



# U.K. of Great Britain and Northern Ireland



**Forestry Department**  
Food and Agriculture Organization of the United Nations

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Global Forest Resources Assessment 2015

Country Report U.K. of Great Britain and Northern Ireland

Rome, 2014



## **The Forest Resources Assessment Programme**

Sustainably managed forests provide essential goods and services and thus play a vital part in sustainable development. Reliable and up-to-date information on the state of forest resources is crucial to support decision-making for investment and policy making in forestry and sustainable development.

FAO, at the request of its member countries, regularly monitors the world's forests and their management and uses through the Forest Resources Assessment Programme. This country report forms part of the Global Forest Resources Assessment 2015 (FRA 2015). More information on the FRA 2015 process, publications and online database of results is available on the FRA web site ([www.fao.org/forestry/fra](http://www.fao.org/forestry/fra) ).

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The Global Forest Resources Assessment Country Report Series is designed to document and make available the information forming the basis for the FRA reports. The Country Reports have been compiled by officially nominated national correspondents in collaboration with FAO staff. Prior to finalisation, these reports were subject to review and revision by forestry authorities in the respective countries.

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### Introductory Text

Place an introductory text on the content of this report

The UK data for this Forest Resources Assessment has, to a great extent, been revised substantially from previous FRA submissions by the UK. The main reason for change is the switch to using interim results from the current National Forest Inventory for forest areas and growing stock in Great Britain, in place of results from earlier inventories.

The National Forest Inventory field survey programme started in 2009 and is being conducted on a continuous 5 year cycle. Full results from the first full cycle will not be available until 2015. Changes in methodologies and improvements in technology between this and previous inventories have resulted in inconsistencies between the results derived from the National Forest Inventory and those from previous inventories. As a result, figures for earlier years have been revised to produce time series that are consistent with the latest results from the National Forest Inventory.

As the results that are currently available are based on data for selected variables from partial fieldwork, the estimates used here are expected to be revised once full survey results are produced. Data for a wider range of variables will also be available after fieldwork for the first cycle has concluded. In addition, improved estimates of change will be produced once sufficient results are available from the second cycle, for which the fieldwork is due to be conducted between 2015 and 2020, when direct comparisons between cycles can be made.

Further details on the National Forest Inventory and previous inventories are available at <http://www.forestry.gov.uk/inventory>

## 1. What is the area of forest and other wooded land and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 1.1 Categories and definitions

Category	Definition
Forest	Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use.
Other wooded land	Land not classified as "Forest" spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of 5-10 percent or trees able to reach these thresholds ; or with a combined cover of shrubs bushes and trees above 10 percent. It does not include land that is predominantly under agricultural or urban land use.
Other land	All land that is not classified as "Forest" or "Other wooded land".
...of which with tree cover ( <i>sub-category</i> )	Land considered as "Other land", that is predominantly agricultural or urban lands use and has patches of tree cover that span more than 0.5 hectares with a canopy cover of more than 10 percent of trees able to reach a height of 5 meters at maturity. It includes bothe forest and non-forest tree species.
Inland water bodies	Inland water bodies generally include major rivers, lakes and water reservoirs.
Forest expansion	Expansion of forest on land that, until then, was not defined as forest.
...of which afforestation ( <i>sub-category</i> )	Establishment of forest through planting and/or deliberate seeding on land that, until then, was not defined as forest.
...of which natural expansion of forest ( <i>sub-category</i> )	Expansion of forests through natural succession on land that, until then, was under another land use (e.g. forest succession on land previously used for agriculture).
Deforestation	The conversion of forest to other land use or the longterm reduction of the tree canopy cover below the minimum 10 percent threshold.
...of which human induced ( <i>sub-category</i> )	Human induced conversion of forest to other land use or the permanent reduction of the tree canopy cover below the minimum 10 percent threshold.
Reforestation	Natural regeneration or re-establishment of forest through planting and/or deliberate seeding on land already in forest land use.
...of which artificial reforestation ( <i>sub-category</i> )	Re-establishment of forest through planting and/or deliberate seeding on land already in forest land use.

### 1.2 National data

## 1.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Forestry Commission, 2013. Forestry Statistics 2013 (and supporting data). UK.	Forest, Forest expansion, Reforestation	2000 - 2013	Woodland area based on National Forest Inventory (GB) and Forest Service estimates (NI). New planting and restocking from supporting time series data.
2	TBFRA 2000 and FRA 2010	Other wooded land	1990 - 2010	Estimate unchanged from TBFRA 2000
3	Defra, 2013. Agriculture in the UK 2012. UK.	Other land with tree cover	1990 - 2010	Area of orchards from agricultural censuses
4	FRA 2015 Working Paper - Guide for country reporting	Total, Inland water	2009	
5	Forestry Commission, 2011. National Forest Inventory Woodland Area Statistics: Great Britain. GB.	Deforestation	1995/ 1997/ 1998 to 2010	Estimate of permanent observable woodland loss since previous inventory. Excludes areas not immediately identifiable as permanent woodland loss (e.g. restoration of open habitats).

## 1.2.2 Classification and definitions

National class	Definition
Woodland	As "forest" in FRA, but with 20% canopy cover threshold (rather than 10%).
Orchard	Area of fruit trees (from agricultural censuses).
New planting	New woodland creation (including estimates of natural colonisation). Data for years ending 31 March.
Restocking	Replanting of existing woodland (including estimates of natural regeneration). Data for years ending 31 March.
Woodland loss	Observable permanent woodland loss.

## 1.2.3 Original data

Estimates of UK woodland area (from supporting data for Forestry Statistics 2013 (ref 1)):
Thousand hectares

Year	2000	2005	2010	2013
UK woodland area	2,954	3,021	3,059	3,127

Areas of orchards from UK agricultural censuses (ref 2) are:

Thousand hectares

Year	1990	2000	2005	2010	2012
UK area of orchard fruit	34	28	23	24	24

From FRA 2010 (ref 3), the area of other wooded land is assumed to be a constant estimate over all time periods, of 20 thousand hectares.

Official FAOSTAT estimate (ref 4) of total UK area is 24,361 thousand hectares in 2009. The same source gives estimate of 168 thousand hectares for inland water.

Annual estimates of new planting and restocking (from Forestry Statistics 2013 & supporting data (ref 1)), combined to produce 5 year averages:

Thousand hectares

	1988-89 to 1992-93	1998-99 to 2002-03	2003-04 to 2007-08	2008-09 to 2012-13
New planting				
Conifer	15	5	2	2
Broadleaf	6	11	8	7
Total	22	16	10	9
Restocking				
Conifer	11	12	14	10
Broadleaf	5	3	3	4
Total	16	15	17	14

Changes to grant scheme rules can affect the level of grant aided planting (and therefore the total estimated planting levels). This is a particular issue for Sitka spruce restocking in Scotland, where rule changes have resulted in a reduction to the figures from 2010.

Reliable data on the breakdown of new planting and restocking data into planted and natural colonisation/regeneration are not available.

National Forest Inventory (ref 5) reported a total of 0.5 thousand hectares of permanent observable woodland loss in Great Britain over a 10 to 15 year period, based on a comparison of differences in woodland maps produced from the National Forest Inventory and the previous inventory. No comparable figures are available for Northern Ireland.

### 1.3 Analysis and processing of national data

#### 1.3.1 Adjustment

No adjustment required.

#### 1.3.2 Estimation and forecasting

Average annual new planting data for latest period from Table 1b, for 2 years, is added to latest (2013) estimate of UK woodland area to provide an estimate for woodland area in 2015.

2015 forecast = 2013 estimate + 2 \* average annual planting in 2008-09 to 2012-13

= 3,144 thousand hectares.

National Forest Inventory-based woodland area estimates were also rolled back, using new planting and deforestation estimates, to produce a revised estimate for woodland area in 1990 that is consistent with the figures shown for subsequent years. This gives an estimate of 2,778 thousand hectares for 1990.

Other land with tree cover - 2015 estimate assumes no change from 2012 (latest data available).

Total land area and inland water - 2009 estimates have been used as constant estimates for entire reporting period.

Other wooded land - Estimates for 1990 to 2010 (from TBFRA 2000 and FRA 2010 (ref 2)) are constant. This value is continued for 2015, to give constant estimates over the entire time period.

Other land is calculated as a residual for all years, i.e. total less forest, other wooded land and inland water bodies.

Annual estimates of woodland loss (deforestation) have been derived by assuming that the level of woodland loss in Great Britain has been constant over time and that the level of woodland loss in Northern Ireland is negligible. This has been projected forward to 2015 and projected back beyond previous inventory (to 1990).

Information is not available for new planting and restocking of native v introduced species. As most conifer species are introduced and most broadleaf species are native, it is assumed that the areas of native conifer expansion/ reforestation will be similar to the areas of introduced broadleaf expansion/ reforestation.



## 1.3.3 Reclassification

No reclassification is required.

### 1.4 Data

Table 1a













Categories		Area (000 hectares)				
		1990	2000	2005	2010	2015
	Forest	2778	2954	3021	3059	3144
	Other wooded land	20	20	20	20	20
	Other land	21395	21219	21152	21114	21029
	... of which with tree cover	34	28	23	24	24
	Inland water bodies	168	168	168	168	168
	TOTAL	24361.0	24361.0	24361.0	24361.0	24361.0

Table 1b

Categories		Annual forest establishment / loss (000 hectares per year)				...of which of introduced species (000 hectares per year)			
		1990	2000	2005	2010	1990	2000	2005	2010
	Forest expansion	22	16	10	9	15	5	2	2
	... of which afforestation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	... of which natural expansion of forest	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Deforestation	0	0	0	0	0	0	0	0
	... of which human induced	0	0	0	0	0	0	0	0
	Reforestation	16	15	17	14	11	12	14	10
	... of which artificial	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

#### Tiers

Category	Tier for status	Tier for reported trend
Forest	Tier 3	Tier 2
Other wooded land	Tier 1	Tier 1

Forest expansion	Tier 1	Tier 1
Deforestation	Tier 3	Tier 1
Reforestation	Tier 1	Tier 1

## Tier criteria

Category	Tier for status	Tier for reported trend
<ul style="list-style-type: none"> <li>• Forest</li> <li>• Other wooded land</li> <li>• Afforestation</li> <li>• Reforestation</li> <li>• Natural expansion of forest</li> <li>• Deforestation</li> </ul>	<p><b>Tier 3</b> : Data sources: Either recent (less than 10 years ago) National Forest Inventory or remote sensing, with ground truthing, or programme for repeated compatible NFIs</p> <p><b>Tier 2</b> : Data sources: Full cover mapping / remote sensing or old NFI (more than 10 years ago)</p> <p><b>Tier 1</b> : Other</p>	<p><b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status)</p> <p><b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status)</p> <p><b>Tier 1</b> : Other</p>

## 1.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trends
Forest	UK definition of woodland area requires 20% canopy cover. There are no new estimates of the area with 10-20% canopy cover, but this is believed to be relatively small (FRA 2010 included an estimate of less than 50 thousand hectares). Estimates include forests in urban areas.	Figures for all years are estimated on a consistent basis with the current National Forest Inventory, so estimates for earlier years have been revised from previous FRA submissions (that were based on earlier inventories). This has resulted in a higher estimate of forest areas in the UK than previously.
Other wooded land	Estimate based on estimate for wood pastures provided for TBFRA 2000. No further data available.	Single point estimate used for all years; assumed to be little change over time.
Other land	Estimate calculated as a residual.	Trend reflects the change in estimated forest area, as total land area has been held constant over the entire reporting period.
Other land with tree cover	Agricultural censuses do not distinguish size of orchards. Estimate excludes other land with trees (e.g. urban trees).	2015 estimate = repeat of 2012 figure (latest estimate available).
Inland water bodies		Single point estimate used for all years; assumed to be little change over time.
Forest expansion	Data obtained from administrative records of Forestry Commission (in Great Britain) and Forest Service (in Northern Ireland) planting and grant aided planting. Some estimation of planting without grant aid has been made, where possible, to earlier data, but this is likely to be under-counted.	

Deforestation	Estimate based on work to compare woodland maps from the National Forest Inventory and previous National Inventory of Woodland and Trees. Covers permanent observable woodland loss only. Further woodland loss may have occurred over the period (e.g. conversion to open habitats), but the permanence of this loss cannot yet be determined.	Single estimate used and assumed to be constant for all years.
Reforestation	Data obtained from administrative records of Forestry Commission (in Great Britain) and Forest Service (in Northern Ireland) planting and grant aided planting. Some estimation of planting without grant aid has been made, where possible, to earlier data, but this is likely to be under-counted.	Changes to grant scheme rules can affect the level of grant aided planting (and therefore the total estimated planting levels). This is a particular issue for Sitka spruce restocking in Scotland, where rule changes have resulted in a reduction to the estimate for 2010.

## 2. What is the area of natural and planted forest and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 2.1 Categories and definitions

Term	Definition
Naturally regenerated forest	Forest predominantly composed of trees established through natural regeneration.
Naturalized introduced species	Other naturally regenerated forest where the tree species are predominantly non-native and do not need human help to reproduce/maintain populations over time.
Introduced species	A species, subspecies or lower taxon occurring outside its natural range (past or present) and dispersal potential (i.e. outside the range it occupies naturally or could occupy without direct or indirect introduction or care by humans).
Category	Definition
Primary forest	Naturally regenerated forest of native species where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed.
Other naturally regenerated forest	Naturally regenerated forest where there are clearly visible indications of human activities.
...of which of introduced species ( <i>sub-category</i> )	Other naturally regenerated forest where the trees are predominantly of introduced species.
...of which naturalized ( <i>sub-sub category</i> )	Other naturally regenerated forest where the trees are predominantly of naturalized introduced species.
Planted forest	Forest predominantly composed of trees established through planting and/or deliberate seeding.
...of which of introduced species ( <i>sub-category</i> )	Planted forest where the planted/seeded trees are predominantly of introduced species.
Mangroves	Area of forest and other wooded land with mangrove vegetation.
...of which planted ( <i>sub-category</i> )	Mangroves predominantly composed of trees established through planting.

### 2.2 National data

#### 2.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Natural England, 2013. English Ancient Woodland map. UK.	Other naturally regenerated	2013	Excluding Plantations on Ancient Woodland Sites (PAWS).

2	Forestry Commission Wales, 2011. Welsh Ancient Woodland map. UK.	Other naturally regenerated	2011	
3	Forestry Commission Scotland, 2014. Native Woodland Survey of Scotland. UK.	Other naturally regenerated	1999	From Scottish Ancient Woodland map, produced by Scottish Natural Heritage, 1999.
4	Forestry Commission, 2013. National Forest Inventory map 2012. UK.	Forest	2012	Great Britain

## 2.2.2 Classification and definitions

National class	Definition
Ancient woodland	Woodland that has been in continuous existence since 1600 (1750 in Scotland).
Semi-natural woodland	Woodland with natural characteristics (predominantly native species of trees, ground plants and animals) where wood production is not a primary objective; this term is used rather than natural because the woodland may have originally been planted or have been managed for wood production in the past.
Ancient semi-natural woodland (ASNW)	Woodland that is both ancient and semi-natural.

## 2.2.3 Original data

GIS analysis of National Forest Inventory map (ref 4) and map of Ancient Semi-Natural Woodlands (refs 1 and 2) gives the following estimates of Ancient Semi-Natural Woodland area that is consistent with NFI definition of woodland:

England = 213 thousand hectares; and

Wales = 42 thousand hectares.

Native Woodland Survey of Scotland report (ref 3) reports area of Ancient Semi-Natural Woodlands from Scottish Ancient Woodland Inventory (1999) of 89 thousand hectares.

There is assumed to be no Ancient Semi-Natural Woodlands in Northern Ireland, so UK estimate is 344 thousand hectares.

## 2.3 Analysis and processing of national data

## 2.3.1 Adjustment

No adjustment required.

## 2.3.2 Estimation and forecasting

There is assumed to be no primary forest in the UK.

The area of Ancient Semi-Natural Woodland has been used as a proxy measure for the area of other naturally regenerated forest.

The area of planted forest is calculated as a residual (total forest from table 1a less estimated other naturally regenerated forest).

Data on introduced species with forest types are not currently available.

There are no mangroves in the UK.

## 2.3.3 Reclassification

No further reclassification required.

## 2.4 Data

Table 2a







Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Primary forest	0	0	0	0	0
	Other naturally regenerated forest	N/A	N/A	N/A	344	N/A
	... of which of introduced species	N/A	N/A	N/A	N/A	N/A
	... of which naturalized	N/A	N/A	N/A	N/A	N/A
	Planted forest	N/A	N/A	N/A	2716	N/A
	... of which of introduced species	N/A	N/A	N/A	N/A	N/A
TOTAL					3060.0	

Table 2b

Primary forest converted to (000 ha)								
1990-2000			2000-2010			2010-2015		
Other natural regeneration	Planted	Other land	Other natural regeneration	Planted	Other land	Other natural regeneration	Planted	Other land
0	0	0	0	0	0	0	0	0

Table 2c

Categories	Area (000 hectares)				
	1990	2000	2005	2010	2015
Mangroves (forest and OWL)	0	0	0	0	0
... of which planted	0	0	0	0	0

## Tiers

Category	Tier for status	Tier for reported trend
Primary forest	Tier 1	Tier 1
Other naturally regenerated forest	Tier 2	Tier 1
Planted forest	Tier 2	Tier 1
Mangroves	Tier 1	Tier 1

## Tier Criteria

Category	Tier for status	Tier for reported trend
Primary forest/Other naturally regenerated forest/Planted forest	<p><b>Tier 3</b> : Data sources: Recent (less than 10 years) National Forest Inventory or remote sensing with ground truthing or data provided by official agencies or programme for repeated compatible NFIs</p> <p><b>Tier 2</b> : Data sources: Full cover mapping/ remote sensing or old NFI (more than 10 years)</p> <p><b>Tier 1</b> : Other</p>	<p><b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status)</p> <p><b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status)</p> <p><b>Tier 1</b> : Other</p>

## 2.5 Comments

Category	Comments related to data definitions etc	Comments on reported trend
Primary forest	There is assumed to be no primary forest in the UK.	

Other naturally regenerating forest	Estimate is based on the area of ancient semi-natural woodland (ASNW). This is likely to under-estimate the area of other naturally regenerated forest, as some other woodlands may also be naturally regenerated. This differs from the approach used for FRA 2010, where 23% of the total UK woodland area was assumed to be naturally regenerated.	Time series estimates not currently available.
Planted forest	Estimate calculated as a residual.	Time series estimates not currently available.
Mangroves	There are no mangroves in the UK.	

#### Other general comments to the table

It is difficult to provide an objective measure of the naturally regenerated v planted areas, particularly given that most UK woodlands are of plantation origin. An alternative approach might be to use the area of broadleaved woodland as a proxy for the area of naturally regenerated forest, but this is likely to be an over-estimate.



### 3. What are the stocks and growth rates of the forests and how have they changed?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

#### 3.1 Categories and definitions

Category	Definition
Growing stock	Volume over bark of all living trees with a minimum diameter of 10 cm at breast height (or above buttress if these are higher). Includes the stem from ground level up to a top diameter of 0 cm, excluding branches.
Net Annual Increment (NAI)	Average annual volume of gross increment over the given reference period less that of natural losses on all trees, measured to minimum diameters as defined for "Growing stock".
Above-ground biomass	All living biomass above the soil including stem stump branches bark seeds and foliage.
Below-ground biomass	All biomass of live roots. Fine roots of less than 2 mm diameter are excluded because these often cannot be distinguished empirically from soil organic matter or litter.
Dead wood	All non-living woody biomass not contained in the litter either standing lying on the ground or in the soil. Dead wood includes wood lying on the surface dead roots and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country.
Carbon in above-ground biomass	Carbon in all living biomass above the soil including stem stump branches bark seeds and foliage.
Carbon in below-ground biomass	Carbon in all biomass of live roots. Fine roots of less than 2 mm diameter are excluded because these often cannot be distinguished empirically from soil organic matter or litter.
Carbon in dead wood	Carbon in all non-living woody biomass not contained in the litter, either standing, lying on the ground, or in the soil. Dead wood includes wood lying on the surface, dead roots and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country.
Carbon in litter	Carbon in all non-living biomass with a diameter less than the minimum diameter for dead wood (e.g. 10 cm ) lying dead in various states of decomposition above the mineral or organic soil.
Soil carbon	Organic carbon in mineral and organic soils (including peat) to a soil depth of 30 cm.

#### 3.2 National data

##### 3.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments

1	Forestry Commission. National Forest Inventory: analysis of species and age classes, December 2012.	Coniferous growing stock	2011	Estimate for forest only.
2	Forestry Commission, 2012. NFI preliminary estimates of quantities of broadleaved species in British woodlands, with special focus on Ash. UK.	Broadleaved growing stock	2011	Estimate for forest only
3	Forestry Commission, 1987. Census of Woodlands & Trees 1979-82 (FC Bulletin 63 by GML Locke). UK.	Growing stock, area	1980	Data for 1980, to estimate 1990 by interpolation.
4	UK data for Forest Resources Assessment 2010	Growing stock	1990-2010	Estimates for Northern Ireland.
5	Forestry Commission, 2013. Joint Forest Sector Questionnaire returns to international organisations. UK.	Total roundwood production	1990-2012	Based on final submission (September 2013), with revisions to earlier years for consistent time series.
6	Forestry Commission, 2013. Forestry Statistics 2013 (and supporting data). UK.	Various	All	Woodland area (as for table 1) and breakdowns by conifers/ broadleaves and by country within the UK.
7	Forestry Commission, 2014. NFI report: Biomass in live woodland trees in Britain. UK.	Above ground, below ground biomass	2011	Estimates for Great Britain.
8	Levy, PE, Hale, SE, Nicoll, BS, 2004. Biomass expansion factors and root: shoot ratios for coniferous tree species in Great Britain. UK.	Above-ground, below-ground		
9	Gilbert, J, 2007. National Inventory of Woodland and Trees 1995-1999: Analysis of Management and Biodiversity Data. UK.	Deadwood		
10	Forestry Commission, 2014. NFI report: Carbon in live woodland trees in Britain. UK.	Above-ground, below-ground carbon	2011	Estimates for Great Britain.

11	Morison, J et al, 2012. Understanding the Carbon and GHG balance of UK Forests. UK.	Soil carbon		
12	Bradley, RI, Milne, R, Bell, J, Lilly, A, Jordan, C, Higgins, A, 2005. A soil carbon and landuse database for the UK. UK.	Soil carbon		

### 3.2.2 Classification and definitions

National class	Definition
Standing volume	Live stemwood and useable branchwood (to 7cm top diameter and at least 3m in length).
Great Britain	England, Wales and Scotland. Excludes Northern Ireland.
Country	Constituent nations within the UK: England, Wales, Scotland and Northern Ireland.
Woodland area	As forest in FRA, but with 20% canopy cover threshold, rather than 10%.

### 3.2.3 Original data

#### Growing stock:

Forest inventory reports (refs 1, 2 and 3) provide standing volume estimates for 1980 and for 2011:

Category	Volume (million m3 ob)	
	1980	2011
Coniferous standing volume in GB	106	345
Broadleaved standing volume in GB	91	240

The same sources also provide the following species breakdowns:

1980 census (ref 3):

million m3 overbark standing

Species		Total
Conifers		
	Scots pine	28
	Corsican pine	6
	Lodgepole pine	3
	Sitka spruce	28
	Norway spruce	13
	European larch	6
	Jap./Hybrid larch	12
	Douglas fir	6
	Other conifers	2
	Mixed conifers	3
	Total conifers	106
Broadleaves		
	Oak	33
	Beech	15
	Sycamore	8
	Ash	10
	Birch	6
	Poplar	1
	Sweet chestnut	2
	Elm	2
	Other broadleaves	4
	Mixed broadleaves	9
	Total broadleaves	91
Total		197

## National Forest Inventory (refs 1 &amp; 2):

million m3 overbark standing

Species		Total
Conifers		
	Sitka spruce	175
	Scots pine	51
	Corsican pine	12
	Norway spruce	20
	Larches	37
	Douglas fir	16
	Lodgepole pine	18
	Other conifers	15
	Total conifers	345
Broadleaves		
	Oak	73
	Beech	34
	Sycamore	26
	Ash	34
	Birch	21
	Sweet chestnut	8
	Hazel	6
	Hawthorn	3
	Alder	10
	Willow	4
	Other broadleaves	21
	Total broadleaves	240

Estimates for Northern Ireland, as used in FRA 2010 (ref 4) are:

million m3 overbark standing

Common Name	1990	2000	2005	2010
Sitka Spruce	3.0	5.0	5.7	6.5
Scots Pine	0.9	0.6	0.7	0.7
Larch	0.4	0.3	0.3	0.3
Lodgepole Pine	0.1	0.2	0.3	0.3
Norway Spruce	0.6	0.6	0.6	0.5
Douglas Fir	0.2	0.1	0.1	0.2
Corsican Pine	0.0	0.0	0.0	0.0
Other conifers	0.2	0.2	0.2	0.2
Total conifers	5.5	7.2	7.9	8.7
Oak	0.4	0.3	0.3	0.4
Beech	0.1	0.1	0.1	0.1
Birch	0.2	0.1	0.2	0.2
Ash	0.1	0.1	0.1	0.1
Sycamore	0.1	0.1	0.1	0.1
Other broadleaves	0.3	0.2	0.2	0.2
Total broadleaves	1.2	1.0	1.0	1.1
TOTAL by species	6.7	8.1	8.9	9.8

**Increment:**

5 year averages from Joint Forest Sector Questionnaire (ref 5):

thousand m3 underbark

	1988 to 1992	1998 to 2002	2003 to 2007	2008 to 2012

Coniferous roundwood	5296	7189	8025	8929
Non-coniferous roundwood	1023	577	446	451
Total roundwood	6320	7766	8471	9380

UK woodland areas (from Table 1 and ref 6), with conifer/ broadleaf breakdown:

thousand hectares

	1990	2000	2005	2010	2015
Conifers	1539	1624	1642	1648	1668
Broadleaves	1240	1330	1379	1412	1477
Total	2778	2954	3021	3059	3144

### **Biomass:**

NFI biomass report (ref 7) gives:

- Conifers = 218.331 million oven-dry tonnes
- Broadleaves = 207.915 million oven-dry tonnes

for above- and below-ground biomass in Great Britain in 2011.

Levy et al (2004) (ref 8) gives:

- a root to shoot ratio of below ground biomass = 0.36 \* above ground biomass.

Gilbert (2007) (ref 9) provides estimates of deadwood volumes per hectare:

- England = 4.0 m<sup>3</sup> per hectare;
- Wales = 1.0 m<sup>3</sup> per hectare;
- Scotland = 4.4 m<sup>3</sup> per hectare and
- Total (Great Britain) = 3.9 m<sup>3</sup> per hectare.

**Carbon:**

NFI carbon report (ref 10) gives:

- Conifers = 109.165 million tonnes of carbon
- Broadleaves = 103.957 million tonnes of carbon

in above- and below-ground biomass in Great Britain in 2011.

Morison et al (2012) (ref 11) provides estimates of the average carbon content in litter and fermentation from biosoil plots of:

- 56.3 tonnes CO<sub>2</sub> per hectare for conifers and
- 63.1 tonnes CO<sub>2</sub> per hectare for broadleaves.

This source also provides estimates of the carbon content of soil 0-100cm of:

- England = 659 tonnes CO<sub>2</sub> per hectare;
- Wales = 704 tonnes CO<sub>2</sub> per hectare and
- Scotland = 1,060 tonnes CO<sub>2</sub> per hectare.

Earlier estimates, provided in Bradley et al (2005) (ref 12) were:

- England = 623 tonnes CO<sub>2</sub> per hectare;
- Wales = 733 tonnes CO<sub>2</sub> per hectare;
- Scotland = 1,210 tonnes CO<sub>2</sub> per hectare and
- Northern Ireland = 1,357 CO<sub>2</sub> per hectare.

UK woodland areas (from Table 1 and ref 6), with country breakdown:

thousand hectares

	1990	2000	2005	2010	2015
England	1205	1252	1277	1290	1305
Wales	295	300	302	303	306
Scotland	1204	1320	1358	1378	1421
Northern Ireland	74	83	85	88	112
Total	2778	2954	3021	3059	3144



### 3.3 Analysis and processing of national data

#### 3.3.1 Adjustment

##### Growing stock:

Great Britain standing volumes from 1980 census are adjusted to National Forest Inventory (NFI) basis, using scaling factor for woodland areas (obtained from comparison between 1980 areas from census and estimated 1980 areas from rolling back NFI area estimates).

Comparison of 1980 woodland areas: 1980 census v NFI-based estimates

	Original (1980 census)	Revised (NFI based)	Scaling factor (Revised / Original)
GB woodland area (thousand ha)	2,108	2,472	1.17
Mainly coniferous	1,357	1,223	0.90
Mainly broadleaved	752	1,249	1.66
GB standing volumes (million m3 obs)			
Coniferous	106	96	
Broadleaved	91	151	

#### 3.3.2 Estimation and forecasting

##### Growing stock:

1980 species breakdown combined as necessary for 2011 species breakdown, and adjusted for change in area between 1980 census and NFI-based estimated area in 1980.

NFI estimates for 2011 used as 2010 estimates, and average annual change between 1980 and 2010 calculated.

million m3 overbark standing

Species	1980 revised	2011	Average annual change
GB Conifers			
Sitka spruce	25	175	5.0

	Scots pine	25	51	0.9
	Corsican pine	5	12	0.2
	Norway spruce	12	20	0.3
	Larches	16	37	0.7
	Douglas fir	5	16	0.3
	Lodgepole pine	2	18	0.5
	Other conifers	5	15	0.3
	Total conifers	96	345	8.3
GB Broadleaves				
	Oak	55	73	0.6
	Beech	25	34	0.3
	Sycamore	13	26	0.4
	Ash	17	34	0.6
	Birch	10	21	0.4
	Sweet chestnut	4	8	0.1
	Other broadleaves	27	44	0.6
	Total broadleaves	151	240	2.9

Average annual change applied to 1980 and 2010 estimates to interpolate for other years:

million m<sup>3</sup> overbark standing

Species		1980	1990	2000	2005	2010	2015
GB Conifers							
	Sitka spruce	25	75	125	150	175	
	Scots pine	25	34	42	47	51	
	Corsican pine	5	8	10	11	12	

	Norway spruce	12	15	17	19	20	
	Larches	16	23	30	33	37	
	Douglas fir	5	9	12	14	16	
	Lodgepole pine	2	8	13	16	18	
	Other conifers	5	8	12	13	15	
	Total conifers	96	179	262	303	345	386
GB Broadleaves							
	Oak	55	61	67	70	73	
	Beech	25	28	31	32	34	
	Sycamore	13	18	22	24	26	
	Ash	17	23	28	31	34	
	Birch	10	14	18	20	21	
	Sweet chestnut	4	5	6	7	8	
	Other broadleaves	27	33	39	41	44	
	Total broadleaves	151	181	210	225	240	254

2015 estimates for total conifers and total broadleaves in Northern Ireland produced by assuming change in growing stock from 2010 to 2015 is the same as 2005 to 2010:

million m3 overbark standing

NI volumes	1980	1990	2000	2005	2010	2015
Total conifers	3.8	5.5	7.2	7.9	8.7	9.6
Total broadleaves	1.5	1.2	1.0	1.0	1.1	1.1
Total	5.3	6.7	8.1	8.9	9.8	10.7

Add Great Britain and Northern Ireland growing stock estimates to get UK figures.

**Increment:**

Use growing stock volumes to estimate average annual changes:

million m3 overbark standing per year

	1980 to 1990	1990 to 2000	2000 to 2005	2005 to 2010	2010 to 2015
Conifers	8.5	8.5	8.5	8.5	8.5
Broadleaves	2.9	2.9	3.0	3.0	3.0
Total	11.4	11.4	11.4	11.4	11.4

Use conversion factors of 1.244 (softwood) and 1.270 (hardwood) to convert removals data from underbark to standing volumes to get estimate of loss in growing stock resulting from removals, and assume 2015 removals is at similar level to 2010:

million m3 overbark standing per year

	1990	2000	2005	2010	2015
Conifers	6.6	8.9	10.0	11.1	11.1
Broadleaves	1.3	0.7	0.6	0.6	0.6
Total	7.9	9.7	10.5	11.7	11.7

Add removals data to average annual changes in growing stock volumes to get estimates of total average annual growth:

million m3 overbark standing per year

	1990	2000	2005	2010	2015
Conifers	15.1	17.4	18.4	19.6	19.6
Broadleaves	4.2	3.7	3.5	3.5	3.5
Total	19.3	21.1	22.0	23.1	23.1

Divide by area to get estimated net increment per hectare.

**Biomass:**

Uprate Great Britain living biomass estimates to UK data using GB:UK ratio for volumes in 2010.

	Uprating factor	UK total biomass (million odt)
Conifers	1.025	224
Broadleaves	1.004	209
Total		433

Use Levy et al (ref 8) to allocate UK 2010 biomass estimates to above- and below-ground:

Above-ground biomass = total (above- and below-ground) / 1.36

	Million odt
Above-ground	318
Below-ground	115
Total living biomass	433

Use ratio of biomass to volume to estimate time series.

Assume Northern Ireland deadwood levels are as Great Britain estimates, to give UK estimate of 3.9 m<sup>3</sup> per hectare.

Convert deadwood estimates from m<sup>3</sup> per hectare to tonnes per hectare using a factor of 0.45 tonnes per m<sup>3</sup>.

UK deadwood = 1.755 tonnes per hectare.

In the absence of any other data, assume deadwood levels are constant over time and apply woodland areas (from Table 1) to deadwood rate to give time series estimates of total deadwood.

**Carbon:**

Uprate Great Britain carbon in living biomass estimates to UK data using GB:UK ratio for volumes in 2010.

	Uprating factor	UK total carbon in living biomass (million tC)
Conifers	1.025	111.934
Broadleaves	1.004	104.422
Total		216.356

Use Levy et al (ref 8) to allocate UK 2010 carbon in living biomass estimates to above- and below-ground:

Above-ground carbon = total (above- and below-ground) / 1.36

	million tonnes C
Above-ground	159
Below-ground	57
Total living biomass	216

Use ratio of carbon in living biomass to volume to estimate time series.

Estimate carbon in deadwood using factor of 0.5.

Average CO<sub>2</sub> contents for litter are converted to average carbon content using a factor of 12/44 to give estimates of total carbon content in litter:

	tC/ha
Conifers	15.4
Broadleaves	17.2

These averages are then applied to areas of UK forest (from Table 1) to give estimates of total carbon content in litter:

million tonnes Carbon

	1990	2000	2005	2010	2015

Conifers	23.6	24.9	25.2	25.3	25.6
Broadleaves	21.3	22.9	23.7	24.3	25.4
Total	45.0	47.8	48.9	49.6	51.0

Northern Ireland soil carbon estimates from Bradley et al (2005) (ref 12) are updated using ratio of change for Scotland between previous (ref 12) and latest (ref 11) data sources:

- Revised Northern Ireland estimate = Previous Northern Ireland estimate \* Revised Scotland estimate / Previous Scotland estimate
- = 1357 \* 1060 / 1210 = 1189 tonnes CO<sub>2</sub> per hectare.

Average CO<sub>2</sub> contents for soil are converted to average carbon content using a factor of 12/44.

	tC/ha
England	179.7
Wales	192.0
Scotland	289.1
Northern Ireland	324.2

Average soil carbon content figures are applied to woodland area figures for England, Wales, Scotland and Northern Ireland to give estimates of soil carbon in UK forests that is consistent with forest area estimates reported in Table 1.

million tonnes Carbon

	1990	2000	2005	2010	2015
England	216.5	224.9	229.5	231.8	234.6
Wales	56.7	57.6	57.9	58.2	58.8
Scotland	348.2	381.5	392.5	398.5	410.8
Northern Ireland	24.0	26.9	27.6	28.5	36.2
Total	645.4	690.9	707.5	717.0	740.4

### 3.3.3 Reclassification

No reclassification required.

### 3.4 Data

Table 3a




Category		Growing stock volume (million m <sup>3</sup> over bark)									
		Forest					Other wooded land				
		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
	Total growing stock	366	480	537	595	652	N/A	N/A	N/A	N/A	N/A
	... of which coniferous	184	269	311	354	396	N/A	N/A	N/A	N/A	N/A
	... of which broadleaved	182	211	226	241	256	N/A	N/A	N/A	N/A	N/A

Table 3b

Category/Species name			Growing stock in forest (million cubic meters)			
Rank	Scientific name	Common name	1990	2000	2005	2010
1 st	<i>Picea sitchensis</i>	Sitka spruce	78	130	156	182
2 nd	<i>Quercus robur/ Q petraea</i>	Oak	61	67	70	73
3 rd	<i>Pinus sylvestris</i>	Scots pine	35	43	47	52
4 th	<i>Larix spp</i>	Larches	23	30	34	37
5 th	<i>Fraxinus excelsior</i>	Ash	23	28	31	34
6 th	<i>Fagus sylvatica</i>	Beech	28	31	32	34
7 th	<i>Acer pseudoplatanus</i>	Sycamore	18	22	24	26
8 th	<i>Betula pubescens/ B pendula</i>	Birch	14	18	20	22
9 th	<i>Picea abies</i>	Norway spruce	15	18	19	21
10 th	<i>Pinus contorta</i>	Lodgepole pine	8	13	16	19



Remaining			64	79	87	96
TOTAL			367.0	479.0	536.0	564.0

**THE PRE-FILLED VALUES FOR GROWING STOCK REFER TO THE FOLLOWING THRESHOLD VALUES (SEE TABLE BELOW)**

Item	Value	Complementary information
Minimum diameter (cm) at breast height of trees included in growing stock (X)	7	
Minimum diameter (cm) at the top end of stem for calculation of growing stock (Y)	7	
Minimum diameter (cm) of branches included in growing stock (W)	7	Minimum 3m length
Volume refers to above ground (AG) or above stump (AS)	AG	

**PLEASE NOTE THAT THE DEFINITION OF GROWING STOCK HAS CHANGED AND SHOULD BE REPORTED AS GROWING STOCK DBH 10 CM INCLUDING THE STEM FROM GROUND LEVEL UP TO A DIAMETER OF 0 CM, EXCLUDING BRANCHES.**

Table 3c






Category		Net annual increment (m <sup>3</sup> per hectare and year)				
		Forest				
		1990	2000	2005	2010	2015
	Net annual increment	6.9	7.1	7.3	7.6	7.4
	... of which coniferous	9.8	10.7	11.2	11.9	11.7
	... of which broadleaved	3.4	2.7	2.6	2.5	2.4

Table 3d

Category		Biomass (million metric tonnes oven-dry weight)									
		Forest					Other wooded land				
		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
	Above ground biomass	196	257	288	318	349	N/A	N/A	N/A	N/A	N/A
	Below ground biomass	71	93	104	115	126	N/A	N/A	N/A	N/A	N/A









	Dead wood	5	5	5	5	6	N/A	N/A	N/A	N/A	N/A
TOTAL		272.0	355.0	397.0	438.0	481.0					

Table 3e

Category		Carbon (Million metric tonnes)									
		Forest					Other wooded land				
		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
	Carbon in above ground biomass	98	129	144	159	174	N/A	N/A	N/A	N/A	N/A
	Carbon in below ground biomass	35	46	52	57	63	N/A	N/A	N/A	N/A	N/A
	<i>Subtotal Living biomass</i>	133	175	196	216	237	N/A	N/A	N/A	N/A	N/A
	Carbon in dead wood	2	3	3	3	3	N/A	N/A	N/A	N/A	N/A
	Carbon in litter	45	48	49	50	51	N/A	N/A	N/A	N/A	N/A
	<i>Subtotal Dead wood and litter</i>	47	50	52	52	54	N/A	N/A	N/A	N/A	N/A
	Soil carbon	645	691	708	717	740	N/A	N/A	N/A	N/A	N/A
TOTAL		825.0	916.0	956.0	985.0	1031.0					

## Tiers

Variable/category	Tier for status	Tier for trend
Total growing stock	Tier 3	Tier 2
Net annual increment	Tier 1	Tier 1
Above ground biomass	Tier 3	Tier 2
Below ground biomass	Tier 3	Tier 2
Dead wood	Tier 1	Tier 1
Carbon in above-ground biomass	Tier 3	Tier 2

Carbon in below ground biomass	Tier 3	Tier 2
Carbon in dead wood and litter	Tier 3	Tier 2
Soil carbon	Tier 3	Tier 2

## Tier criteria

Category	Tier for status	Tier for reported trend
Total growing stock	Tier 3: Data sources Recent 10 years National Forest Inventory or remote sensing with ground truthing or programme for repeated compatible NFI 10 years Domestic volume functions Tier 2: Data sources/registers and statistics modelling or old NFI 10 years or partial field inventory Tier 1: Other data sources	Tier 3: Estimate based on repeated compatible tiers 3 (tier for status) Domestic growth functions Tier 2: Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 tier for status Tier 1: Other
Net annual increment	Tier 3: Scientifically tested national volume and growth functions Tier 2: Selection of volume and growth functions as relevant as possible Tier 1: Other	Tier 3: Confirmation/adjustment of functions used through scientific work Tier 2: Review work done to seek alternative functions Tier: 1 Other
Biomass	Tier 3: Country-specific national or sub-national biomass conversion expansion factors applied or other domestic or otherwise nationally relevant biomass studies Tier 2: Application of country specific national or sub-national biomass conversion factors from other country with similar climatic conditions and forest types Tier 1: International/regional default biomass expansion factors applied	<b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other
<ul style="list-style-type: none"> <li>• Carbon in above ground biomass</li> <li>• Carbon in below ground biomass</li> <li>• Carbon in dead wood and litter</li> <li>• Soil carbon</li> </ul>	Tier 3: Country-specific national or sub-national biomass conversion expansion factors applied Tier 2: Application of country specific national or sub-national biomass conversion factors form from other country with similar climatic conditions and forest types Tier 1: International/regional default biomass expansion factors applied	<b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other

## 3.5 Comments on growing stock biomass and carbon

Category	Comments related to data definitions etc	Comments on the reported trend
Total growing stock	2010 data for Great Britain are 2011 estimates based on the current National Forest Inventory.	Time series assumes constant growth. Estimates for earlier years have been revised from previous FRA submissions to produce a consistent time series.

Growing stock of broadleaved coniferous	2010 data for Great Britain are 2011 estimates based on the current National Forest Inventory.	Time series assumes constant growth. Estimates for earlier years have been revised from previous FRA submissions to produce a consistent time series.
Growing stock composition	Species shown are main species from current National Forest Inventory.	Time series assumes constant growth. Estimates for earlier years have been revised from previous FRA submissions to produce a consistent time series.
Net annual increment	Derived from changes in growing stock estimates and removals.	Time series based on trends in growing stock and roundwood production.
Above-ground biomass	2010 data for Great Britain are 2011 estimates based on the current National Forest Inventory.	Time series based on growing stock trend.
Below-ground biomass	2010 data for Great Britain are 2011 estimates based on the current National Forest Inventory.	Time series based on growing stock trend.
Dead wood	No new estimates of average deadwood per hectare are available at present.	
Carbon in above-ground biomass	2010 data for Great Britain are 2011 estimates based on the current National Forest Inventory.	Time series based on growing stock trend.
Carbon in below-ground biomass	2010 data for Great Britain are 2011 estimates based on the current National Forest Inventory.	Time series based on growing stock trend.
Carbon in dead wood		
Carbon in litter		
Soil carbon		

#### Other general comments to the table

Figures are not available for other wooded land. Estimates for previous years have been revised from those submitted in FRA 2010 to reflect new data sources and revisions to produce consistent time series. Shrubs/ bushes within the forest have been excluded, as there are currently no reliable estimates available.

## 4. What is the status of forest production and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 4.1 Categories and definitions

Term	Definition
Primary designated function	The primary function or management objective assigned to a management unit either by legal prescription documented decision of the landowner/manager or evidence provided by documented studies of forest management practices and customary use.
Non wood forest product (NWFP)	Goods derived from forests that are tangible and physical objects of biological origin other than wood.
Commercial value of NWFP	For the purpose of this table, value is defined as the commercial market value at the forest gate.
Category	Definition
Production forest	Forest area designated primarily for production of wood, fibre, bio-energy and/or non-wood forest products.
Multiple use forest	Forest area designated for more than one purpose and where none of these alone is considered as the predominant designated function.
Total wood removals	The total of industrial round wood removals and woodfuel removals.
...of which woodfuel	The wood removed for energy production purposes, regardless whether for industrial, commercial or domestic use.

### 4.2 National data

#### 4.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	UK data for FRA 2010	Christmas Trees	Various	Sales of Christmas Trees
2	British Christmas Tree Growers Association (personal communication, 2014)	Christmas Trees	Various	
3	Forestry Commission, 2013. Joint Forest Sector Questionnaire returns to international organisations (and supporting data). UK.	Total wood removals, woodfuel	1990-2012	Based on September 2013 submission, with revisions to earlier years for consistent time series
4				

## 4.2.2 Classification and definitions

National class	Definition
Christmas trees	All conifers sold as Christmas trees.
Deliveries	The quantity of UK-grown roundwood that is delivered to processors (mills) and other uses (such as woodfuel and exports).

## 4.2.3 Original data

UK data for FRA 2010 (ref 1) reported the estimated value of Christmas Tree sales to be £52 million. Correspondence with the British Christmas Tree Growers Association in 2014 (ref 2) suggests little change in sales.

UK data for Joint Forest Sector Questionnaire (ref 3):

thousand m3 underbark

Year	Roundwood	Of which, woodfuel
1994	7921	229
1995	8147	229
1996	7495	229
1997	7836	229
1998	7595	229
1999	7775	229
2000	7791	229
2001	7881	229
2002	7789	229
2003	8071	229
2004	8326	229

2005	8516	317
2006	8423	317
2007	9017	459
2008	8416	557
2009	8624	988
2010	9718	1381
2011	10020	1234
2012	10120	1332

### 4.3 Analysis and processing of national data

#### 4.3.1 Adjustment

No adjustment required.

#### 4.3.2 Estimation and forecasting

No estimation and forecasting required.

#### 4.3.3 Reclassification

No reclassification required.

### 4.4 Data

Table 4a



Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Production forest	N/A	N/A	N/A	N/A	N/A
	Multiple use forest	N/A	N/A	N/A	N/A	N/A

Table 4b

Rank	Name of product	Key species	Commercial value of NWFP removals 2010 (value 1000 local currency)	NWFP category
1 st	Christmas trees	Picea, Abies pinus	52000	6
2 nd	n.a.	n.a.	N/A	N/A
3 rd	n.a.	n.a.	N/A	N/A
4 th	n.a.	n.a.	N/A	N/A
5 th	n.a.	n.a.	N/A	N/A
6 th	n.a.	n.a.	N/A	N/A
7 th	n.a.	n.a.	N/A	N/A
8 th	n.a.	n.a.	N/A	N/A
9 th	n.a.	n.a.	N/A	N/A
10 th	n.a.	n.a.	N/A	N/A
TOTAL				

2010	
Name of local currency	GBP

Category
<b>Plant products / raw material</b>
1 Food
2 Fodder
3 Raw material for medicine and aromatic products
4 Raw material for colorants and dyes
5 Raw material for utensils handicrafts construction
6 Ornamental plants
7 Exudates
8 Other plant products
<b>Animal products / raw material</b>



9 Living animals
10 Hides skins and trophies
11 Wild honey and beeswax
12 Wild meat
13 Raw material for medicine
14 Raw material for colorants
15 Other edible animal products
16 Other non-edible animal products

Table 4c Pre-filled data from FAOSTAT

Year	FRA 2015 category (1000 m <sup>3</sup> u.b.)	
	Total wood removals	...of which woodfuel
1990	6350	225
1991	6372	250
1992	6408	225
1993	6711	230
1994	7921	229
1995	8147	229
1996	7495	229
1997	7836	229
1998	7595	229
1999	7775	229
2000	7791	229
2001	7881	229
2002	7789	229
2003	8071	229
2004	8326	229
2005	8516	317

2006	8423	317
2007	9017	459
2008	8416	557
2009	8624	988
2010	9718	1381
2011	10020	1234

#### 4.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Production forest		
Multiple use forest		
Total wood removals		Data for earlier years have been revised to provide a consistent time series.
Commercial value of NWFP		

#### Other general comments to the table

No reliable data available for Table 4a. No comprehensive data currently available on non-wood forest products.

## 5. How much forest area is managed for protection of soil and water and ecosystem services?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 5.1 Categories and definitions

Category	Definition
Protection of soil and water	Forest area designated or managed for protection of soil and water
...of which production of clean water ( <i>sub-category</i> )	Forest area primarily designated or managed for water production, where most human uses are excluded or heavily modified to protect water quality.
...of which coastal stabilization ( <i>sub-category</i> )	Forest area primarily designated or managed for coastal stabilization.
...of which desertification control ( <i>sub-category</i> )	Forest area primarily designated or managed for desertification control.
...of which avalanche control ( <i>sub-category</i> )	Forest area primarily designated or managed to prevent the development or impact of avalanches on human life assets or infrastructure.
...of which erosion, flood protection or reducing flood risk ( <i>sub-category</i> )	Forest area primarily designated or managed for protecting communities or assets from the impacts of erosion riparian floods and landslides or for providing flood plain services.
...of which other ( <i>sub-category</i> )	Forest area primarily designated or managed for other protective functions.
Ecosystem services, cultural or spiritual values	Forest area primarily designated or managed for selected ecosystem services or cultural or spiritual values.
...of which public recreation ( <i>sub-category</i> )	Forest area designated or managed for public recreation.
...of which carbon storage or sequestration ( <i>sub-category</i> )	Forest area designated or managed for carbon storage or sequestration.
...of which spiritual or cultural services ( <i>sub-category</i> )	Forest area designated or managed for spiritual or cultural services.
...of which other ( <i>sub-category</i> )	Forest area designated or managed for other ecosystem services.

### 5.2 National data

#### 5.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Forestry Commission, 2013. Forestry Statistics 2013. UK.	Certified woodland area	2001-2013	From supporting time series data (figure 1.2)
2				

3				
4				

## 5.2.2 Classification and definitions

National class	Definition
Certified woodland area	Woodland area certified as sustainably managed.

## 5.2.3 Original data

Estimates of UK certified woodland area (from supporting data to Forestry Statistics 2013 (ref 1)):

thousand hectares

	Dec 2001	Mar 2005	Mar 2010	Mar 2013
UK certified woodland area	1061	1257	1347	1362

## 5.3 Analysis and processing of national data

### 5.3.1 Adjustment

No adjustment required.

### 5.3.2 Estimation and forecasting

The area of woodland certified as complying with the UK Forestry Standard is used as a proxy estimate for the area designated for protection of soil and water.

Certified woodland area data were first collected in December 2001, so this figure is used as an estimate for 2000 and the figure for 1990 is marked as not available.

The latest certified area (for 2013) is used as an estimate for 2015.

### 5.3.3 Reclassification

No reclassification required.

### 5.4 Data

Table 5a

Categories		Forest area (1000 hectares)				
		1990	2000	2005	2010	2015
CFRQ	Protection of soil and water	N/A	1061	1257	1347	1362
CFRQ	... of which production of clean water	N/A	N/A	N/A	N/A	N/A
CFRQ	... of which coastal stabilization	N/A	N/A	N/A	N/A	N/A
CFRQ	... of which desertification control	N/A	N/A	N/A	N/A	N/A
CFRQ	... of which avalanche control	N/A	N/A	N/A	N/A	N/A
CFRQ	... of which erosion, flood protection or reducing flood risk	N/A	N/A	N/A	N/A	N/A
CFRQ	... of which other (please specify in comments below the table)	N/A	N/A	N/A	N/A	N/A

Table 5b

Categories	Forest area (1000 hectares)				
	1990	2000	2005	2010	2015
Ecosystem services, cultural or spiritual values	N/A	N/A	N/A	N/A	N/A
...of which public recreation	N/A	N/A	N/A	N/A	N/A

...of which carbon storage or sequestration	N/A	N/A	N/A	N/A	N/A
...of which spiritual or cultural services	N/A	N/A	N/A	N/A	N/A
...of which other (please specify in comments below the table)	N/A	N/A	N/A	N/A	N/A

## Tiers

Category	Tier for reported trend	Tier for status
Protection of soil and water	Tier 1	Tier 1
Ecosystem services, cultural or spiritual values		

## Tier criteria

Category	Tier for status	Tier for reported trend
Protection of soil and water	Tier 3: High reliability data derived either from high intensity sample survey or data obtained from national or state agencies responsible for regulations or legislation relating to soil and water protection. Tier 2: Approaches based on low intensity or incomplete sample-based surveys or studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates. Tier 1: Other	<b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other
<ul style="list-style-type: none"> <li>Cultural or spiritual values</li> <li>Public recreation</li> <li>Spiritual or cultural services</li> <li>Other</li> </ul>	Tier 3: High reliability data derived either from high intensity sample survey or data obtained from national or state agencies responsible for regulations. Tier 2: Approaches based on low intensity or incomplete sample-based surveys or studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates. Tier 1: Other	<b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other

## 5.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
----------	--	--------------------------------

Protection of soil and water	As the UK Forestry Standard requires all woodland to be managed for the protection of soil and water, the area of woodland that is certified is used as a proxy measure. This estimate will include woodland where the protection of soil and water is not an issue, but will exclude other areas managed for the protection of soil and water that are not certified.	The trend reflects the trend in certified woodland area.
Production of clean water		
Coastal stabilization		
Desertification control		
Avalanche control		
Erosion, flood protection or reducing flood risk		
Other protective functions		
Ecosystem services, cultural or spiritual values		
Public recreation		
Carbon storage or sequestration		
Spiritual or cultural services		
Other ecosystem services		

**Other general comments to the table**

Data on protective functions and ecosystem services is generally unavailable at present.

## 6. How much forest area is protected and designated for the conservation of biodiversity and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 6.1 Categories and definitions

Category	Definition
Conservation of biodiversity	Forest area designated primarily for conservation of biological diversity. Includes but is not limited to areas designated for biodiversity conservation within the protected areas.
Forest area within protected areas	Forest area within formally established protected areas independently of the purpose for which the protected areas were established.

### 6.2 National data

#### 6.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Forestry Commission, 2013. National Forest Inventory map 2012. UK.	Forest	2012	Great Britain
2	Maps of designated areas	All	various	Sites of Special Scientific Interest, National Nature Reserves, Local Nature Reserves, Special Protection Areas and Special Areas of Conservation in Great Britain, produced by Natural England, Scottish Natural Heritage and Countryside Commission for Wales (now Natural Resources Wales)
3	Forest Service (personal communication, 2014)	All	2013	Northern Ireland. Data from the NI Woodland Register and Basemap 2013: <a href="http://www.dardni.gov.uk/index/forestry/the-forest-industry/woodland-register.htm">http://www.dardni.gov.uk/index/forestry/the-forest-industry/woodland-register.htm</a>
4				



## 6.2.2 Classification and definitions

National class	Definition
Woodland	As forest in FRA, but with canopy cover threshold of 20% (rather than 10%).

## 6.2.3 Original data

GIS analysis of National Forest Inventory map (ref 1) and maps of protected areas (ref 2) gives the following estimates of protected areas in Great Britain in areas that are defined as woodland (or forest):

- Sites of Special Scientific Interest (SSSI), excluding geological SSSIs = 245 thousand hectares
- Including National Nature Reserves (NNRs) gives an additional 13 thousand hectares
- Including Local Nature Reserves (LNRs) gives an additional 14 thousand hectares
- Including Special Protection Areas (SPAs) gives an additional 10 thousand hectares
- Including Special Areas of Conservation (SACs) gives an additional 4 thousand hectares

This gives a total protected area in Great Britain of 287 thousand hectares.

This estimate excludes SPAs in conifer woodlands in Scotland, where the designation is likely to be unrelated to the woodland.

A similar GIS analysis by Forest Service gives an estimate of 3.5 thousand hectares of woodland (or forest) in MCPFE Class 1 in Northern Ireland.

## 6.3 Analysis and processing of national data

### 6.3.1 Adjustment

No adjustment required.

### 6.3.2 Estimation and forecasting



Estimates for Great Britain and for Northern Ireland are added to provide UK estimate.

## 6.3.3 Reclassification

No further reclassification required.

### 6.4 Data

Table 6

Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Conservation of biodiversity	N/A	N/A	N/A	290	N/A
	Forest area within protected areas	N/A	N/A	N/A	290	N/A

#### Tiers

Category	Tier for status	Tier for reported trend
Conservation of biodiversity	Tier 3	Tier 1
Forest area within protected areas	Tier 3	Tier 1

#### Tier criteria

Category	Tier for status	Tier for reported trend
<ul style="list-style-type: none"> <li>Conservation of biodiversity</li> <li>Forests within protected areas</li> </ul>	<p>Tier 3: Data obtained from national or state agencies responsible for conservation and protected area or legislation relating to area protection.</p> <p>Tier 2: Studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates</p> <p>Tier 1 Other</p>	<p><b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status)</p> <p><b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status)</p> <p><b>Tier 1</b> : Other</p>

### 6.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Conservation of biodiversity	Estimated as forest area within protected areas.	Time series estimates not currently available.

<p>Forest area within protected areas</p>	<p>Estimate is based on GIS analysis of National Forest Inventory map (for GB) and NI Woodland Register (for NI) with maps of designated areas. This differs from the approach used in FRA 2010, where estimates were based on different data sources and a different interpretation of areas to include.</p>	<p>Time series estimates not currently available.</p>
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**Other general comments to the table**

The estimates reported here exclude woodland areas in SSSI's designated for geology (where the presence of woodland is not relevant to the designation). Special Protection Areas designated for species that are not dependent on woodland should also be excluded; this is mainly believed to be an issue for golden eagles in Scotland. SPAs in conifer woodland in Scotland have been excluded from the figures reported, to give a better estimate of woodland designated areas.

## 7. What is the area of forest affected by woody invasive species?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 7.1 Categories and definitions

Category	Definition
Invasive species	Species that are non-native to a particular ecosystem and whose introduction and spread cause, or are likely to cause, socio-cultural, economic or environmental harm or harm to human health.

### 7.5 Comments

Other general comments to the table
Data not expected to be available until later in 2014.

## 8. How much forest area is damaged each year?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 8.1 Categories and definitions

Category	Definition
Number of fires	Number of fires per year
Burned area	Area burned per year
Outbreaks of insects	A detectable reduction in forest health caused by a sudden increase in numbers of harmful insects.
Outbreaks of diseases	A detectable reduction in forest health caused by a sudden increase in numbers of harmful pathogens, such as bacteria, fungi, phytoplasma or virus.
Severe weather events	Damage caused severe weather events, such as snow, storm, drought, etc.


### 8.2 National data

#### 8.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	FAO (MODIS)	Total land area burned, forest area burned	2003 - 2012	
2	Forestry Commission/ Forest Research research and expert knowledge on pests and diseases	Outbreaks	All	Information is available on the Forestry Commission and Forest Research websites in various Information Notes, etc
3				
4				

### 8.4 Data

Table 8a

Category		000 ha, number of fires									
		2003		2004		2005		2006		2007	
		000 ha	#	000 ha	#	000 ha	#	000 ha	#	000 ha	#
	Total land area burned	11.6	N/A	0.3	N/A	1.5	N/A	0.8	N/A	8.7	N/A




	... of which forest area burned	2	N/A	0	N/A	0.2	N/A	0.3	N/A	1.2	N/A
Category		2008		2009		2010		2011		2012	
		000 ha	#	000 ha	#	000 ha	#	000 ha	#	000 ha	#
	Total land area burned	0.6	N/A	1	N/A	0.9	N/A	5.9	N/A	0.7	N/A
	... of which forest area burned	0.1	N/A	0.4	N/A	0.4	N/A	3	N/A	0.3	N/A

Table 8b

Outbreak category	Description/name	Year(s) of latest outbreak	Area damaged (000 hectares)
2	Phytophthora ramorum	2009	N/A
2	Chalara fraxinea (ash dieback)	2012	N/A
2	Phytophthora kernoviae	2004	N/A
2	Phytophthora lateralis	2010	N/A
2	Phytophthora disease of alder	1993	N/A
1	Anoplophora glabripennis (Asian long horn beetle)	2012	N/A
1	Oak processionary moth (Cameraria ohridella)	2006	N/A
2	Dothistroma needle blight (Dothistroma septosporum)	2007	N/A
1	Dutch elm disease (Ophiostoma ulmi)	1960s	N/A
1 & 2	Acute oak decline (AOD)	1980s	N/A

Outbreak category
1 Insects
2 Diseases
3 Severe weather events

Tiers

Category	Tier for status	Tier for trend
Area affected by fire	Tier 2	Tier 2
<ul style="list-style-type: none"> <li>Insects</li> <li>Diseases</li> <li>Severe weather events</li> </ul>	Tier 1	Tier 1

## Tier criteria

Category	Tier for status	Tier for reported trend
Burned area	<b>Tier 3</b> : National fire monitoring routines <b>Tier 2</b> : Remote sensing surveys <b>Tier 1</b> : Other	<b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other
<ul style="list-style-type: none"> <li>Insects</li> <li>Diseases</li> <li>Severe weather events</li> </ul>	<b>Tier 3</b> : Systematic survey (e.g. via inventory or aerial damage assessment) <b>Tier 2</b> : Management records <b>Tier 1</b> : Other	<b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other

## 8.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Burned area		
Insects	Estimates of areas affected are not directly available.	
Diseases	Estimates of areas affected are not directly available.	
Severe weather events		

## Other general comments to the table

Other insects/ diseases affecting UK trees are phytophthora austricedrae, horse chestnut leaf miner (cameraria ohridella), horse chestnut bleeding canker (pseudomonas syringae pathovar aesculi), great spruce bark beetle (dendroctonus micans), green spruce aphid (elatobium abietinum) and pine tree lappet moth (dendrolimus pini).

## 9. What is the forest area with reduced canopy cover?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

Category	Definition
Reduction in canopy cover	Forest that has undergone a reduction of canopy cover of more than 20% between the years 2000 and 2010 within the forest canopy cover range of 30-80% as detected by the MODIS VCF sensor.

Table 9

Category	Area of forest with reduced canopy cover (000 ha)
Reduction in canopy cover	N/A

## Other general comments

No reliable estimates are currently available.



## 10. What forest policy and regulatory framework exists to support implementation of sustainable forest management SFM?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 10.1 Categories and definitions

Category	Definition
Policies supporting sustainable forest management	Policies or strategies that explicitly encourage sustainable forest management.
Legislation and regulations supporting sustainable forest management	Legislation and regulations that govern and guide sustainable forest management, operations and use.

### 10.2 National data

#### 10.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Forestry Commission, 2011. UK Forestry Standard (rev 2011). UK.	Policies supporting sustainable forest management		
2	Defra, 2013. Government Forestry and Woodlands Policy Statement (January 2013). UK.	Policies supporting sustainable forest management		Relates to England only.
3	Forestry Commission Scotland, 2006. Scottish Forestry Strategy. UK.	Policies supporting sustainable forest management		Relates to Scotland only.
4	Welsh Assembly Government, 2009. Woodlands for Wales: the Welsh Assembly Government's strategy for woodlands and trees. UK.	Policies supporting sustainable forest management		Relates to Wales only.
5	Forest Service, 2006. Northern Ireland forestry. A strategy for sustainability and growth. UK.	Policies supporting sustainable forest management		Relates to Northern Ireland only.
6	Forestry Act 1967	Legislation and regulations supporting sustainable forest management		UK legislation

7	Plant Health Act 1967	Legislation and regulations supporting sustainable forest management		UK legislation
8	Grant scheme regulations in England, Scotland, Wales & Northern Ireland.	Legislation and regulations supporting sustainable forest management		Sub-UK regulations

### 10.3 Data

Table 10

Category				
	National	Sub-national		
		Regional	Provincial/State	Local
Policies supporting sustainable forest management	yes	yes	no	yes
... of which, in <u>publicly</u> owned forests	yes	yes	no	yes
... of which, in <u>privately</u> owned forests	yes	yes	no	yes
Legislation and regulations supporting sustainable forest management	yes	yes	no	no
... of which, in <u>publicly</u> owned forests	yes	yes	no	no
... of which, in <u>privately</u> owned forests	yes	yes	no	no

### 10.4 Comments

Variable / category	Comments related to data definitions etc
Policies supporting sustainable forest management	Forestry in UK is devolved, so most policies are at regional (England/ Wales/ Scotland/ Northern Ireland) level, underpinned by UK Forestry Standard and legislation/ regulations. Some policies also produced at a more local level, where appropriate.
Legislation and regulations supporting sustainable forest management	Legislation is at UK level, but this is generally implemented at regional (England/ Wales/ Scotland/ Northern Ireland) level.

## Other general comments

National level here has been interpreted to mean UK level, regional level here relates to country (i.e. England, Wales, Scotland, Northern Ireland) level. There is no equivalent provincial/ state level.

## 11. Is there a national platform that promotes stakeholder participation in forest policy development?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 11.1 Categories and definitions

Category	Definition
National stakeholder platform	A recognized procedure that a broad range of stakeholders can use to provide opinions, suggestions, analysis, recommendations and other input into the development of national forest policy.

### 11.2 National data

#### 11.2.1 Data sources

Table 11

Is there a national platform that promotes or allows for stakeholder participation in forest policy development?	no
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### 11.3 Comments

Category	Comments related to data definitions etc
National stakeholder platform	Most stakeholder participation is at regional (England/ Wales/ Scotland/ Northern Ireland) or local level. There are some examples of National Forestry Policy initiatives (e.g. Woodland Carbon Code, review of plant health, etc), but there is no overarching standing national platform. Stakeholder participation at UK level for input to UK Forest Standard (UKFS), but policy set by countries. UKFS sets approach of UK Government & sets standards; it is periodically reviewed.

## 12. What is the forest area intended to be in permanent forest land use and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 12.1 Categories and definitions

Category	Definition
Forest area intended to be in permanent forest land use	Forest area that is designated or expected to be retained as forest and is highly unlikely to be converted to other land use.
...of which permanent forest estate ( <i>sub-category</i> )	Forest area that is designated by law or regulation to be retained as forest and may not be converted to other land use.

### 12.2 National data

#### 12.2.2 Classification and definitions

National class	Definition
Woodland	As "forest" in FRA but with 20% canopy cover threshold (rather than 10%).



### 12.3 Analysis and processing of national data

#### 12.3.1 Adjustment

No adjustment required.
-------------------------

### 12.4 Data

Table 12

Categories		Forest area 2010 (000 ha)
	Forest area intended to be in permanent forest land use	3059
	... of which permanent forest estate	3059

Tiers

Category	Tier for status
----------	-----------------

Forest area intended to be in permanent forest land use	Tier 1
Permanent forest estate	Tier 1

### Tier Criteria

Category	Tier for status
Forest area intended to be in permanent forest land use	<p><b>Tier 3</b> : National or sub-national land use plans strategy documents or other reports within the past 10 years</p> <p><b>Tier 2</b> : National or sub-national land use plans strategy documents or other reports within the past 20 years</p> <p><b>Tier 1</b> : Other</p>
Permanent forest estate	<p><b>Tier 3</b> : National or sub-national land use plans strategy documents or other reports within the past 10 years</p> <p><b>Tier 2</b> : National or sub-national land use plans strategy documents or other reports within the past 20 years</p> <p><b>Tier 1</b> : Other</p>

### 12.5 Comments

Category	Comments related to data definitions etc
Forest area intended to be in permanent forest land use	All woodland areas in the UK have a considerable degree of protection under the law, and in general the granting of a felling licence is conditional on restocking. Conversion of woodland to another land use requires approval under appropriate procedures (e.g. planning, restoration of open habitats, etc). It is therefore assumed that all woodland in the UK is in permanent forest land use.
Permanent forest estate	As above, all woodland in the UK can also be considered to be permanent forest estate.

### 13. How does your country measure and report progress towards SFM at the national level?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

#### 13.1 Categories and definitions

Category	Definition
Forest area monitored under a national forest monitoring framework	Forest area monitored by a national monitoring framework or systems that provide measurement based periodic monitoring of forest extent and quality.
Forest reporting at national scale	National reporting of forest extent and characteristics that includes some measure of progress toward sustainable forest management.

#### 13.2 National data

##### 13.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Forestry Commission, 2013. National Forest Inventory. UK.	Forest inventory	2010 on	
2	Forestry Commission, 2013. Forestry Statistics 2013. UK.	Updates to other sources, other forest reporting	2013 & previous years	Annual data on a range of topics, including certification and planting.
3	Forestry Commission, 2010. Sustainable Forest Management Indicators 2010. UK.	Criteria and indicators reporting		Based on UK submission for 2011 pan-European Indicators of Sustainable Forest Management.
4				

#### 13.3 Data

Table 13a

Category	% of total forest area	Most recent year	Check all boxes that apply					
			Continuous	Periodic	Permanent ground plots	Temporary ground plots	Aerial/remote sensing sample based	Aerial/remote sensing full coverage
Forest inventory	100	2012	yes	no	yes	yes	no	yes
Other field assessments	N/A	n.a.	no	no	no	no	no	no

Updates to other sources	100	2013	no	yes	no	no	no	no
Expert estimate	N/A	n.a.						

Table 13b

Type of forest reporting used at national scale	Check boxes that apply
1 Criteria and Indicators reporting	yes
2 Periodic national state of the forest report	no
3 Other (please document)	yes
4 None	no

#### Other type of forest reporting

Annual statistics releases cover aspects of sustainable forest management (e.g. certification, new planting and restocking).

### 13.4 Comments

Category	Comments
Forest inventory	Full report of National Forest Inventory results, based on full data from 1st cycle, is due in 2015.

### Other general comments

The Forestry Commission are proposing to bring results from multiple sources together to inform monitoring of sustainable forest management, but this is not currently done at a UK level.

Annual reporting on indicators is produced at a sub-UK level (England/ Scotland/ Wales/ Northern Ireland).

## 14. What is the area of forest under a forest management plan and how is this monitored?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 14.1 Categories and definitions

Category	Definition
Forest area with management plan	Forest area that has a long-term documented management plan, aiming at defined management goals which is periodically revised
...of which for production ( <i>sub-category</i> )	Forest management plan mainly focused on production
...of which for conservation ( <i>sub-category</i> )	Forest management plan mainly focused on conservation
Monitoring of forest management plans	Government monitoring of forest management plan implementation conducted through field visits or audits of forest management plan performance

### 14.2 National data

#### 14.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Forestry Commission, 2013. Forestry Statistics 2013 (and supporting data). UK.	All	2010	Area owned/ managed by Forestry Commission/ Forest Service, certified woodland areas.
2				
3				
4				

### 14.3 Data

Table 14a

Forest plan type	Forest area 2010 (000 ha)
Forest area with management plan	1521
... of which for production	N/A
... of which for conservation	N/A

Table 14b

Indicate which (if any) of the following are required in forest management plans in your country
--



1 Soil and water management	yes
2 High conservation value forest delineation	yes
3 Social considerations community involvement	yes

Table 14c

<b>Percent of area under forest management plan that is monitored annually</b>	<b>89</b>
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## Tiers

Category	Tier for status
Forest area with management plan	Tier 1
Percent of area under forest management plan that is monitored annually	Tier 1

## Tier criteria

Category	Tier for status
Forest area with management plan	<p><b>Tier 3</b> : Reports that describe national records 5 years old or less that contain long-term forest monitoring plans</p> <p><b>Tier 2</b> : Industry or other records indicating the presence of a long-term forest management plan</p> <p><b>Tier 1</b> : Other</p>
Percent of area under forest management plan that is monitored annually	<p><b>Tier 3</b> : Government documentation of monitoring extent</p> <p><b>Tier 2</b> : Reports from forest managers or other documental sources</p> <p><b>Tier 1</b> : Other</p>

## 14.4 Comments

Category	Comments
Forest area with management plan	Information on main purpose is not available.
Monitoring of forest management plans	All of the areas listed in Table 14b are required to be included in management plans, where relevant.
Percent of area under forest management plan that is monitored annually	Management plans produced through certification process are monitored annually. Those not subject to certification are monitored by the Forestry Commission/ Forest Service on a less frequent basis.

## Other general comments

Estimate of area with management plan based on all FC/ FS woodland (which is all certified), all non-FC/ FS certified woodland and an estimate for other woodland that may also have a management plan or equivalent.

## 15. How are stakeholders involved in the management decision making for publicly owned forests?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 15.1 Categories and definitions

Category	Definition
Stakeholder involvement	Stakeholder involvement is defined as significant inputs into at least one aspect of forest management at the operational scale

Table 15

Please indicate the type of stakeholder involvement in forest management decision making required in your country	
1. Planning phase	yes
2. Operations phase	yes
3. Review of operations	yes

Tiers

Category	Tier for status
Type of stakeholder inputs	Tier 3

Tier criteria

Category	Tier for status
Type of stakeholder inputs	<p><b>Tier 3</b> : Government (national or sub-national) documentation of stakeholder inputs</p> <p><b>Tier 2</b> : Government (national or subnational) requirement but stakeholder inputs not documented</p> <p><b>Tier 1</b> : Other</p>

### 15.2 Comments

Category	Comments
Planning phase	Includes public meetings and formal consultations.
Operations phase	Consultation with key stakeholders.
Review of operations	Various mechanisms exist for operational reviews.

## 16. What is the area of forest under an independently verified forest certification scheme?

Documents for this question:







- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 16.1 Categories and definitions

Category	Definition
FSC certification	Forest area certified under the Forest Stewardship Council certification scheme
PEFC certification	Forest area certified under the Programme for the Endorsement of Forest Certification scheme
Other international forest management certification	Forest area certified under an international forest management certification scheme with published standards and is independently verified by a third-party, excluding FSC and PEFC certification.
Certified forest area using a domestic forest management certification scheme	Area certified under a forest management certification scheme with published standards that are nationally recognized and independently verified by a thirdparty

### 16.2 Data

Table 16a

International forest management certification		Forest area (000 ha)						
		2000	2001	2002	2003	2004	2005	2006
	FSC	N/A	1061.1	1075.4	N/A	1159.9	1257.1	1272.5
	PEFC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Other	0	0	0	0	0	0	0
		2007	2008	2009	2010	2011	2012	
	FSC	1324.9	1309.7	1332	1347.3	1325.1	1365	
	PEFC	N/A	N/A	N/A	N/A	N/A	1092.2	
	Other	0	0	0	0	0	0	

Tiers

Category	Tier for status
<b>International</b> forest management certification	Tier 3
<b>Domestic</b> forest management certification	

### 16.3 Comments

<b>Category</b>	<b>Comments related to data definitions etc</b>
Certified forest area using an international forest management certification scheme	Data has been amended, where possible, to revise certified woodland areas in light of National Forest Inventory estimates for Forestry Commission woodland area and follow-up enquiries with certificate holders. All PEFC woodland is also certified under FSC.
Domestic forest management certification	There are no domestic forest management certification schemes in the UK.

## 17. How much money do governments collect from and spend on forests?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 17.1 Categories and definitions

Category	Definition
Forest revenue	All government revenue collected from the domestic production and trade of forest products and services. For this purpose revenue include: <ul style="list-style-type: none"> <li>• <u>Goods</u> : roundwood; sawnwood; biomass; woodbased panels; pulp and paper and non-wood forest products.</li> <li>• <u>Services</u> : including concession fees and royalties, stumpage payments, public timber sales revenue taxes and charges based on forest area or yield, taxes on domestic trade and export of forest products, special levies on forestry activities and payments into forest related funds, other miscellaneous inspection, licence and administrative fees levied by forest administrations, permit and licence fees for recreation and other forest related activities.</li> </ul>
Public expenditure on forestry	All government expenditure on forest related activities.

### 17.2 National data

#### 17.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Forestry Commission Annual Reports & Accounts	All	All	Great Britain (England, Wales and Scotland) only
2	Forest Service Annual Report & Accounts	All	All	Northern Ireland
3				
4				

### 17.3 Data

Table 17

Category	Revenues / expenditures (000 local currency)		
	2000	2005	2010
Forest revenue	124	129	170

Public expenditure on forestry	247	273	328
	2000	2005	2010
Name of Local Currency	GBP	GBP	GBP

#### 17.4 Comments

Category	Comments related to data definitions etc
Forest revenue	Covers income to the Forestry Commission (in Great Britain) and the Forest Service (in Northern Ireland) in financial years 2000-01, 2005-06 and 2010-11. The majority of revenue comes from public forests (timber sales, recreation, etc).
Public expenditure on forestry	Covers expenditure by the Forestry Commission (in Great Britain) and the Forest Service (in Northern Ireland) in financial years 2000-01, 2005-06 and 2010-11.
Other general comments	Figures are rounded to nearest £10,000. Estimates have been revised from figures submitted in previous FRA submissions. The Forestry Commission's responsibilities in Wales transferred to a new organisation, Natural Resources Wales, on 1 April 2013.

## 18. Who owns and manages the forests and how has this changed?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 18.1 Categories and definitions

Category	Definition
Public ownership	Forest owned by the State or administrative units of the public administration or by institutions or corporations owned by the public administration.
...of which owned by the state at national scale ( <i>sub-category</i> )	Forest owned by the State at the national scale or administrative units of the public administration or by institutions or corporations owned by the public administration.
...of which owned by the state at the sub-national government scale ( <i>sub-category</i> )	Forest owned by the State at the sub-national government scale or administrative units of the public administration or by institutions or corporations owned by the public administration.
Private ownership	Forest owned by individuals, families, communities, private cooperatives corporations and other business entities, private, religious and educational institutions, pension or investment funds, NGOs, nature conservation associations and other private institutions.
...of which individuals ( <i>sub-category</i> )	Forest owned by individuals and families.
...of which private business entities and institutions ( <i>sub-category</i> )	Forest owned by private corporations cooperatives companies and other business entities as well as private nonprofit organizations such as NGOs nature conservation associations, and private religious and educational institutions etc.
...of which local tribal and indigenous communities ( <i>sub-category</i> )	Forest owned by a group of individuals belonging to the same community residing within or in the vicinity of a forest area or forest owned by communities of indigenous or tribal people The community members are coowners that share exclusive rights and duties and benefits contribute to the community development.
Unknown ownership	Forest area where ownership is unknown includes areas where ownership is unclear or disputed.
Categories related to management rights of public forests	Definition
Public Administration	The Public Administration (or institutions or corporations owned by the Public Administration) retains management rights and responsibilities within the limits specified by the legislation.
Individuals households	Forest management rights and responsibilities are transferred from the Public Administration to individuals or households through long-term leases or management agreements.
Private companies	Forest management rights and responsibilities are transferred from the Public Administration to corporations, other business entities private cooperatives, private nonprofit institutions and associations, etc., through long-term leases or management agreements.

Communities	Forest management rights and responsibilities are transferred from the Public Administration to local communities (including indigenous and tribal communities) through long-term leases or management agreements.
Other form of management rights	Forests for which the transfer of management rights does not belong to any of the categories mentioned above.

## 18.2 National data

### 18.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Forestry Commission, 2013. Forestry Statistics 2013 (and supporting data). UK	Ownership type	2000-2010	
2				
3				
4				

### 18.2.2 Classification and definitions

National class	Definition
Forestry Commission / Forest Service	Woodland owned/ managed by the Forestry Commission (in Great Britain) or Forest Service (in Northern Ireland)
Non-FC/ FS	Woodland that is not owned/ managed by the Forestry Commission or Forest Service. It includes some woodland owned by other public bodies (e.g. local authorities, Ministry of Defence, etc).

### 18.2.3 Original data

Estimates of UK woodland area by ownership, from Forestry Statistics 2013 and supporting data (ref 1): thousand hectares			
	2000	2005	2010
UK woodland area	2,954	3,021	3,059



FC/ FS	889	879	868
Non-FC/ FS	2,065	2,143	2,191

### 18.3 Analysis and processing of national data

#### 18.3.1 Adjustment

No adjustment required.

#### 18.3.2 Estimation and forecasting

To estimate data for 1990:

Total ownership = forest area from Table 1a.

The methodology used to roll back National Forest Inventory-based estimates of woodland area for Table 1a were also used to roll back the breakdown of this area by ownership, to ensure a consistent approach. Woodland ownership changes over time were taken into account, as well as new planting and deforestation estimates.




#### 18.3.3 Reclassification






"Public ownership" is assumed to cover all woodland owned/ managed by the Forestry Commission or Forest Service.

"Private ownership" is assumed to cover all other woodland.

### 18.4 Data

Table 18a

Categories		Forest area (1000 hectares)			
		1990	2000	2005	2010
	Public ownership	903	889	879	868
	... of which owned by the state at national scale	0	0	0	0
	... of which owned by the state at the sub-national government scale	903	889	879	868

	Private ownership	1876	2065	2143	2191
	... of which owned by individuals	N/A	N/A	N/A	N/A
	... of which owned by private business entities and institutions	N/A	N/A	N/A	N/A
	... of which owned by local, tribal and indigenous communities	N/A	N/A	N/A	N/A
	Unknown ownership	0	0	0	0
TOTAL		2779.0	2954.0	3022.0	3059.0

## Tiers

Category	Tier for status	Tier for reported trend
Public ownership	Tier 3	Tier 2
Private ownership	Tier 1	Tier 1
Unknown ownership	Tier 1	Tier 1

## Tier criteria

Category	Tier for status	Tier for reported trend
Ownership	<p>Tier 3: National forestry statistics registers of land titles or maps on land ownership or all forest area under one ownership category that is five years old or less.</p> <p>Tier 2: National forestry statistics registers of land titles or maps on land ownership or questionnaires that are more than five years old.</p> <p>Tier 1: Other</p>	<p><b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status)</p> <p><b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status)</p> <p><b>Tier 1</b> : Other</p>

Table 18b - Holder of management rights of public forests

Categories	Forest area (000 hectares)			
	1990	2000	2005	2010
Public Administration	903	889	879	868
Individuals	0	0	0	0
Private companies	0	0	0	0
Communities	0	0	0	0

Other	0	0	0	0
<b>TOTAL</b>	<b>903.0</b>	<b>889.0</b>	<b>879.0</b>	<b>868.0</b>

<b>Category</b>	<b>Tier for reported trend</b>	<b>Tier for status</b>
Public Administration	Tier 2	Tier 3
Individuals	Tier 1	Tier 1
Private companies	Tier 1	Tier 1
Communities	Tier 1	Tier 1
Other	Tier 1	Tier 1

### 18.5 Comments

<b>Category</b>	<b>Comments related to data definitions etc</b>	<b>Comments on the reported trend</b>
Public ownership	Data shown relates to woodland owned/ managed by the Forestry Commission in Great Britain or Forest Service in Northern Ireland. It excludes other publicly owned land (e.g. by local authorities, Ministry of Defence, etc). All Forestry Commission/ Forest Service land is managed at sub-UK level.	Data have been adjusted to produce a consistent time series. As a result, estimates for earlier years differ from figures previously reported.
Private ownership	All non-FC/ FS woodland is assumed to be in private ownership.	
Unknown ownership	There is assumed to be no woodland in unknown ownership	
Management rights	Since 2010 Scottish Ministers have had the power to lease land managed by Forestry Commission Scotland to local communities for forestry purposes (e.g. transfer the management and timber rights). These long term leases (minimum of 25 years) are available to eligible communities via the National Forest Land Scheme and aim to transfer the majority of rights associated with forest management and timber marketing and harvesting. A number of communities are currently looking into the option of leasing Forestry Commission Scotland managed land for forestry purposes but none have been concluded to date.	

**Other general comments to the table**

Further information on ownership of woodland will be available from future analysis of National Forest Inventory data (possibly in 2015).

## 19. How many people are directly employed in forestry?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 19.1 Categories and definitions

Category	Definition
Full-time equivalents (FTE)	A measurement equal to one person working full-time during a specified reference period.
Employment in forestry	Employment in activities related to production of goods derived from forests. This category corresponds to the ISIC/NACE Rev. 4 activity A02 (Forestry and logging).

### 19.2 National data

#### 19.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Eurostat. Labour Force Survey.	All	All	Extract from data provided by Eurostat for 2015 pan-European Indicators of Sustainable Forest Management.
2				
3				
4				

#### 19.2.3 Original data

Pre-filled data provided by Eurostat for 2015 pan-European Indicators of Sustainable Forest Management (ref 1):



Table 6.5a: Employment (thousand persons) by gender and age

Category	Year	Total	Gender	
			Male	Female
Forestry (ISIC/NACE 02)	2010	19.76	17.93	1.83
	2005	13.65	12.34	

	2000	15.76	14.52	
	1990	17.44	15.53	

### 19.3 Data

Table 19

Category		Employment (000 years FTE)			
		1990	2000	2005	2010
	Employment in forestry	17.4	15.8	13.7	19.8
	... of which female	1.9	1.2	1.3	1.8

### 19.4 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Employment in forestry	Figures relate to headcounts rather than fte. The data comprise 3 year averages for 1992-1994 (for 1990 estimate), 1999-2001 (2000), 2004-2006 (2005) and 2009-2011 (2010).	

#### Other general comments to the table

Data are based on estimates from the Labour Force Survey and are as provided by Eurostat for 2015 pan-European Indicators of Sustainable Forest Management.

## 20. What is the contribution of forestry to Gross Domestic Product (GDP)?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 20.1 Categories and definitions

Category	Definition
Gross value added from forestry (at basic prices)	This category corresponds to the ISIC/NACE Rev. 4 activity A02 (Forestry and logging).

### 20.2 Data

Table 20 (Pre-filled data from UNdata/EUROSTAT)

Category	Million	Currency	Year for latest available information
Gross value added from forestry (at basic prices)	404	GBP	2011

## Other general comments

Estimate from Office for National Statistics, 2013. Annual Business Survey - 2011 Revised Results.

## 21. What is forest area likely to be in the future

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 21.1 Categories and definitions

Category	Definition
Government target/aspiration for forest area	Government target/aspiration for forest area for a specific year.
Forests earmarked for conversion	Forest area that is allocated/classified or scheduled to be converted into non-forest uses.

### 21.2 National data

#### 21.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Forestry Commission, 2011. UK Forestry Standard (Rev 2011). UK.	Government target/aspiration for forest area	All	Guidelines on Forests & Climate Change - table 4.1 gives aspirations of 100 thousand hectares of new woodland (or 5 thousand hectares per year) in Wales between 2010 and 2030, and to double the area of forest from 6% to 12% in Northern Ireland from 2006 to 2056 (approx 1700 hectares per year).
2	Defra, 2013. Government Forestry and Woodlands Policy Statement. UK.	Government target/aspiration for forest area	All	Target of 12% woodland cover in England by 2060, an average planting rate of 5 thousand hectares per year.
3	Scottish Government, 2014. Low Carbon Scotland: Meeting Our Emissions Reduction Targets 2013-2027	Government target/aspiration for forest area	All	Target of 10 thousand hectares per year woodland creation in Scotland.
4				

### 21.3 Data

Table 21a

Category	Forest area (000 ha)	
	2020	2030



Government target/aspiration for forest area	3300	3500
--	------	------

Table 21b

Category	Forest area (000 ha)
	2013
Forests earmarked for conversion	0

#### 21.4 Comments

Category	Comments
Government target/aspiration for forest area	Annual woodland creation rates from Government targets/ aspirations have been applied to woodland areas at time that target was set, to estimate Government target/ aspiration for forest area in 2020 and in 2030.
Forests earmarked for conversion	A net increase in UK forest area is expected.