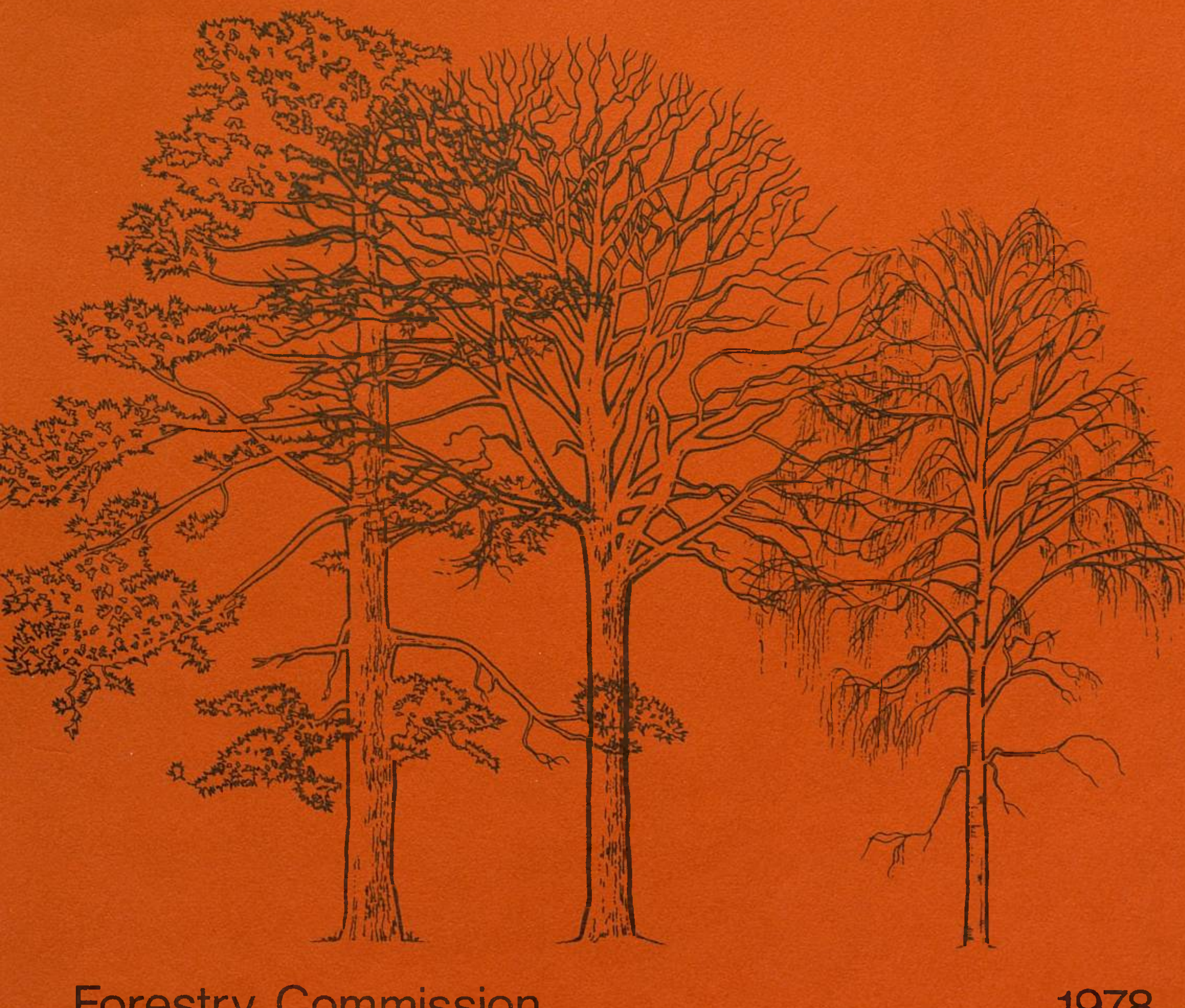
The Place of Forestry in England and Wales



Forestry Commission 1978

THE PLACE OF FORESTRY

IN

ENGLAND AND WALES

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CONTENTS

TABLES

Chapter 1

FOREST POLICY

1.1 GOVERNMENT FOREST POLICY

Since the creation in 1919 of the Forestry Commission successive Governments have supported a positive forest policy by the provision of finance for the public sector and by grant-aiding the private sector.

1.2 THE FORESTRY COMMISSION

By the Forestry Act 1967 (a Consolidating Act) the Commissioners are charged with the general duties of promoting the interests of forestry, the development of afforestation, the production and supply of timber and other forest products in Great Britain and the establishment and maintenance of adequate reserves of growing trees.

The Forestry Commissioners have a dual role, namely that of Forest Authority responsible for the entire forest industry, public and private alike, and that of Forest Enterprise directing the public sector of the industry.

The Commissioners' major powers are:-

(a) to make grants or loans to private woodland owners and local authorities for afforestation and replanting;

(b) to advise private woodland owners;

(c) to license the felling of trees and to impose conditions to secure the replanting of felled areas (on private land);

(d) to promote education in forestry;

(e) to carry out or give grants for forestry research;

(f) to make orders for the control of timber pests and diseases;

(g) to manage and plant land placed at their disposal by the forestry Ministers;

(h) to purchase and sell timber, and to promote the supply, sale and conversion of timber;

(i) to establish and carry on or aid in the establishment and carrying on of woodland industries;

(j) to provide certain recreational or sporting facilities on land placed at their disposal.

The Commissioners are required to comply with directions given to them by the forestry Ministers (at present the Minister of Agriculture, Fisheries and Food, the Secretary of State for Scotland and the Secretary of State for Wales). The Commissioners are also required to act in accordance with Section 11 of the Countryside Act of 1968.

1.2.1 Forest Authority

The objectives of the Forest Authority are:-

(a) to advance knowledge and understanding of forestry and trees in the countryside;

(b) to develop and ensure the best use of the country's timber resources and promote efficiency and development in the home timber industry;

(c) to undertake research relevant to the needs of forestry;

(d) to combat forest and tree pests and diseases and to initiate Plant Health Orders when appropriate;

(e) to advise and to assist with safety and training in forestry;

and

(f) to administer controls and schemes for assisting private woodland owners and, by so doing, encourage the practice of sound forestry, secure good land use and - where relevant - effective integration with agriculture, and ensure the use of forest management systems and practices which safeguard the environment.

1.2.2 Forest Enterprise

The Commission endeavours to acquire on the open market on behalf of the forestry Minster (in whom the title of land acquired out of the Forestry Fund is vested) the land necessary to fulfil the planting programmes approved by the Government. At present new acquisitions are confined mainly to Scotland but, from time to time, there are acquisitions in the northern part of England and a small number each year in Wales.

Before acquiring land for planting the Commission consults with the appropriate Department of Agriculture on the proposed change of land use to forestry. When land is being acquired local authorities are informed if they have expressed a wish to be consulted.

For the Forestry Commission's own estate the objectives of the Forestry Enterprise are:-

(a) to develop forestry and increase the production of wood for existing industries, or industries yet to be established, by the extension and improvement of the forest estate;

(b) to protect and enhance the environment;

(c) to provide recreational facilities (where appropriate);

(d) to stimulate and support the local economy in areas of depopulation by the development of forests, including new plantations, and of wood-using industry;

and

(e) in pursuit of these objectives and in the extension of the forest estate, to further the integration of forestry and agriculture and to manage the estate as profitably as possible.

Thus whilst the primary aim of the Forestry Enterprise is to grow timber for industry, the Forestry Commission on its own land will give continuing emphasis to visual amenity, to recreation, to the conservation of wildlife and to integration with other forms of land use.

1.2.3 National Committees

There is a National Committee for each country.

The Commissioners look to the National Committees to assist them in carrying out their duties with due regard to any special problems that may arise in their respective countries. The Committees' specific terms of reference are as follows:-

(i) to advise and help the Commission in understanding the social impact of any of its activities;

(ii) to advise the Commission as to the development of facilities for recreation and other social amenities;

(iii) to advise on the Commission's impact on the countryside and its relationships to other land users, especially in agriculture and forestry, so as to ensure continued good relationships with all other national bodies directly interested in the use of land, rural protection, nature conservation and the welfare of the countryside;

(iv) to advise the Commission on national strategy for achieving sound and harmonious land use as between forestry (including private forestry) and other forms of land use;

(v) to advise the Commission on trends, developments or issues of national importance affecting the Commission on its own operations and activities and in its role as Forest Authority, with particular reference to any general problems affecting the administration of the grant-aid Schemes for private woodlands.

In Wales the National Committee has responsibility for implementing the Welsh Language Act in forestry matters.

1.3 PRIVATE WOODLANDS

1.3.1 Dedication Scheme

Grants are given to Private Woodland owners who agree to work to plans of operations approved by the Forestry Commission. Owners who receive grants under the Dedicated Woodlands Scheme have undertaken by a legally binding agreement not to use the dedicated land for purposes other than forestry, and their successors in title inherit this obligation. Under the Approved Woodlands Scheme the owner manages to an agreed plan of operations but has not dedicated his woodlands in perpetuity; this scheme is being phased out. Whilst dedication agreements existing in 1972 will be honoured, a new Dedication Scheme was introduced in October 1974. Known as Basis III Dedication owners who dedicate under this scheme bind themselves and their successors for the life of the crop.

The new Scheme is intended to ensure that private forestry should - as it has done in the past - form part of a really effective pattern of rural land use, in which it is harmonised to the best possible advantage with agriculture and the environment. To meet these objectives the continuing obligation accepted by owners who accept grant-aid is essentially to manage the woodland concerned in accordance with plans of operations (approved by the Forestry Commission) designed to secure sound forestry practice, effective integration with agriculture and environmental safeguards.

1.3.2 Small Woods Scheme

In 1977 a Small Woods Scheme was introduced to cater for woodlands between 0.25 hectares and 10 hectares in extent. The scheme is modelled on the previous Small Woods Planting Grant Scheme which operated from 1951 to 1972 and which was found to be effective in securing the planting and restocking of copses, spinneys and groups of trees throughout the country. Both landowner and the Forestry Commission found the scheme simple to administer. Although the primary aim of Forestry Commission grant-aid is to produce timber, the Small Woods Scheme has an equally important role in helping to maintain tree cover in the landscape.

The Countryside Commission are concerned with the promotion of small scale tree planting in the countryside where the emphasis is primarily on amenity. Grant-aid is given through Local Authorities and direct to individuals for planting in areas below 0.25 hectares in extent.

Details of these schemes are available from either the Forestry Commission[1] or the Countryside Commission.

1.3.3 Private Owners Organisation

Private owners interests in England and Wales are looked after by the Timber Growers' Organisation (TGO) which is the body that nominates those who serve on the statutory Home Grown Timber Advisory Committee (HGTAC) and other Forestry Commission advisory bodies as the representatives of the interests of private woodland owners in England and Wales. It represents English and Welsh woodland owners on the Forestry Committee of Great Britain (FCGB) which is the body with which the Forestry Commission (as Forest Authority) discusses private woodland matters, and with which it negotiates for Great Britain as a whole.

The Timber Growers' Organisation has stated that whilst timber production is the primary object in private woodlands, in growing timber for industry the private sector pays full regard to environmental considerations such as recreation, visual amenity and conservation; and to the integration of farming and forestry, including the use of woodlands for shelter.

1.3.4 Regional Advisory Committees

There is a Regional Advisory Committee in each Conservancy. The terms of reference of Regional Advisory Committees are as follows:-

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Note: (1) Address list on pages 25 and 26

(a) to advise the Commissioners as to the performance of the Commissioners' functions under Section 1 (3) and Part II of the Forestry Act 1967;

(b) to advise the Commissioners on such other functions as the Commissioners may from time to time determine. At the present time these additional functions are as follows:-

(i) to advise and help the Commissioners in understanding the social effect of any of the Commissioners' activities;

(ii) to advise the Commissioners as to the development of facilities for recreation and other social amenities;

(iii) to advise on the effect of the Commissioners' activities on the countryside and on other land users, especially in agriculture and forestry, so as to ensure the continued good relationship with all other regional bodies directly interested in the use of land, rural protection, nature conservation and the welfare of the countryside;

(iv) to advise the Commissioners on regional strategies and structure and local plans in respect of forestry.

(v) to assist the Commissioners in reconciling differences of view arising in connection with applications for grant-aid for private woodlands or for felling licenses, when requested to do so by the Commissioners' Conservator for the region, by consulting with the parties concerned as necessary and advising the Conservator of the Committee's findings.

The Forestry Commission will consult Regional Advisory Committees on regional strategies and on structure and local plans in respect of forestry, and will call upon the Committee concerned to assist in the process of reconciling any conflicting views in those individual cases under all dedication and related schemes and felling licensing in which, after full consultation and discussion with the private owner concerned, Agricultural Departments, Local Planning Authorities, and other special authorities as appropriate, the parties concerned are not agreed.

If in any case the process of reconciliation of views by the Regional Advisory Committee does not result in agreement between the parties concerned, the Committee will report the facts of the case, the views of the parties, and any views expressed by the Committee. The Forestry Commission will refer this report to the Forestry Minister concerned for his advice, in consultation as appropriate with his Ministerial colleagues.

Regional Advisory Committees must consist of not less than seven and not more than nine members of which not less than four, other than the Chairman, shall be appointed after consultation with forestry interests. In appointing members the Forestry Commission seeks to provide the widest possible representation of interests including amenity, planning, nature conservation and agriculture.

The following bodies, as appropriate to each country, are invited to suggest candidates from whom appointments are made by the Forestry Commission to the Regional Advisory Committees in England and Wales.

Forestry organisations /as required by the Forestry Act/
Trade Unions representing forestry workers
The National Farmers' Union and the Farmers' Union of Wales
The Countryside Commission
The Nature Conservancy Council
The Country Landowners' Association
The Association of County Councils
The Welsh Counties' Committee
The Association of District Councils
The Council for the Principality

1.4 THE HOME TIMBER INDUSTRY

1.4.1 Home Timber Merchants Association

The Home Timber Merchants Association of England and Wales (HTMAEW) looks after the interests of the home timber trade and is the body with which the Forestry Commission discusses trade affairs. It nominates those who serve on the statutory Home Grown Timber Advisory Committee and other Forestry Commission advisory bodies as representatives of the interests of the home timber merchants in England and Wales.

1.4.2 Supply and Demand for Home Grown Wood

British woodlands provide about 8% of the country's total consumption of wood and wood products including paper.

Removals of coniferous roundwood from Forestry Commission woodlands in England in 1975 amounted to 600,000 m^3 and in Wales to 290,000 m^3. Removals from Private Woodlands amounted to 250,000 m^3 in England and 40,000 m^3 in Wales.

Potential production of coniferous wood is rising and by 1980 it is estimated that removals of timber from Forestry Commission forests in England will amount to some 900,000 m^3 and in Wales 470,000 m^3, while that from Private Woodlands in England is expected to amount to some 490,000 m^3 and in Wales to 75,000 m^3.

ESTIMATED REMOVALS OF CONIFER ROUNDWOOD FROM FORESTRY COMMISSION AND PRIVATE WOODLANDS IN ENGLAND AND WALES

		Thousands of cubic metres (m^3) 1975	1980
England	FC	600	900
	PW	250	490
	Total	850	1390
Wales	FC	290	470
	PW	40	75
	Total	330	545
England and Wales	FC	890	1370
	PW	290	565
	Total	1180	1935

Note: m^3 = cubic metres

Production of hardwoods in 1975 was estimated to be as follows:-

England	1,150,000 m^3
Wales	50,000 m^3
Total	1,200,000 m^3

It is expected that hardwood production will continue at much the same level to 1980 and beyond.

Consumption of home-grown timber in England and Wales in 1975 is estimated to have been as follows:-

	Thousands of cubic metres (m^3)			
	Conifer		*Hardwood*	
	England	*Wales*	*England*	*Wales*
Sawmills	490	105	855	40
Pitwood (in the round)	110	45	-	-
Pulpmills	300	-	110	65
Particle Board Mills	75	45	15	5
Fibre Board Mills	25	5	10	-
Woodwool	50	10	-	-
Other	35	15	70	30
Total	1085	225	1060	140

Approximately 130,000 m^3 of coniferous roundwood used in England was supplied from Scottish forests, while in Wales the outflow, principally of coniferous pulpwood, was balanced by an inflow of hardwood pulpwood and sawlogs.

The major consumer of both hardwood and coniferous wood are the sawmills and they are fairly well distributed throughout the country. Pulpmills using coniferous wood are located at Workington, Cumbria; Ellesmere Port, Cheshire; Bristol; and Sittingbourne, Kent. Hardwood pulpmills are located at Sudbrook, Gwent; and Sittingbourne, Kent.

Particle and fibre board mills are located at Hexham, Northumberland; Chirk, Clwyd; Monmouth, Gwent; South Molton, Devon; Weybridge, Surrey; Sunbury-on-Thames, Middlesex; Sittingbourne, Kent; and Queensferry, Clwyd.

Pitwood from home sources is supplied to all of the major coalfields.

It is unlikely that in the next decade there will be a requirement for a new major wood processing plant such as a pulpmill or particle board mill, as the existing wood-using industries can probably absorb the increase in coniferous wood supply below sawlog size. On the other hand, economic factors as well as the increase in supply of coniferous sawlogs might well result in some change in the number, location and sizes of sawmills.

Chapter 2

THE PRESENT STATUS OF FORESTRY AND THE FOREST INDUSTRY IN ENGLAND AND WALES

2.1 EXISTING WOODLANDS

Britain is poorly wooded compared to most other European countries. About 7% of the land surface of England is woodland and in Wales about 11%. These figures compare with an average of 20% for the countries of the EEC. (Table 1).

In 1976 the estimated total woodland area* in Great Britain was 1.98 million hectares of which 905,000 hectares were in England and 230,000 hectares in Wales. Private woodlands in Great Britain in 1976 covered some 1,131,000 hectares compared with 840,000 hectares of Forestry Commission woods. (Table 2).

Total Woodland Areas	*Hectares* *England*	*Wales*
Forestry Commission Woodlands	255,000	135,000
Private Woodlands	650,000	95,000
Forestry Commission and Private Woodlands	905,000	230,000

In England Forestry Commission woodlands amount to 28% of the total woodland area whereas in Wales the Commission owns nearly 60% of the total woodland area, reflecting the extent to which Forestry Commission planting has taken place in Wales in the last 30 years.

The term "productive woodland" refers to woodlands stocked with trees of species and qualities that will produce a utilisable crop of timber.

DISTRIBUTION OF WOODLAND AREA IN ENGLAND AND WALES
BY CATEGORY (TO THE NEAREST 5,000 HA)

Thousand hectares

Country	*Productive Woodland* *Coniferous*	*Broadleaved*	*Other Woodland*	*Total*
England	410	315	180	905
Wales	165	30	35	230
Total	575	345	215	1135

In England the *productive woodland area* amounts to 725,000 hectares of which 410,000 hectares (57%) is coniferous and 315,000 hectares (43%) is broadleaved. A large proportion of the unproductive woodland area (which comprises trees which will not yield a utilisable crop and cut-over woodland) is broadleaved so that in

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* As at January 1977

England over half of the total woodland area is broadleaved in character. In contrast, the 195,000 hectares of productive woodland in Wales are predominantly coniferous and only a very limited area of the existing productive woodland or of the Forestry Commission land still to be planted in Wales is capable of growing a utilisable crop of broadleaves. The 35,000 hectares of unproductive woodland are almost entirely broadleaved.

2.1.1 Regional Distribution in England

The south east of England holds a high proportion of the country's population but despite this urban concentration, agriculture is still the predominant form of land use. Woodlands, too, are very important in the Region and indeed it is one of the most heavily wooded areas in Great Britain, although the distribution is rather variable. Certain areas such as the low ground of the Romsey and Pevensey marshes, and also near Sandwich, are virtually treeless while, on the other hand, the scarp slopes of the North Downs, the western end of the South Downs and the Weald are densely wooded, as also are the drier heaths such as Bagshot. This results in Surrey, Sussex and Hampshire being the three most densely wooded counties, in terms of the ratio between woodland and land area, in England with Kent also well above the average. Much of the woodland is broadleaved and most is privately owned.

The south west again shows a variety of land forms which have a bearing on woodland density. In Cornwall and Devon the woodlands are largely confined to the sheltered river valleys and to the combes running up into the high ground of Dartmoor, Exmoor and Bodmin Moor. Further east the heathlands in Dorset and near the Hampshire border are quite well wooded but the chalk downlands, with the exception of a few fairly large-sized blocks, tend to be rather bare of trees. North west Gloucester, Hereford and west Worcester are well wooded counties particularly on the higher ground, but the remainder of the land is generally of high agricultural value and intensively farmed.

East England is relatively lightly wooded with less than 5% of the land area under tree cover. There are few large areas of continuous woodland with the exception of the area around Thetford where there are extensive pine areas on the Brecklands, Aldewood Forest near Aldeburgh, and the Chilterns which are famous for their beech woods. The Fenlands and parts of coastal Essex, Suffolk and Lincolnshire are virtually treeless and these areas together with the rather sporadic cover elsewhere in the Region account for the low overall woodland density.

The Midland Counties - Staffordshire, Warwickshire, Leicestershire, West Midlands, and Nottinghamshire, together with Shropshire, have no major concentration of forest except for Cannock Chase and Sherwood. Woodland, generally, is confined to the steeper and more broken ground, the poorer sandy soils or the heavier and more intractable clays - where broadleaved woodlands predominate.

Derbyshire, Lancashire and Cheshire are also relatively lightly wooded counties with few major areas of woodland in them. Woodland tends to be confined to small blocks on the agricultural land at lower elevation and in the sheltered valleys leading to the uplands.

The Vale of York and the Vale of Pickering are predominantly agricultural with small woodlands planted for shelter, sporting and amenity. Most of these woodlands are broadleaved in character.

In Northumberland the woodlands are confined largely to the uplands. The Spruce forests in the North Tyne and Rede valleys are amongst the most extensive of Britain's man-made woodlands, and there are still considerable tracts of land potentially suitable for further afforestation.

In Cumbria there are extensive, mainly coniferous, woodlands in the Lake District and the extreme north east of the county. More than half is owned by the Forestry Commission, the remainder being distributed over some 200 private ownerships. There is little woodland along the western face of the Pennines from Bowland to their northern extremity or in the Pennines themselves.

2.1.1 Regional Distribution in Wales

About two-thirds of the woodland area of North Wales is owned and managed by the Forestry Commission and there are now several large concentrations of woodlands in the upland areas. Away from the uplands woods tend to be smaller and more scattered in their distribution. Spruces predominate in Commission woodlands but broadleaved species and larches have been planted on ground which is suitable and have a considerable impact on the landscape. In private woodlands oak is the predominant species occupying about 30% of the area of productive woodlands; other broadleaves cover 15% of the area with spruce and larch as the main conifers. The predominance of broadleaved species in private woodlands reflects the fact that these tend to be on lower, less exposed, more fertile sites than the Forestry Commission's plantations.

In South Wales the valleys of the Usk and Wye are well wooded; Tintern Forest has for centuries been managed for wood production and several of the larger estates have significant areas of woodland. More recently the Forestry Commission has planted considerable areas on the dissected plateau above the industrial valleys on wet, exposed and relatively infertile land which was in effect the residual area when the coal industry and the related development had occupied the lower ground. There are also extensive, mainly Forestry Commission, woodlands to the north of the coalfield on the wet and often peaty uplands of the Cambrian Mountains, Brecon Beacons and Black Mountains. Elsewhere, throughout South Wales, but particularly in the west, there are scattered small woods on steep slopes among farmland, with spruce the predominant conifer used and oak the predominant hardwood.

2.1.2 Small Woods and Hedgerow Trees

Although, as has already been noted, Britain is, in terms of forest, one of the least wooded countries in Europe, much of the country, particularly in England, has a well wooded appearance; this is because hedgerow trees, park trees, small copses and spinneys often make a major contribution to the landscape - expecially in the lowlands.

The value of these small woodlands lies not only in their important role in the landscape but also in the contribution they can make to the country's timber reserves. Thus the Census of Woodlands Survey of Small Woods and Hedgerow Trees undertaken by the Forestry Commission in 1951 emphasised their importance in forming a substantial part of our broadleaved timber resources. At that time small woods (ie. those between 1 and 5 acres or 0.4 to 2 hectares) amounted to about 46,000 hectares in England, representing about 7% of the private woodland area at that time, and 11,000 hectares representing about 11%

in Wales. These small woodlands are no longer recognised as a separate category, and their areas are now merged into the figures noted in paragraph 2.1.1.

Hedgerow timber, on the other hand, has been the subject of two post-war surveys; one in 1951 and the other in 1965. The 1951 survey, which included not only isolated trees but trees in clumps and copses under one acre (0.4 ha) in size, disclosed a total volume in the hedgerow category in England of 24.5 million cubic metres and 3.1 million cubic metres in Wales. The bulk of this volume was broadleaved and accounted for a third of all the broadleaved volume present in England and Wales at that time.. The survey in 1965 confirmed the disturbing factor found in the 1951 assessment that there was a preponderance of old trees and that because of lack of numbers in the sapling and intermediate categories, the volume of hedgerow timber could be expected to decline, even if the removal of hedgerow trees for agricultural purposes were halted.

The recent devastating attack of Dutch Elm Disease had not started at the time of the last hedgerow census and this outbreak will undoubtedly have affected the results previously noted. The effect in some areas with the death and subsequent felling of a high proportion of the existing elm trees must result in a radically altered landscape. The need for substantial expenditure on new planting of trees and small woods was recognised in the decision to re-introduce a Small Woods Scheme dovetailed with the Countryside Commission's revised scheme of grant-aid for amenity tree planting. The almost universal use of mechanical hedge cutters means that the natural seedlings in hedges which were at one time allowed to grow into saplings, to become in time large trees, are cut at hedge height.

The distribution of hedgerow trees over the country is very variable although the bulk of the trees, and so the volume, is concentrated south of a line from the Thames to the Severn Estuary. Even within this area however, there are marked variations. One particularly noticeable aspect is the large number of trees which occur in parks and gardens and form a characteristic feature of most cities and towns. Under such circumstances a wide variety of species abound but in the rural areas oak tends to predominate with Scots pine a common conifer. The Lombardy poplar is a noted feature of the Thames Valley and elm, which is generally found throughout the area, tended to predominate in parts of Hampshire, Berkshire and Wiltshire. Further west in Somerset, Gloucester and Devon, oak tends to predominate once again although ash is frequent. The more exposed terrain in Cornwall means that hedgerow trees tend to be confined to the more sheltered valleys and to the lower ground near the Devon border.

East England is an area where hedgerow trees are frequently absent - for example, in parts of Cambridgeshire, Lincolnshire, Norfolk and Suffolk. It was also in parts of these counties that large scale removal of hedges and hedgerow trees took place in the fifties and sixties. However, other parts are relatively well endowed with hedgerow trees, particularly in Hertfordshire, Bedfordshire and Buckinghamshire. Ash is common on the limestone areas and elm, more particularly the smooth-leaved varieties, which are fortunately more resistant to Dutch Elm Disease than English elm, in East Anglia and parts of Bedford.

In the north of England on lower ground and in the sheltered valleys oak, ash and sycamore are relatively common hedgerow trees. The high ground tends to be windswept and the trees there are often of small dimensions. The same pattern is true of the south end of the Pennine Chain and also of the Peak District. The large urban concentrations such as occur in Lancashire, West and South

Yorkshire, Greater Manchester and through the Midlands result in hedgerow densities being rather lower than normal but none-the-less there is still substantial tree cover and oak, sycamore and elm are relatively common.

In Wales, hedgerow timber is confined more to the coastal margin and to the lower dairying and cattle raising areas of the valleys which run into the bare central upland core of the country. There tends to be a rather higher proportion of coniferous trees than in England but nevertheless oak is still a very common lowland species with sycamore, ash and elm occurring in lesser quantities.

Surveys by the Countryside Commission* have drawn attention to the decline in hedgerow trees and small woods, but have emphasised that there is ample scope for, and land for, the planting of new clumps, copses and spinneys to replace those which have been lost; and it is indeed in the extension of planting of small woods and the restocking of existing neglected woodlands that one of the main opportunities for increased timber production lies. Such planting also offers an alternative to hedgerow tree planting where these are no longer so acceptable under modern farming systems.

2.2 TIMBER PRODUCTION

No increase is expected in the current annual production of about 1.2 million cubic metres of broadleaved timber. However, as shown in Table 5, a considerable increase in coniferous production is forecast.

Detailed estimates of the potential production by Forestry Commission administrative regions (Conservancies) are given in Tables 4 and 5 for private and Forestry Commission woodlands in England and Wales for 1980 and 1990; the corresponding figures for 1975 are given by way of comparison.

Timber comes partly from the thinning of young plantations and partly from fellings of mature stands. The smaller thinnings and the tops of some of the larger trees are used for paper pulp, chipboard (also called particle board) mining timber and fencing. Larger material is sawn into deals, battens and boards, fencing timber and of increasing importance, constructional timbers.

Although the tables point to a virtual doubling of home timber production over the next twenty years, demand for wood and wood products is also expected to rise substantially over the same period. The increased quantity of home production is likely to account for some 10% to 12% of estimated consumption by the year 2000 - compared with 8% at present.

Traditionally the home sawmilling industry in England and Wales was based on the utilisation of mature broadleaved timbers grown on private estates. Increases in coniferous production from Forestry Commission and private plantations have enabled the sawmilling trade to diversify into softwoods and have given rise to a number of new industries.

Some idea of the increase in the availability of wood to industry may be gained from the following table showing timber cut in Forestry Commission woodlands since 1946.

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* New Agricultural Landscapes, Countryside Commission 1974, Page 76.

New Agricultural Landscapes "Issues, Objectives and Action", Countryside Commission 1977, Page 102.

Timber Cut in Forestry Commission Woodlands in England and Wales

Thousands of cubic metres over bark

	England	*Wales*	*Total*
1946	120	20	140
1955	215	65	280
1965	475	190	665
1975	600	290	890

2.3 WOOD USING INDUSTRIES

2.3.1 Sawmills

It is estimated that there are currently some 400 sawmills in England and Wales which depend principally on British grown timber. They provide full-time employment for about 6,700 people. Their distribution by numbers of mills and by timber consumed is similar and is shown in the following table, by Conservancies.

England	North West	14%	*Wales*	North	4%
	North East	13%		South	6%
	East	20%			
	South East	13%			
	South West	30%			

They use between 1,400,000 and 1,600,000 m^3 per annum, about 60% of which is hardwood. In the southern half of England hardwood sawmilling is the single most important wood consuming industry.

Sawmills produce a wide range of sawn material. Uses include furniture and joinery wood; wood for constructional purposes; pallet wood; fencing and estate timbers; river and sea defence timbers; sawn mining timber.

2.3.2 Pitwood

A major market for small diameter wood, and one which must be recognised as of national importance, is the coal mining industry. In 1975 the consumption of coniferous roundwood by this industry in England and Wales was about 155,000 m^3. /In addition, the coal mines use very large quantities of sawn wood/. There is a trend to use an increasing proportion of wood from home sources and this is expected to continue as imported wood is replaced by British wood. Overall this market for wood is not likely to increase as coal production is more and more concentrated on modern pits using less timber per ton of coal mined.

Up until the late 1950s most of the timber which was too small to saw economically was used as round mining timber. Increasingly since then timber of smaller dimensions has formed the raw material for the manufacture of paper pulp and particle board. By 1975, at a time when the extensive post-war plantations were coming into production, 6 pulpmills, 5 particle board (wood chipboard) factories and 3 fibre board factories were in existence and dependent on these supplies of raw material.

2.3.3 Pulp Mills

Although the use by the pulp industry of straw, bagasse, bamboo and other so-called non-wood fibres will increase with time, wood is still seen as the future major raw material of the pulp, paper and board industries. This is because trees are very efficient at harvesting the sun's energy through photosynthesis and the product - wood fibre - is technically superior to most other fibres. The relatively young British wood processing industry may therefore look forward to a very long period of economic viability.

The five pulpmills in England and the one in Wales are in every case integrated with mills producing paper or paperboard on the same site. Each of the mills draws its supplies from a wide area with haulage distances of up to 150 miles. A pulpmill requires a large capital investment and the economic success of its operation is dependent on securing and processing large volumes of timber. During the decade to 1985 existing mills, currently operating on a modest scale by international standards, are likely to want to increase their capacity as wood supplies increase. Although pulpmills in the main depend upon small diameter coniferous wood, they can also use wood in the form of residues from sawmills, provided that these residues are free of bark. Only the larger sawmills can afford to install the necessary equipment to de-bark their sawlogs before sawing to enable them to sell bark-free residues.

2.3.4 Particle Board (Wood Chipboard)

The last few years have seen a marked increase in the production of particle board through the expansion of existing plants and by the installation of new plants at Chirk, Clwyd; and South Molton, Devon.

A feature of all particle board plants is that the most important source of raw material is wood residues from sawmilling and other wood manufacturing industries. Because it is more expensive than residues the intake of roundwood is limited to about 25% of the total wood consumption of the industry and is generally confined to material of lower specification than is used by pulp mills.

2.4 EMPLOYMENT

At July 1974 nearly 20,000 people were employed in forestry in England and more than 4,000 in Wales. Of these about 12,500 in England and 2,500 in Wales were engaged directly in planting, caring for and felling trees and the rest in the timber transport, pulp, paper, board and sawmilling industries based on home timber. Greater mechanisation means that more and more forest workers are becoming machine operators, and their earning capacity is improving accordingly. Increasingly too, forestry provides a range of jobs centering on recreational facilities.

Trends in productivity and labour requirements in forestry have followed those in agriculture. A substantial decline in employment in forestry took place over the last decade. The Forestry Commission's industrial labour force in England went down from 4,330 in 1965 to 2,170 in 1975 and in Wales from 2,490 to 1,170. Indeed, through better working methods, management techniques and mechanisation, labour productivity in the Commission has been improving at the rate of 6½% per annum.

Future productivity improvements may be slower and with more timber to be harvested, total employment in forestry should be relatively stable and may well increase in some areas.

2.5 RECREATION IN THE FOREST

It is the policy of the Forestry Commission to open all its forests to people on foot, for the enjoyment of fresh air and exercise. The only exceptions are where there are legal constraints.

Woodlands have the ability to absorb relatively large numbers of people owing to the screening effect of the trees, which also tend to reduce noise transmission. Trees and woodlands can also lend themselves to the construction of car parks which can hold cars in an unobtrusive way. The Forestry Commission has built a large number of such car parks with associated picnic areas and forest walks to cater for day visitors.

Overnight accommodation for campers and caravans is available at a number of Commission and private woodlands; and there is now a move towards the provision of forest cabins and other permanent overnight accommodation.

Some sports depend on woodlands, such as orienteering and wayfaring. Other forest-based activities include watching and photographing woodland deer and other forest wildlife from specially constructed hides. At various of its forests the Commission has made available facilities for these sports and activities which can be enjoyed by people of all ages. Horse riding too can be enjoyed in some Commission woodlands.

Pedestrians, horse-riders, sportsmen, naturalists, all make different demands on the forest. It requires skilful management and substantial funds to provide the desired facilities and to manage them in such a way as to avoid potential conflict between the various sorts of user; without proper management the very things which people come to the forest to enjoy can be damaged or destroyed.

Chapter 3

POTENTIAL FOR FURTHER PLANTING

3.1 POTENTIALLY PLANTABLE LAND

There are large areas of England and Wales which are of low agricultural value but which are technically well suited to growing timber. For example, MAFF in their agricultural land classification indicate that the lowest grades of agricultural land - grades 4 and 5 - occupy 2.4 and 1.7 million hectares respectively.

MAFF Agricultural Land Classification

	Millions hectares	
	Grade 4	*Grade 5*
England	1.65	1.08
Wales	0.76	0.62
	2.41	1.70

By far the greater part of this land should and will remain in its present use - agriculture - and several attempts have been made to indicate how much of this area might be planted in the long run. Thus, based on an evaluation of Dudley Stamp's Land Utilisation Map, G.M.L. Locke has suggested that in England and Wales some 650,000 hectares of the poorest of agricultural land might be regarded as technically capable of growing economic crops of timber. This figure excludes land in National Parks and Areas of Outstanding Natural Beauty.

The Centre for Agricultural Strategy (CAS Report 1 October 1976) suggests that substantial areas of land could be devoted to forestry, especially in the uplands, with little or no loss to food production.

Extension of the forest area by new planting does not necessarily imply the creation of very large forest blocks; there are many opportunities for new woodlands to be fitted into the upland agricultural pattern often to the advantage of both forms of land use through sharing of access roads and fences for stock control. The re-introduction of a Small Woods Scheme for the planting of woods of up to 10 hectares is evidence of the Government's concern that small scale planting is given its due place in forestry.

3.2 THE CASE FOR MORE PLANTING - ENVIRONMENTAL FACTORS

Factors, not directly related to the provision of wood as an essential raw material, have a bearing on the arguments for and against creating woodlands. These are visual amenity, recreation including sporting, and nature conservation.

As already noted, the Countryside Commission has argued powerfully on visual amenity grounds for a major increase in the planting of trees, copses and spinneys and what may loosely be termed small woodlands. The Countryside Commission also recognise the role such plantings can have in providing wood for industry. The Small Woods Scheme of the Forestry Commission favours the planting of broadleaves where sites are suitable to their growth, particularly in the lowlands. Properly landscaped plantings of conifers and of intimate mixtures of conifers and broadleaves can also be aesthetically pleasing and the Forestry Commission and private owners are now attaching much more importance to the landscaping of new plantations.

The value of woodlands for game management has always been appreciated on the traditional estate and the role of woodlands for recreation is becoming more and more appreciated. Those who work in the field of nature conservation see woodlands as having a positive, beneficial effect on the conservation of flora and fauna. Long established woodlands are more valuable than those of more recent origin; and generally broadleaved woodlands of native species support a much greater variety of wildlife than do exotic conifers. However, the point remains that even very young woodlands are beneficial to wildlife conservation and in the uplands large-scale coniferous woodlands can have a quite dramatic effect on wildlife. For example, where periodically there may be prolonged spells of snow lasting several weeks with sub-zero temperatures, dense, coniferous woodlands can provide shelter otherwise lacking over a very wide area. The "edge effect" of woodlands is very important whether it be round the perimeter of the woodland or alongside rides, roads and clearings. The ability to move freely into and out of woodlands canopy is beneficial to various species of birds and mammals and essential to others, and some earlier ideas that large-scale upland plantations were largely devoid of all wildlife must now be revised in the light of recent studies. Even after allowing for older woodlands usually being much richer in wildlife than young plantations, a large-scale programme of planting is judged to confer positive benefit on nature conservation.

3.3 FUTURE DEMAND FOR BRITISH TIMBER

That there is a growing world demand for wood and wood products is not in doubt. At present total world consumption of wood and wood products requires the removal from the forest of some 2,500 million cubic metres of roundwood per annum. Forecasts of demand suggest that by the end of the century, allowing for a medium rate of increase in world population and of income per capita, world demand for wood will require the felling of some 4,500 million cubic metres of wood annually. This is after making generous allowances for improved efficiency of conversion and for re-cycling, eg. of paper. If the higher estimated rates of population increase favoured by some are assumed then of course demand will be even higher by the year 2000.

World resources of wood are physically capable of meeting a demand of the order of 4,500 million cubic metres. Whether countries will supply more wood without (real) price increases over the next two decades is uncertain. Certainly prices may well tend to rise (in real terms) about the turn of the century.

Britain currently consumes some 44 million cubic metres of wood and wood products per annum, all but some 8% being imported. The annual cost of imported wood and wood products has in recent years been of the order of £1,500 million to over £2,000 million. Imports are of many kinds but the main groups of wood products are:-

- wood used in the solid (such as building and furniture timbers)
- panel products (plywood, particle board, hardboard)
- pulp and paper

It is in the panel and pulp and paper sectors that demand has been increasing most rapidly and it is these sectors that are expected to continue to grow.

The forestry side of the industry has for the last 50 years worked with the Government Forest Products Laboratory (now part of the Building Research Station) and other relevant research agencies to evaluate the properties of British conifers and broadleaves. British wood can meet the quality requirements of a wide range of uses from the traditional hardwoods for fine furniture and interior joinery to coniferous pulpwood for making newsprint, writing and packaging papers.

Industry too has been involved in the various research and development programmes. Several pulp and paper (or paperboard) plants have been built or adapted to use British pulpwood. Many of the traditional family sawmills which were so characteristic of the English hardwood trade between the two world wars have been re-built and new softwood sawmills have been established to use the increased quantities of softwood sawlogs from the expanding production of coniferous plantations.

Thus, as already indicated in paragraph 2.1.4, there is in Britain a soundly based wood and wood products industry capable of processing British timber to meet a very wide range of demand from sawnwood to panel and paper products. Some of these industries were originally established to convert imported wood - for example to newsprint. However, there is an increasing tendency for the wood rich countries of the world to process the wood within the country of origin and to export more nearly finished products of higher added value. Thus countries which formerly exported pulpwood are now exporting pulp and countries which formerly processed their pulpwood into paper pulp for export are now making that pulp into paper. This is true of the developing countries as well as the developed countries although the rate of change in the former is slower than that in the latter.

Many of Britain's existing woodlands are relatively young, the major upsurge in planting having started only in the 1950s. Production is increasing and by the turn of the century it will be 2½ to 3 times as great as it now is.

There are strong arguments in favour of extending the area of land under trees. British wood is technically suitable for industry's needs; the industry to process it is established and willing to expand; overall demand is growing whilst overseas suppliers will seek to export to Britain more highly manufactured wood products which will increase the import bill; the present forest area is small in relation to current and future wood requirements.

Table 1

COMPARATIVE WOODLAND STATISTICS FOR COUNTRIES IN THE UNITED KINGDOM AND THE EEC

Country	*State owned woodland*	*%*	*Private and other woodland*	*%*	*Total*	*%*	*Woodland area as a % of land area*	*Woodland area per caput. hectares*
	Thousands of Hectares *Ownership Category*							
England	255	28	650	72	905	100	7	0.02
Wales	135	59	95	41	230	100	11	0.09
Scotland	460	54	385	46	845	100	11	0.15
Northern Ireland	50	77	15	23	65	100	4	0.03
United Kingdom	900	44	1145	56	2045	100	8	0.03
Belgium	75	12	530	88	605	100	20	0.06
Denmark	105	25	315	75	420	100	10	0.09
Eire	225	88	30	12	255	100	4	0.09
France	1470	11	11550	89	13020	100	24	0.26
Italy	290	4	7420	96	7710	100	26	0.15
Luxembourg	5	6	75	94	80	100	31	0.24
Netherlands	70	25	210	75	280	100	8	0.02
W. Germany	2240	31	4970	69	7210	100	30	0.12
EEC	5380	17	26245	83	31625	100	20	0.13

Table 2

ESTIMATED AREA OF FOREST LAND AS AT MARCH 1976
BY COUNTRY, OWNERSHIP AND USE

Thousand hectares

Country	*Productive*			*Unproductive*			*All Forest Land*		
	FC	*PW*	*Total*	*FC*	*PW*	*Total*	*FC*	*PW*	*Total*
England	**246**	**479**	**725**	**9**	**173**	**182**	**255**	**652**	**907**
Wales	**133**	**63**	**196**	**3**	**30**	**33**	**136**	**93**	**229**
Scotland	**447**	**304**	**751**	**11**	**82**	**93**	**458**	**386**	**844**
Great Britain	**826**	**846**	**1672**	**23**	**285**	**308**	**849**	**1131**	**1980**

Table 3

DISTRIBUTION OF WOODLAND AREA IN ENGLAND AND WALES
BY CATEGORY (TO THE NEAREST 5000 HA)

Thousand hectares

	Productive woodland			
Country	*Coniferous*	*Broadleaved*	*Woodland*	*Total*
England	**410**	**315**	**180**	**905**
Wales	**165**	**30**	**35**	**230**
Total	**575**	**345**	**215**	**1135**

Table 4

POTENTIAL PRODUCTION OF CONIFEROUS TIMBER IN ENGLAND
BY CONSERVANCIES

Conservancy and ownership of woodlands	*1975* S	*1975* L	*1975* T	*1980* S	*1980* L	*1980* T	*1990* S	*1990* L	*1990* T
	(Thousands of cubic metres over bark)								
Forestry Commission									
England	372	323	695	472	427	899	759	682	1441
North West	81	60	141	98	80	178	145	166	311
North East	114	34	148	162	53	215	281	127	408
East	90	112	202	100	159	259	127	214	341
South East	33	34	67	45	50	95	83	76	159
South West	54	83	137	67	85	152	123	99	222
Private Woodlands									
England	227	181	408	288	204	492	267	349	616
North West	45	40	85	60	51	111	54	64	118
North East	65	49	114	81	55	136	64	71	135
East	24	26	50	36	29	65	26	49	75
South East	32	22	54	37	23	60	62	79	141
South West	61	44	105	74	46	120	61	86	147
Total									
England	599	504	1103	760	631	1391	1026	1031	2057
North West	126	100	226	158	131	289	199	230	429
North East	179	83	262	243	108	351	345	198	543
East	114	138	252	136	188	324	153	263	416
South East	65	56	121	82	73	155	145	155	300
South West	115	127	242	141	131	272	184	185	369

S = Small-diameter wood under 18 cm top diameter

L = Large-diameter wood 18 cm top diameter and over

T = Total all diameters

N.B. These figures are revised periodically. This series was compiled in 1972.

Table 5

POTENTIAL PRODUCTION OF CONIFEROUS TIMBER IN WALES BY CONSERVANCY

(Thousands of cubic metres)

Conservancy and ownership of woodlands	*1975*			*1980*			*1990*		
	S	*L*	*T*	*S*	*L*	*T*	*S*	*L*	*T*
Forestry Commission									
Wales	212	150	363	277	199	476	450	405	855
North	110	75	185	151	104	255	247	196	443
South	102	75	177	126	95	221	203	209	412
Private Woodlands									
Wales	31	37	68	36	39	75	56	54	110
North	23	31	54	29	32	61	34	35	69
South	8	6	14	7	7	14	22	19	41
Total									
Wales	243	187	430	313	238	551	506	459	965
North	133	106	239	180	136	316	281	231	512
South	110	81	191	133	102	235	225	228	453

N.B. See footnote to Table 4

S = Small diameter wood under 18 cms top diameter

L = Large diameter wood 18 cms top diameter and over

T = Total all diameters

No similar estimate is available for hardwoods but total production in England and Wales is expected to remain at about 1¼ - 1½ million cubic metres per annum.

FORESTRY COMMISSION CONSERVANCY OFFICES

	Description of Area Covered
ENGLAND	
NORTH WEST	
Dee Hills Park Chester CH3 5AT Tel: 024 4 24006	The counties of Cumbria, Lancashire, Derbyshire, Nottinghamshire, Cheshire, Salop, Staffordshire, West Midlands, Warwickshire, Hereford and Worcester - that part north of road A44 and west of road B4361, Leicestershire - except the District of Rutland; Merseyside, Greater Manchester.
NORTH EAST	
1a Grosvenor Terrace York YO3 7BD Tel: 090 4 20221	The counties of Northumberland, Tyne and Wear, Durham, Cleveland, North Yorkshire, West Yorkshire, South Yorkshire, Humberside - except the Districts of Glandford, Scunthorpe, Grimsby and Cleethorpes.
EAST	
Block D Government Buildings Brooklands Avenue Cambridge CB2 2DY Tel: 022 3 58911	The counties of Lincolnshire, Bedfordshire, Norfolk, Suffolk, Essex, Hertfordshire, Buckinghamshire, Northamptonshire, Cambridgeshire, Oxfordshire, Leicestershire - the District of Rutland, Humberside - the Districts of Glandford, Scunthorpe, Grimsby and Cleethorpes, Greater London - that part north of the River Thames
SOUTH EAST	
The Queen's House Lyndhurst Hants SO4 7NH Tel: 042 128 2801	The counties of Hampshire, Isle of Wight, Berkshire, Greater London - that part south of the River Thames, Surrey, Kent, East Sussex, West Sussex, Dorset - that part east of a line from a point on the Dorset/Hampshire boundary at Bokerly Junction south-westwards along the road A354 as far as Blandford Forum then south-eastwards along the road A350 as far as Poole.
SOUTH WEST	
Flowers Hill Brislington Bristol BS4 5JY Tel: 0272 713471	The counties of Cornwall, Devon, Somerset, Avon, Gloucestershire, Wiltshire, Dorset - except that part east of a line from a point on the Dorset/Hampshire boundary at Bokerly Junction south-westwards along the road A354 as far as Blandford Forum then south-eastwards along the road A350 as far as Poole, Hereford and Worcester except that part north of road A44 and west of road B4361.

WALES

NORTH

Victoria House
Victoria Terrace
Aberystwyth
Dyfed SY23 2DA
Tel: 0970 612367

The counties of Gwynedd and Clwyd. The Montgomery and Radnor Districts of the county of Powys, The Ceredigion District of the county of Dyfed except the following Communities: Cardigan, Verwig, Llangoedmor, Aberporth, Llandygwydd, Brongwyn, Bettws Evan, Penbryn, Troedyraur, Llandyfriog, Llangynllo, Orllwyn, Teifi, Llandyssul, Llanddewi Brefi, Caron-is-Clawdd and Caron-Uwch-Clawdd.

SOUTH

Churchill House
Churchill Way
Cardiff CF1 4TU
Tel: 0222 40661

The counties of West Glamorgan, Mid Glamorgan, South Glamorgan and Gwent. The South Pembrokeshire, Preseli, Carmarthen, Llanelli and Dinefwr Districts and the Communities of Cardigan, Verwig, Llangoedmor, Aberporth, Llandygwydd, Brongwyn, Bettws Evan, Penbryn, Troedyraur, Llandyfriog, Llangynllo, Orllwyn, Teifi, Llandyssul, Llanddewi Brefi, Caron-is-Clawdd and Caron-Uwch-Clawdd in Ceredigion District, in the county of Dyfed. The Brecknock District in the County of Powys.

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