting and Restocking, available from our Quality web page at www.forestry.gov.uk/forestry/inf-d-7zhk85.

The Forestry Commission's revisions policy sets out how revisions and errors are dealt with and can be found at [www.forestry.gov.uk/pdf/FCrevisions.pdf/\\$FILE/FCrevisions.pdf](http://www.forestry.gov.uk/pdf/FCrevisions.pdf/$FILE/FCrevisions.pdf)

Further information

Accompanying tables to this release, available at www.forestry.gov.uk/forestry/inf-d-7aqknx, provide longer time series data by country for new planting and restocking.

Figures for 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, http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/8812.php). Summary factsheets, produced by the Department for Business, Energy and Industrial Strategy, BEIS (previously the Department of Energy and Climate Change, DECC), are available at www.gov.uk/government/publications/uk-greenhouse-gas-inventory-summary-factsheets.

Release schedule

New planting and restocking data are released twice a year. Provisional figures are published in *Woodland Area, Planting and Restocking* in early June. Final figures are released in *Forestry Statistics* at the end of September.

Provisional figures for new planting and restocking in 2016-17 will be published on 15 June 2017 in "*Woodland Area, Planting and Restocking: 2017 Edition*".

Final results for new planting and restocking in 2016-17 will be published on 28 September 2017 in "*Forestry Statistics 2017*" and "*Forestry Facts & Figures 2017*".

Sources: Felling

Introduction

Under the Forestry Act 1967, it is illegal to fell trees in Great Britain without prior approval, although there are a few exceptions (for trees below a specified size, dangerous trees, and very small scale felling operations). There is a presumption against removal of woodland and loss of forest cover in the UK, so felling licences issued under the Forestry Act will normally be conditional (where felling approval is granted subject to restocking). However, the permanent removal of trees may be granted (through an unconditional felling licence) for thinning woodland (a standard woodland management practice) or if there are overriding environmental considerations, for example to enable the restoration of important habitats (and consent may be required under the relevant Environmental Impact Assessment Regulations).

The removal of trees may also be authorised under planning regulations, to enable development (including for windfarms). In this case, a felling licence is not required.

The Forestry Commission, Natural Resources Wales and the Forest Service may also require trees to be felled to prevent the spread of pests and diseases, by serving a Statutory Plant Health Notice (SPHN) on the affected site.

Data sources and methodology

Information about felling licences and Statutory Plant Health Notices comes from Forestry Commission, Natural Resources Wales and Forest Service administrative systems.

Data on felling licences relates to felling licences that have been issued. It does not indicate whether the felling has taken place (and if so, when).

Further information on administrative sources can be found at:
www.forestry.gov.uk/forestry/infd-832ey5.

Quality

All of the statistics on felling in this chapter are outside the scope of National Statistics.

Revisions

Figures on felling licences and Statutory Plant Health Notices for 2015-16 are released for this first time in this publication.

Figures on Statutory Plant Health Notices in 2010-11 to 2014-15 have been revised from those released in Forestry Statistics 2015.

In Table 1.16a, the number of sites where a Statutory Plant Health Notice has been served has been revised:

- In 2010-11: from 24 to 46 in Wales;
- In 2011-12: from 129 to 90 in Wales;
- In 2012-13: from 169 to 168 in England; from 90 to 89 in Wales;
- In 2013-14: from 244 to 225 in England, from 253 to 272 in Wales;
- In 2014-15: from 147 to 142 in England, from 14 to 71 in Wales.

In Table 1.16b, the felling areas under Statutory Plant Health Notices have been revised:

- In 2010-11: from 0.9 to 0.8 thousand hectares in Wales;
- In 2012-13: from 1.3 to 1.5 thousand hectares in Wales;
- In 2013-14: from 3.7 to 4.6 thousand hectares in Wales;
- In 2014-15: from 0.1 to 0.4 thousand hectares in Wales.

The Forestry Commission's revisions policy sets out how revisions and errors are dealt with and can be found at [www.forestry.gov.uk/pdf/FCrevisions.pdf/\\$FILE/FCrevisions.pdf](http://www.forestry.gov.uk/pdf/FCrevisions.pdf/$FILE/FCrevisions.pdf).

Further information

Some related figures for England on felling licences have been released. Data on the total area covered by felling licences (conditional and unconditional) were released on 3 June 2016 in "Forestry Commission England Corporate Plan Performance Indicators 2016".

Further information on felling licences (including details of exemptions) is available at:

- England - www.forestry.gov.uk/forestry/infd-6dfk86;
- Wales - <http://naturalresources.wales/forestry/tree-felling-and-other-regulations/?lang=en>;
- Scotland - <http://scotland.forestry.gov.uk/supporting/grants-and-regulations/felling-licences>.

A new Case Management System was introduced in Scotland in January 2012. This centralises the data collected on felling licences and provides more information about restocking proposals (including cases where the applicant has agreed to plant an alternative area, does not intend to restock or where open ground is being created) than has previously been gathered.

Further information on tree pests and diseases is available at www.forestry.gov.uk/forestry/infd-6abl5v.

Release schedule

Figures on felling licences and Statutory Plant Health Notices in 2016-17 will be published on 28 September 2017 in "Forestry Statistics 2017".