

3 Table T3 – Forest designation and management

3.1 FRA 2010 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.
Protected areas	Areas especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.
Categories of primary designated functions	
Production	Forest area designated primarily for production of wood, fibre, bio-energy and/or non-wood forest products.
Protection of soil and water	Forest area designated primarily for protection of soil and water.
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.
Social services	Forest area designated primarily for social services.
Multiple use	Forest area designated primarily for more than one purpose and where none of these alone is considered as the predominant designated function.
Other	Forest areas designated primarily for a function other than production, protection, conservation, social services or multiple use.
No / unknown	No or unknown designation.
Special designation and management categories	
Area of permanent forest estate (PFE)	Forest area that is designated to be retained as forest and may not be converted to other land use.
Forest area within protected areas	Forest area within formally established protected areas independently of the purpose for which the protected areas were established.
Forest area under sustainable forest management	To be defined and documented by the country.
Forest area with management plan	Forest area that has a long-term (ten years or more) documented management plan, aiming at defined management goals, which is periodically revised.

3.2 National data

3.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
UK Indicators of Sustainable Forestry A7, based on National Inventory	M	No/unknown function	1995-1999	% of clusters with no management practice
Forests' Role in Tourism (report, 2003) on FC website.	M	Primary, social services	2002	Includes estimate of number of woodland sites used for recreation
State of Europe's Forests (Ministerial Conference on the protection of Forests in Europe (MCPFE)) 2003	M	Primary biodiversity	2000	MCPFE Protected Class 1

Forestry Commission Facts & Figures	M	Primary production	1990, 2000	GB conifer area
Forestry statistics databases	H	Primary production, certified areas	1990-2008	Planting statistics, containing more detail than published in Forestry Statistics 2008.
Personal communications from state forest agencies and from Grants & Licences	M	Management plans	2005	

3.2.2 Classification and definitions

National class	Definition
Management practices - timber production - conservation - unmanaged	In NIWT 1995-99, each cluster contained between 1 and 5 sample squares, each of 1 hectare, spread over an area of 40 hectares. The surveyor recorded the management practices present in the cluster. Up to 8 management practices could be recorded from a list of 10, including: <ul style="list-style-type: none"> • Timber production is recorded where there is deliberate management within the cluster for timber products, including coppice. • Conservation is recorded where there is active management for wildlife, which may include permitting regeneration and scrub. The opening up of stream-sides and the general encouragement of diversity in storeys and species as well as obvious signs, such as bird boxes and ride management for butterflies. The encouragement of deer into a woodland will also be included. • Unmanaged is recorded where there is no obvious management practice in all or part of a cluster. Recording this management practice does not preclude the use of other practices noted in the cluster.
Management plans and equivalents	Types of documents included in category: <ul style="list-style-type: none"> • Management plans: Forest design plans (state forests); management plans in grant schemes • Equivalents: Other FC/FS state forests; other grant-aided woodland.

3.2.3 Original data

UK Protected forest areas (as published in State of Europe's Forests – MCPFE 2003)

Class	Description	UK area	UK interpretation
1.1	no active intervention	7,000 ha	Sites of Special Scientific Interest (SSSIs) that either have <ul style="list-style-type: none"> • a management agreement to manage as a National Nature Reserve (NNR) with non-intervention and scientific monitoring as the main objective, or • a designation as a Special Area of Conservation and agreed management objectives for non-intervention
1.2	minimum intervention	3,000 ha	NNRs and SSSIs that are subject to management agreements to manage to retain and restore natural characteristics
1.3	conservation through active management	135,000 ha	<ul style="list-style-type: none"> • Near natural woodlands in National Parks (20,000 ha): estimated as half the area of semi-natural woodland in National Parks • Habitat/Species Management areas (115,000 ha): estimated as OSNW not on SSSIs, plus PAWS where the intention is to restore them towards a more semi-natural condition, plus some planted woodlands where the conservation of native species is the main objective
2 (not included)	protection of landscapes and specific natural elements	646,000 ha	<ul style="list-style-type: none"> • Near-natural semi-natural woodland which are in SSSIs or protective ownership (400,000 ha): estimated from Ancient Woodland Inventories, National Inventory, grant scheme statistics and monitoring of management plans for state forests, other public bodies and voluntary organisations. • ASNW in protected landscapes (54,000 ha): includes PAWS and OSNW in National Parks, Royal Forests and Common Grazings. • Multi-purpose semi-natural woodland (192,000 ha): OSNW outside

			SSSIs and protected landscapes or protective ownerships.
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Management practices

(in UK Indicators of Sustainable Forestry A7, based on NIWT 1995-99)

- Timber production: 83%
 - Wildlife/conservation: 18.3%
 - Public recreation: 23.3%
 - Unmanaged: 10.7%
 - Unmanaged (and no other management practice in cluster): 3.8%
- (this final figure is unpublished and comes from analysis of the database)

Conifer areas (from Forestry Facts & Figures for that year)

GB 1990 = 1,515,000 ha - of which 814,000 ha FC

GB 2000 = 1,584,000 ha - of which 727,000 ha FC

Conifer new planting (from Forestry Statistics database)

1990-2000 = 87,200 ha

2000-2005 = 17,600 ha

2005-2008 = 4,100 ha

Broadleaved restocking (from Forestry Statistics database)

1990-2000 = 41,000 ha

2000-2005 = 13,700 ha

2005-2008 = 11,100 ha

Permanent Forest Estate

All forest areas have a considerable degree of protection under the law, and in general the granting of a felling licence is conditional on restocking. Any forest area can be converted to another land use, if this change is approved under appropriate procedures (planning, restoration of other habitats, etc). Such procedures are considered to be equivalent to “special permission” mentioned in the FRA 2010 guidelines, so the permanent forest estate is reported as equal to total forest area.

Management Plans

For FC/FS state forest (area in 2005, on FRA definition, 858,000 ha), formal Forest Design Plans now exist for most areas: the only areas reported in 2005 as not covered are 4% in Scotland and 9% in England, total about 38,000 ha. For MCPFE 2007 the area with Forest Design Plans (820,000 ha) was included in the area reported as having a management plan and the 38,000 ha was reported as "equivalent" only.

For other woodland, 634,000 ha in GB was reported as having management plans in grant system; including N Ireland takes the total to about 640,000 ha. Total woodland area that has received grant aid is about 1 million hectares (this is an old figure, but we have no reliable basis to improve this estimate), and the remaining 360,000 ha should be considered to have an "equivalent". Areas covered by a felling licence could also be considered as "equivalent", but not included for MCPFE report.

Based on the above, MCPFE reported the following percentages for 2005:

Total area with management plan = 820,000 + 640,000 = 1,460,000 ha = 51%

Total area with equivalent = 38,000 + 360,000 = 398,000 ha = 14%

Forest area under sustainable forest management

No estimate is available for the UK area under sustainable forest management. It must include all the areas certified as sustainably managed, shown in the table below, but will also include other areas.

UK certified area at end-March

Year	Certified area 000 hectares
2001 (Dec)	1037
2002 (Sept)	1047
2003	na
2004	1120
2005	1217
2006	1227
2007	1276
2008	1266
2009	1283

Most grant aided woodland should also be sustainably managed, in order to meet the conditions for grant (for afforestation, management, etc). Some grant-aided woodland is included in the areas certified above, but grant-aided areas not certified could add around 600,000 hectares to the above totals. Precise figures are not available, because a geographic (GIS) comparison is not yet possible for grant scheme areas and certified areas.

Areas outside grant schemes may also be sustainably managed, but we have no estimates of such areas. The National Forest Inventory (NIWT) did not assess whether sample areas were sustainably managed. It is not possible to claim all forest as being sustainably managed, because it is known that some areas have been neglected and are in poor condition; current policies aim to bring some of these areas back into management.

3.3 Analysis and processing of national data

3.3.1 Estimation and forecasting

Production

As an estimate of area with primary function production, take a proportion of large conifer plantations. Based on an expert view add the following categories for 2000:

- FC: just under half of forests over 100 hectares in Scotland (516,000 ha) and Northumberland (46,000), giving a total of 270,000 ha (out of total FC conifers 727,000 ha and total FC forest 825,000 ha).
- Non-FC: 80% of non-FC conifers (858,000), giving about 684,000 ha [A suggested refinement for this category would be to exclude conifers in woods smaller than 10 ha, and to take 90% Scotland and 80% England/Wales, but this has not been possible to calculate from data tables currently available].
- Northern Ireland: 80% of conifers (67,000 ha), giving about 54,000 ha.

Adding these three categories gives a total for the UK of 1,008,000 ha for 2000.

Estimation of the area in 1990 needs to combine two changes over the decade 1990-2000:

- The net increase in total conifer area from 1990 to 2000 was 46,000 ha (see estimation for Table T1). Of this, about 16,000 ha was extension to Caledonian pinewood, leaving 30,000 net change in productive conifer plantations. Using similar assumption to above, take 80% to be primary function production, giving 24,000 ha net increase.
- Over the same period, some forests with primary function production will have changed to become multiple purpose, because of increased importance given to management for recreation and for conservation. There are no statistics on this, but estimate that it applies to 10% of FC conifers in 1990 (814,000 ha), 5% of non-FC and NI conifers in 1990 (803,000 ha), a total of 122,000 ha for the UK.

Combining these two changes gives a net decrease of 98,000 ha over the decade, implying a total of 1,106,000 ha for 1990.

Conifer new planting 2000-2005 is around 18,000 ha, of which about 8,000 ha is Scots pine in Caledonian pinewood, giving 10,000 ha new conifer plantations. Over the same period, broadleaved restocking (assumed to be mostly former conifer plantations) will be around 14,000 ha, giving a small net decrease in total conifer plantation area. As in the previous decade some forests with primary function production are changing to become multiple purpose. Combining these changes gives a decrease, of perhaps around 50,000 ha in the UK, to 958,000 ha for 2005.

Conifer new planting 2005-2008 is around 4,000 ha, which may be extrapolated to a total of about 8,000 ha for the 5 years to 2010. Of this, about 5,000 ha may be Scots pine in Caledonian pinewood, giving 3,000 ha new conifer plantations. Over the same 3-year period, broadleaved restocking (assumed to be mostly former conifer plantations) was around 11,000 ha, which can be extrapolated to about 18,000 ha for the 5 years to 2010. Taking the two changes together, this gives a net decrease of about 15,000 ha in total conifer plantation area. As in the previous decade some forests with primary function production are changing to become multiple purpose. Combining these changes gives a decrease, of perhaps around 50,000 ha in the UK, to 908,000 ha for 2010.

To summarise, the estimates derived above are:

	1990	2000	2005	2010
Primary function production	1106	1008	958	908

thousand hectares

Protection of soil and water

No statistics are available for areas with primary function protection of soil or water. This may be the primary function of some plantations on sandy soils, particularly in coastal areas. It may also be a function in some areas next to important public water supplies. Estimate that this could total around 5,000 hectares in all years.

Conservation of biodiversity

Forest within protected areas (class 1) = 3,000 + 7,000 + 135,000 = 145,000 ha, using MCPFE classification. Assume applies to all years (no estimates of change). Use this directly in Table 3b, and (as in FRA 2005) use the same estimate for forest with primary function conservation of biodiversity in Table 3a.

Social services

There is no good source for area with primary function social services (recreation etc). The NIWT figure for the area with management practice of public recreation (23.3% = 651,000) is not used, because it is much greater than the area with primary function recreation, as it just requires signs of some management for recreation in the 40 hectare cluster.

In many forests, visitors may not go beyond the car parks, picnic areas, waymarked walks etc, so the area with function recreation could be limited to the immediate surroundings of these facilities, unlikely to average more than 10 ha per site. Assuming 40 hectares per site on average for each of around 500 FC sites and 20 hectares per site on average for around 2500 others identified in “Forests’ Role in Tourism” (2003), this adds up to around 70,000 ha for 2000. The number of recreation sites is increasing, but there are no statistics for this, so estimate 60,000 ha for 1990, 75,000 ha for 2005 and 80,000 ha for 2010.

To this can be added new planting in community forests and similar initiatives – around 20,000 ha in the 1990s, perhaps a further 10,000 ha to 2005 and perhaps another 10,000 ha to 2010, to give the totals shown below. Other possible areas (e.g. all Local Authority-owned woods) have not been included.

	thousand hectares			
	1990	2000	2005	2010
Estimate based on number of recreation sites	60	70	75	80
Community forests etc	0	20	30	40
Total - primary function social services	60	90	105	120

No or unknown function

An estimate of the area with “no or unknown function” can be based on the area recorded with management practice “unmanaged”. Because management practices are recorded at the level of cluster (up to 40 ha), the relevant area will consist of all clusters where this was the only practice recorded (3.8%) and an unknown proportion of the area of clusters where other practices were recorded as well (6.9%). Estimate that this adds to around 5%, or around 137,000 ha in 1995-99. This area is likely to be decreasing over time, because no new woodland created with grant aid is unmanaged, and there are incentives to bring existing woodland into management. In the absence of any statistics on trends over time, estimate the following areas with “no or unknown function”.

	thousand hectares			
	1990	2000	2005	2010
No or unknown primary function	150	130	120	110

Multiple purpose

Multiple purpose management is now the most widespread practice in UK forestry. Estimate the area with multiple purpose by subtracting all the above estimates from the total area.

Management plan

As indicated above, all FC/FS state forest is regarded as having a management plan or equivalent. As shown in the workings for Table 2, this was 956,000 ha in 1990 and 886,000 ha in 2000, with 858,000 ha in 2005 as reported above. Based on trends 2005-2008, the area could be around 830,000 ha in 2010.

We have no reliable basis to derive trends for other woodland, based on the area that has received grant-aid. The best that we can do is to assume that the total changes in line with the area of new planting grant-aided. On this basis, it would have increased by 165,000 ha from

1990 to 2000, 66,000 ha from 2000 to 2005 and around 40,000 ha from 2005 to 2010. In addition, there will have been some increases from previously unaided areas receiving grants for restocking or management grant, and some decreases from grant-aided areas converted to other habitats or lost to development, but the areas are likely to have been relatively small and may balance out, so such changes have not been taken into account.

3.3.2 Reclassification into FRA 2010 categories

For forest area with management plan in 2005, use area reported to MCPFE as with forest management plans and equivalents.

3.4 Data for Table T3

Table 3a – Primary designated function

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Production	1106	1008	958	908
Protection of soil and water	5	5	5	5
Conservation of biodiversity	145	145	145	145
Social services	60	90	105	120
Multiple use	1145	1415	1512	1593
Other (please specify in comments below the table)	0	0	0	0
No / unknown	150	130	120	110
TOTAL	2611	2793	2845	2881

Table 3b – Special designation and management categories

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Area of permanent forest estate	2611	2793	2845	2881
Forest area within protected areas	145	145	145	145
Forest area under sustainable forest management	n.a.	n.a.	n.a.	n.a.
Forest area with management plan	1725	1820	1858	1870

3.5 Comments to Table T3

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Production		
Protection of soil and water		
Conservation of biodiversity		
Social services	Within the function “social services”, forests also have a role in sustaining health and wellbeing. This function is not yet fully understood, but is not limited to recreation usage identified in this table. This is a new area for which research is under way in UK.	
Multiple use		
Other		
No / unknown designation		
Area of permanent forest estate		
Forest area within protected areas	These estimates of protected forest area are unchanged from FRA 2005. It is believed that these figures may be too high on strict MCPFE definitions, but a study will be required to derive new estimates of UK areas under MCPFE definitions.	The creation of new National Parks since 2000 mostly moved woodland within sub-categories of class 2, so no changes are shown in the reported figures in FRA, which are limited to class 1.
Forest area under sustainable forest management	Similarly to Table T1, 20,000 hectares should be added to the national statistics for certified area in 3.2.3 to move to the FRA definition of woodland. The area under sustainable forest management at least covers the certified area, but also other areas to an unknown extent (see 3.2.3 above).	There was no certification in 1990. The certified area was around 1.0 million hectares in 2000 and around 1.2 million hectares in 2005. This does not give a good indication of the trend in area sustainably managed.
Forest area with management plan		

Other general comments to the table