



**Forestry Commission**

**Regional Employment in  
Forestry and Primary Wood Processing  
in GB**

**1998/9**

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# 1. INTRODUCTION

This report presents the results of further analysis of data from a recent survey concerning employment in forestry, and the employment figures are presented here by regions of England, Scotland and Wales. This report is an extension to the 'Forest Employment Survey 1998/9' report.

**Figures presented here contain a number of uncertainties, which are explained in section 2. As such they represent the best estimates of regional employment in forestry and primary wood processing we can make, but these uncertainties should be borne in mind when interpreting the results.**

This survey estimated the total amount of employment, including contract work and self-employment, related to forestry and woodlands in Great Britain (GB).

'Forestry' is defined as including the following sectors:

- The Forestry Commission
- Private woodland owners
- Forestry companies and contractors
- Wood processing industries
- Other employers

The figures included are in terms of full-time equivalents (FTE's) in one working year, rather than the total number of people working in forestry.

The following section describes briefly the methodology of this survey and outlines the limitations to this work. Employment by English region is presented in Section 3, and the Scottish and Welsh results follow in Sections 4 and 5 respectively.

## **2. METHODOLOGY AND LIMITATIONS OF THIS STUDY**

### **METHODOLOGY**

The sampling methodology is explained in more detail in the Appendix. Members of each forestry sector (as listed in section 1) which had been sampled were allocated to a region by their postcode. Their responses were then rated up (using the same methodology as in the Survey report) to obtain a full-time equivalent employment figure in each region.

### **LIMITATIONS OF CALCULATIONS BY REGION**

Some forestry sectors were subject to more uncertainty than others in the main Forest Employment Survey. These limitations are explained more fully in the Appendix and the Forest Employment Survey 1998/9 report. In addition to the limitations in the calculation of country employment figures outlined in the Appendix, there were further uncertainties involved in the calculation of regional figures. These are outlined here.

#### **Division into regions by postcode**

In order to calculate the regional figures, each response was allocated to a region by the postcode to which the survey form was sent. The responses in each region were then rated up. One problem is that the woodland where work was carried out was not necessarily in the same region in which the office was based. We are aware that we sent many survey forms to the head offices of the various companies, and as such they could be based in London, say, but carrying out work at a woodland in Northumberland. There were also a few cases where the office and woodland were in different countries (i.e. over the English/Welsh border). However the questionnaire was designed to allow us to identify these differences by country. This means that the regional divisions of data are only very approximate.

We found problems with our data for converting postcodes to regions, particularly for Wales, with certain postcodes being incorrectly allocated. There were also some problems with allocation of postcodes to regions in Scotland. However, English postcodes appeared to be correctly allocated to regions. New postcode data from the Office for National Statistics aided us in this process and allowed us to allocate postcodes to regions with greater accuracy in Wales and Scotland.

### **Particular problems where no postcode data was available**

For sectors which were not part of the sampling frame, and therefore for which no postcode data was available, we used the following methods to divide the employment figures between the regions.

#### **Private woodland owners**

As stated previously, the NFU members were not surveyed, and employee numbers in England and Wales were calculated from the country totals from a previous survey. For the purposes of this regional study, the employment in each country (England, Scotland and Wales) was then divided between the regions proportional to the total area of woodland in each region (not the area of farm woodland). Employment by members of the Scottish Landowners' Federation in England (a very small proportion) and 'other private woodland owners' in England were also divided into region proportional to the area of woodland from the National Inventory.

#### **Contractors**

Employment numbers for one of the largest timber harvesting companies were divided by region using the area of woodland from the National Inventory. The employment numbers from Hauliers were divided between regions proportional to the employment numbers in the questionnaire responses which we received.

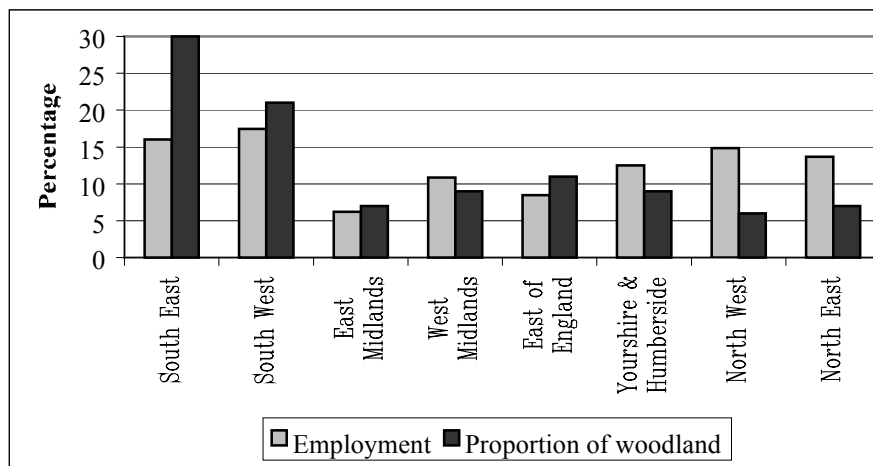
### 3. REGIONAL ENGLISH EMPLOYMENT

Table 1 shows the Employment in forestry and primary wood processing by Government Office region in England. A total of 14,740 FTE's are estimated in England with the employment numbers varying from 17 % in the South West to 6 % in the East Midlands. Figure 1 shows the percentage of employment in forestry in each region, compared with the proportion of woodland area. The south of England has the smallest employment compared with woodland area.

**Table 1: Employment in forestry by English region for the year 1998/99**

Region	Full-time equivalents	% FTEs in England	National Inventory woodland area (%)
South East	2360	16.0	30
South West	2571	17.4	21
East Midlands	914	6.2	7
West Midlands	1602	10.9	9
East of England	1249	8.5	11
Yorkshire & Humber	1840	12.5	9
North West	2187	14.8	6
North East	2017	13.7	7
<b>Total</b>	<b>14740</b>	<b>100</b>	<b>100</b>

**Figure 1: Percentage employment and proportion of total forest area in England by English region**



## 4. REGIONAL SCOTTISH EMPLOYMENT

Table 2 shows the employment in forestry and primary wood processing by former Scottish region. A total of 10,694 FTE's are estimated in Scotland with the employment numbers highest in Strathclyde, Highland, and Dumfries & Galloway. Figure 2 shows that there is less than average employment per forest area in the Highland region, and more than average in Dumfries & Galloway.

**Table 2: Employment in forestry by Scottish region for the year 1998/99**

Region	Full-time equivalents	% FTEs in Scotland	National Inventory woodland area (%)
Highland	1947	18.2	27
Grampian	1411	13.2	14
Tayside	752	7.0	9
Fife	181	1.7	1
Central	760	7.1	4
Strathclyde	2238	20.9	23
Lothian	893	8.4	2
Borders	661	6.2	8
Dumfries & Galloway	1851	17.3	12
<b>Total</b>	<b>10694</b>	<b>100</b>	<b>100</b>

**Figure 2: Percentage employment and proportion of total forest area in Scotland by Scottish region**





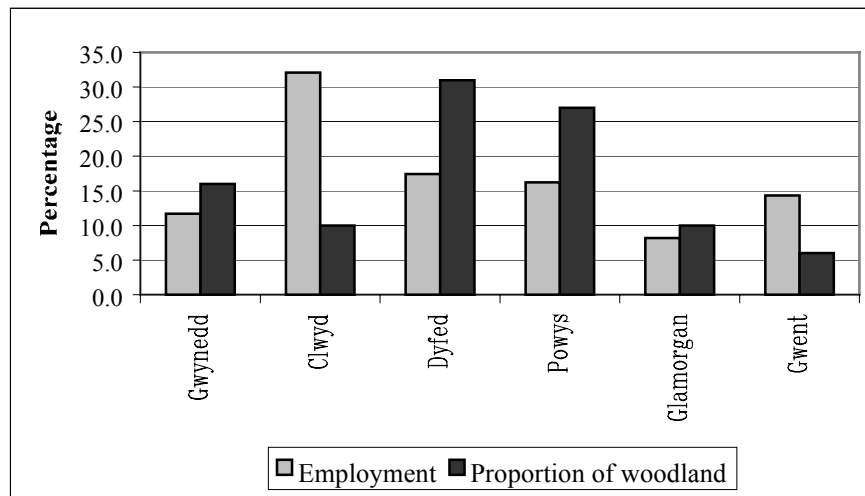
## 5. REGIONAL WELSH EMPLOYMENT

Table 3 shows the employment in forestry by Welsh region (former counties, with Glamorgan combined). A total of 4,099 FTE's are estimated in Wales, with the employment numbers and employment per forest area both being much higher in Clwyd than any other region; This is due to the presence of two large wood processors in Clwyd. There is also a higher ratio of employment to woodland area in Gwent.

**Table 3: Employment in forestry by Welsh region for the year 1998/99**

Region	Full-time equivalents	% FTEs in Wales	National Inventory woodland area (%)
Gwynedd	480	12	16
Clwyd	1316	32	10
Dyfed	715	17	31
Powys	665	16	27
Glamorgan	336	8	10
Gwent	587	14	6
<b>Total</b>	<b>4099</b>	<b>100</b>	<b>100</b>

**Figure 3: Percentage employment and proportion of total forest area in Wales by Welsh region.**



## APPENDIX: SURVEY METHODOLOGY

The Forest Employment Survey gives estimates of the total employment in forestry and primary wood processing in Great Britain<sup>1</sup>. Forestry is defined using the survey sectors described below. Employment which is dependent on forestry but not directly related to it has been estimated separately in Multiplier Studies for England, Scotland and Wales. These studies are available from the address on the front cover.

For the 1998/9 Employment Survey, the employment figures have been split into five categories – Forestry Commission, private woodland owners, forestry companies and contractors, wood processing industries, and other employers. The scope of this survey is wider than in previous surveys and employment sectors have been redefined in order to avoid duplication of results, so a direct comparison with employment figures from previous years is not possible. Copies of the questionnaires and covering letter used in the survey are found in the appendices.

### ***A.1 Forestry Commission***

Direct Forestry Commission employees were classified into two groups – industrial and non-industrial employees. All non-industrial employees were categorised as ‘other non-forest’ workers. Total industrial employees were obtained from personnel records, and the breakdown by activity was assumed to be the same as in 1993/4. Estimates for Forestry Commission contract employment were calculated using returns from forestry companies and contractors, which were asked to estimate how much of their work was for the Forestry Commission. The forestry companies and contractors returns were used because there was evidence that some standing sales were being incorrectly included in the survey of the Forestry Commission use of contractors.

### ***A.2 Private Woodland Owners***

The private woodland owners sector encompasses owners of woodlands which are not part of the Forestry Commission estate including a small number of public sector organisations. However it excludes Local Authorities and woodland associations & other woodland initiatives (which are included in the other employers sector). This sector covers the number of FTE’s employed by private woodland owners, plus the work done by the owners themselves (and their use of contractors).

It is not possible to obtain a random sample of private woodland owners because there is no single register of such owners. Therefore a combination of several sampling frames based on the membership of the Timber Growers Association, Country Landowners Association and the Scottish Landowners Federation was used. Where sufficient information was available, size stratification was used but there was no stratification by geographical area. A copy of the questionnaire is included in Appendix 2.

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<sup>1</sup> Some summary information for Northern Ireland is available from [www.dani.gov.uk/core/forestry](http://www.dani.gov.uk/core/forestry)

The TGA sampling frame was constructed by splitting the membership into 3 categories, depending on the area of woodland owned. The area bands were 1-50 hectares, 51-500 hectares and over 500 hectares. 20% of members who owned up to 50 hectares of woodland were sampled, 50% of members owning between 51-500 hectares of woodland and all members who owned 501+ hectares of woodland. This stratification was designed to reduce the survey's burden for those with smaller amounts of woodland, and to maximise the coverage of employment. The response rates were 28% for those with less than 50 hectares, 65% for those with between 51 and 500 hectares and 79% for those with over 500 hectares.

The Country Landowners Association (CLA) membership was split into two categories – those owning 40 hectares or less of woodland and those owning more than 40 hectares of woodland according to CLA membership records. 10% of those with 40 hectares or less and 50% of those with more than 40 hectares were sampled. The response rates were 31% for those with 40 hectares or less and 52% for those with greater than 40 hectares of woodland.

Around 12.5% of members of the Scottish Landowners Federation were sampled, of whom 46% responded to the survey.

For each of these organisations the responses were rated up, by size category where possible, to account for the non-respondents and non-sampled members. This assumes that the respondents were typical of members in that size category. For the CLA and SLF the population for the survey was assumed to be less than the actual total membership, to avoid double-counting of owners who were also members of the TGA.

The total area of woodland reported was rated up using the same weights as the employment figures. Collectively members of the 3 organisations owned around 780,000 hectares of woodland.

The National Farmers Union (NFU) and NFU Scotland did not participate in the 1998 survey. The Agricultural Departments' June Census estimated that 480,000 hectares of woodland in Great Britain was owned by farmers in 1998. This area of woodland has increased by 20% from 1993/4. Members of the National Farmers Union (covering England and Wales) were sampled in 1993/4, so the direct employment figures for England & Wales were taken from the 1993/4 survey results and uprated by 20% to account for the increase in woodland. The Scotland figures were estimated from the amount of farm woodland in Scotland, by assuming that they had the same employment per thousand hectares as England and Wales. Contract employment was calculated from the forest companies and contractors returns which estimated the amount of work time spent on farm woodland.

Other organisations such as water companies and voluntary organisations were also sampled in this sector (although most were included as part of the TGA/ CLA/ SLF membership). A copy of the questionnaire is in Appendix 2. The area of woodland owned by organisations covered elsewhere in the survey (forestry companies and contractors (see section 2.3) and Local Authorities (see section 2.5)) was also excluded from the total amount of private woodland. This left approximately 355,000 hectares of private woodland that was not accounted for by the survey. It was

assumed that employment on this land was 4 FTE's per thousand hectares, slightly lower than the average for association members.

### **A.3 Forestry Companies and Contractors**

This category covered members of the Association of Professional Foresters (APF), Forestry Contracting Association (FCA), Forestry Trades Group of the Horticultural Trades Association (HTA), as well as forest management and timber harvesting companies, charcoal & coppice workers and timber haulage companies (see Appendix 3 for copies of the questionnaires). Arboricultural work in parks and gardens was excluded from the scope of this survey.

To avoid any duplication of employment, all use of contractors by private woodland owners, the Forestry Commission and other employers was excluded from the forestry companies and contractors sector. All employees in the forestry companies and contractors sector were labelled as 'contractors', as it was not possible to obtain a reliable measure of workers' status, given the widespread use of subcontractors and the indirect reporting for some parts of the survey.

Initially a straight rate up of responses from the APF and FCA was carried out based on the response rate. However, the amount of timber harvested by these companies was overestimated by this method. It was assumed that the largest timber harvesting companies were covered by the survey, so calculation was refined to exclude from the rate up the companies which had harvested large amounts and the employment figures for the excluded companies were then added to the final rated up figures.

Around 50% of valid members of the APF were sampled, of whom 32% responded. Over one third of valid members of the FCA were sampled, with 40% responding.

The forest management and timber harvesting companies were split into two groups – the large companies were assumed to have 100% response rate, and the smaller companies had a 32% response rate.

This was the first time that charcoal and coppice workers had been surveyed separately. Over one quarter of those surveyed responded. For forest nurseries, 60% of members of the Forestry Trade Group of the Horticultural Trades Association responded to the survey.

Hauliers who may carry timber were also sampled separately for the first time (with a response rate of one third). However calculating a straight rate up of responses resulted in an unrealistically high employment figure (possibly because those carrying timber were more likely to have responded). Therefore instead of using the survey results the rate up figure was obtained using an estimate of the amount of timber one FTE would be able to deliver in one year, and rating up to the total amount of timber harvested in 1998.

#### **A.4 Wood Processing industries**

The employment figures for sawmills were obtained from the Sawmill Survey 1998. For non-respondents the figures were rated up within size categories. The figures for the fencing sector were obtained from the Fencing Survey 1997. For the Wood Panel and Pulp & Paper mills, the employment figures were obtained from the Inter-Departmental Business Register figures compiled by the Office for National Statistics.

#### **A.5 Other Employers**

The scope of this survey was expanded to include other employers in 1998/9. These include Local Authorities, woodland associations & other woodland initiatives and forestry education, training and research institutes (see Appendix 4 for copies of the questionnaires).

A survey of Local Authorities was carried out. Acknowledgements go to the Convention of Scottish Local Authorities, and to the Local Government Association for England and Wales, who provided valuable help. All Local Authorities in each country were surveyed and any work on arboriculture was excluded from the scope of this survey. All work in woodland for Local Authorities was assumed to be maintenance.

In Scotland, two-thirds of local authorities responded to the survey. However the non-respondents included local authorities who were thought to own large areas of woodland. Therefore the figures were rated up so that the total area of woodland was equal to an estimate for the total area of woodland owned by Local Authorities in Scotland from the National Inventory of Woodland.

In Wales over three-quarters of the local authorities responded to the survey. A straight rate up was carried out for the non-respondents.

In England all District Councils and Unitary Authorities were surveyed. 72% of these responded to the survey. The figures were rated up by area for non-respondents.

For the forestry education, training and research institutes the response rate was 41%. A straight rate up was used to account for non-respondents.

Employment figures for woodland associations & other woodland initiatives were mostly taken from the National Small Woods Association (NSWA) Register of Woodland Initiatives. All employment was assumed to be other non-forest.