

FORESTRY COMMISSION

TWENTY-NINTH
ANNUAL REPORT OF THE
FORESTRY COMMISSIONERS
FOR THE YEAR ENDING
SEPTEMBER 30TH
1948

*Presented pursuant to Section 7 (3) of the Forestry
Act, 1945 (8 & 9 Geo. VI Ch. 35)*

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FORESTRY COMMISSION,
25, SAVILE ROW,
LONDON, W.1.

4th May, 1949.

To:

THE MINISTER OF AGRICULTURE AND FISHERIES.
THE SECRETARY OF STATE FOR SCOTLAND.

Gentlemen,

In pursuance of Section 7 (3) of the Forestry Act, 1945, I have the honour to transmit the 29th Annual Report of the Forestry Commissioners covering the Forest Year ended September 30th, 1948.

I am,

Gentlemen,

Your obedient Servant,

(Sd.) ROBINSON,
Chairman.

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FOR THE FOREST YEAR ENDING
SEPTEMBER 30th 1948

FOREST POLICY

PRIVATE FORESTRY

The Dedication Scheme.—The Dedication Scheme was first discussed in broad outline in 1943 with the private forestry interests. While the principles on which it was to be based were agreed, the production of a fully formulated scheme, involving as it did a new Act (The Forestry Act, 1947) to enable Dedication to run with the land, and lengthy consultations with all concerned, took much longer than was anticipated, and it was not until January, 1948, that the explanatory booklet* could be published giving woodland owners full details of the scheme in all its aspects.

In the meanwhile owners of woodland had been requested to state provisionally their attitude towards Dedication. The initial response was fairly satisfactory since at the beginning of the year under review 821 owners holding a total area of 436,000 acres of woodland had signified their willingness to consider dedication. Subsequently, however, timber prices became a burning question, and this together with objections to certain provisions of the Deed of Covenant affected the attitude of many owners. The result was that by the end of the year the total acreage being considered by owners for dedication only increased by the small amount of 72,000 acres, while very few owners had decided definitely to proceed. Although owners were hesitant to dedicate or signify their willingness to consider dedication, replanting on private estates continued on a scale closely approximating to the forecast made in the White Paper on Post-War Forest Policy (Cmd. 6447).† This has been achieved mainly with the aid of the planting grant but also, to some extent, unaided.

Timber Production.—Largely as a result of restrictions on the import of timber from overseas, felling in British woodlands had to be continued at a disturbingly high level; the quantity licensed for felling amounted to 67 million cubic feet (mainly of oak and other hardwoods), an increase of 12 million cubic feet over the total for the previous year. This is an output which is far in excess of the annual growth, and one that can be maintained only for a very limited period. During the year under review the Commissioners have discussed the timber production problem with a Committee representing the private forestry interests in the United Kingdom, now reconstituted as the United Kingdom Private Forestry Committee. The discussions bore more particularly on the need to reduce the amount of clear felling and to increase the thinning of coniferous plantations in order

* The Dedication of Woodlands, Forestry Commission Booklet No. 2. H.M. Stationery Office, price 1s. net.

† H.M.S.O. Price 2s. 0d.

to maintain the output of pitwood for the mines. The latter consideration raised the question of the prices of home-produced props, which were considered by woodland owners to be uneconomic; as an outcome the whole question of timber prices was considered by the Departments directly concerned, but no decision had been reached by the end of the year.

Co-operation.—The Commissioners have always held the view that there was great scope for the development of co-operative schemes in private forestry and have expressed their willingness to assist any schemes which appeared worthy of support. They have also referred the problem to the Regional Committees and these have given much time to its discussion. A noteworthy development has taken place in Scotland where a body, formerly the Landowners Co-operative Forestry Society, Ltd., has been reconstituted as the Co-operative Forestry Society (Scotland), Ltd. This Society operates over the whole of Scotland, and the Commissioners have agreed to provide a grant not exceeding £2,000, spread over three years, to further its work, the purpose of the grant being to meet any deficit arising out of the operations of the Society in its formative years.

Plant Supplies.—Owing to the fact that both the Nursery Trade and nurseries on private estates have not yet fully recovered from the dislocations of the war years, plant supplies for private planting are still far from adequate. The position has been aggravated by unavoidable shortages of seed of certain species, and by the inclement spring of 1948 which caused widespread damage to nursery plants. While the Commissioners do not undertake to raise stocks of plants largely in excess of their own requirements, they were able, at some sacrifice of their own programme, to supply to the Trade more than 8½ million plants. Retail prices for these were fixed by agreement between the Nursery Trade and representatives of the private owners, the Commissioners holding a watching brief.

LAND ACQUISITION AND USE

The progress of land acquisition has been disappointing, and the Commissioners are concerned at the extent to which their programme is in arrears, more especially as regards the acquisition of felled and devastated woods. The general economic situation which made owners disinclined to part with their land, together with the immediate importance of food production, are two of the many factors involved.

A close and friendly liaison has been built up with the Agricultural Departments. No land is acquired without reaching agreement as to the use to which the land shall be put. Recently a more general approach to the problem of reconciling the, at times conflicting, claims of forestry and agriculture has taken the form of joint regional surveys, in which officials of both Departments have been engaged. One of the latest examples of such collaboration is the survey of parts of the Counties of Ross and Sutherland, carried out under the auspices of the Highland Advisory Panel. This survey showed that in the region of Strath Oykeil there were considerable areas suitable for forestry purposes, and that there should be no great difficulty in framing a combined scheme in the interests of both forms of land usage.

It will be recalled that under the Forestry Act, 1945, land acquired through the Forestry Fund is vested in the appropriate Minister (the Minister of Agriculture and Fisheries in respect of England and Wales, or the Secretary of State for Scotland). The Minister may place such land at the disposal of the Forestry Commissioners, or may manage any of it for agricultural purposes. As a result of this new procedure, large areas of land hitherto managed by the Forestry Commission, but either unsuitable for afforestation or unlikely to be required for planting in the near future, are being transferred to the management of the Agricultural Departments.

HOUSING

Progress with new housing has continued to be very slow, and the Commissioners and their National Committees have devoted much attention to the problem. The order of priority adopted for housing is:

1. Houses for foresters and foremen, i.e., for local supervision ;
2. Accommodation for key workers essential for fire protection ; and
3. Housing of workers in remote areas.

While there has been a slight increase during the year in the total labour force employed in the Commission's operations, there are still districts where work is held up for lack of labour. But it is not only in the remote, under-populated areas that the shortage of housing is felt ; in a number of the older forests where thinning is now in full swing, there is urgent need for more labour than the countryside can provide at present. Thus the establishment of new communities is taking shape in the Forest of Ae in the south of Scotland, Inverliever Forest on Loch Awe, Kielder Forest in the Border Country, and Thetford Forest in East Anglia, to mention only a few examples. Traditional houses are constructed wherever possible, but in view of the urgency many wooden and other types of prefabricated houses are also being erected.

The shortage of housing is felt also in private forestry ; many owners are unable to house the trained men required for local supervision, and there is evidence from Plans of Operations, received in connection with the Dedication Scheme, that some estates are badly hampered for lack of labour. One of the reasons for this is that houses formerly occupied by forest workers are now otherwise tenanted. The position will not be remedied until there is a general improvement in the rate of rural housing.

ROADS AND MECHANICAL EQUIPMENT

The Engineering Branch was formed in 1946 as a separate organisation, under the direct control of Headquarters, to implement the forest roads scheme, one objective of which was to provide work for unemployed in certain districts, and to help to absorb Polish labour.

The emphasis on the unemployment angle did not persist, and it was therefore decided to reduce the number of men engaged on road work to a maximum of 3,000 by June, 1948, and to employ more mechanisation in road construction. The considerable mileage of road already completed is

proving of great value. Priority was given to those forests which were in the thinning stage, and an increasing flow of material—pit props for the mines and fencing posts for agricultural purposes—is passing over the new roads and so adding to the national resources.

In April, 1948, the Engineering Branch was merged into the general organisation at all levels, the change over being made in order to secure the closest possible co-operation between the forest and the road engineer staffs, and more efficient supervision and maintenance of the mechanical equipment employed in forest operations generally.

LABOUR RELATIONS

These continued to be cordial. Three meetings of the Forestry Commission Industrial and Trade Council were held during the year ; and an agreement on wages and conditions of service of Forest Workers was ratified, the chief features of which were the introduction of two new schemes, the first for paid sick leave for forest workers, and the second for the establishment, with pension rights, of those industrial employees of the Department who have the required qualifications as to age and length of service.

THE NEW FOREST

Following the issue in November, 1947, of the Report of the New Forest Committee (Cmd. 7245) an Inter-departmental Committee was set up early in 1948 to consider the Report and to prepare for legislation. Close consultation with the New Forest Verderers and other local interests led to the drafting of a Bill for submission to Parliament.

CO-OPERATION WITH THE UNITED NATIONS FOOD AND AGRICULTURE ORGANISATION AND OTHER INTERNATIONAL BODIES

A first meeting of the F.A.O. European Commission on Forestry and Forest Products was held at Geneva in July, 1948, and was attended by representatives of the Forestry Commission. Delegates from nineteen countries discussed a lengthy agenda concerned with the long-term problems of the forest industry in Europe.

A meeting of the International Union of Forest Research Organisations held at Zurich in September, 1948, was also attended by representatives of the Forestry Commission. This Union was active in the years before the World War in promoting co-operative research, especially as regards the growth and production of trees of different seed origins.

A third international meeting attended during the year was that of the International Commission on Poplars, which met in Italy to discuss problems connected with the selection and cultivation of poplar hybrids.

ORGANISATION

In their twenty-sixth Annual Report (1945) the Commissioners outlined the changes resulting from the Forestry Act, 1945. Among these changes was the reconstitution of the Commission with the following membership:—

Sir Roy Robinson, O.B.E. (*Chairman*).
Col. Rt. Hon. Lord Courthope, M.C.
Major Sir Samuel Strang Steel, Bart., T.D.
William Ling Taylor, Esq., C.B.E.
The Earl of Radnor, K.C.V.O.
John MacDonald Bannerman, Esq.
Rt. Hon. Thomas Johnston.
Major Sir Richard Charles Geers Cotterell, Bt.
Major Arthur Lloyd Owen Owen.
Lt.-Col. William Joseph Stirling of Keir.

The membership of the Commission remained unaltered until the latter part of the year under review, when the period of office of Lord Courthope terminated and the Rt. Hon. Thomas Johnston and Lt.-Col. Stirling of Keir resigned their appointments. The Commissioners desire to record their great appreciation of the services of these colleagues.

The Commission is now constituted as follows:—

Lord Robinson, O.B.E. (*Chairman*).
Major Sir Samuel Strang Steel, Bart., T.D.
William Ling Taylor, Esq., C.B.E.
The Earl of Radnor, K.C.V.O.
John MacDonald Bannerman, Esq.
Major Sir Richard Charles Geers Cotterell, Bt.
Major Arthur Lloyd Owen Owen.
The Rev. John Edmund Hamilton, M.C.
Major John Stirling of Fairburn, M.B.E.
William Hubert Vaughan, Esq., O.B.E.

Other changes have occurred in the headquarters and directorate appointments, which are now as given below:—

Director-General:—Mr. A. H. Gosling.
Deputy Director-General:—Mr. W. H. Guillebaud.
Secretary to the Commission:—Mr. F. W. Hamilton, M.B.E.
Directors of Forestry:—
 England:—Mr. O. J. Sangar, M.C.
 Scotland:—Mr. H. C. Beresford-Peirse.
 Wales:—Mr. A. P. Long, O.B.E.
Director of Research and Education:—Mr. J. Macdonald.

The National Committees for England, Scotland, and Wales.—The National Committees, one for each of the three countries, are an integral part of the Commission's organisation, the Commissioners having devolved upon these Committees certain of their executive functions. Each of the three Committees met at monthly intervals, directing and reviewing the work in progress in their respective countries. Problems relating to private forestry, more particularly the progress of the Dedication Scheme, land acquisition, and housing are matters to which they have given special attention. Close touch has been kept with the Regional Advisory Committees, and proposals and suggestions put forward by them have received careful consideration.

There have been some changes in the membership of the Committees during the year. Lord Courthope and Lord Lucas resigned from the English Committee, and the Hon. J. W. Best was appointed to one of the vacancies. In Scotland, Mr. J. E. Hamilton and Major John Stirling of Fairburn were appointed to the Committee to replace the Rt. Hon. Thomas Johnston, who had been Chairman since the constitution of the Committee in 1945, and Lt.-Col. W. J. Stirling who resigned. A change also occurred in the Welsh Committee, Professor Alun Roberts being appointed to fill the vacancy left by the resignation of Sir C. Bryner Jones.

The Forestry Commissioners wish to record their appreciation of the services of those members of the National Committees who have retired during the year.

The membership of the Committees at the end of the year was as follows, the Chairman of the Forestry Commission being an *ex-officio* member of each Committee:—

England:—The Earl of Radnor (*Chairman*), Major Sir Richard Cotterell, Mr. W. L. Taylor, Lord Quibell, Major Charles Mitchell, The Hon. James W. Best.

Scotland:—Major Sir Samuel Strang Steel, Bt. (*Chairman*), Mr. J. M. Bannerman, Mr. J. E. Hamilton, Major John Stirling of Fairburn, The Duke of Buccleuch and Queensberry, Mr. John A. Cameron, Mr. J. Veitch.

Wales:—Mr. Lloyd O. Owen (*Chairman*), Major Sir Richard Cotterell, Bt., Mr. W. L. Taylor, Mr. W. H. Vaughan, Col. J. C. Wynne Finch, Professor R. Alun Roberts.

The Regional Advisory Committees.—These Committees, of which there is one in each Conservancy, continued to function usefully as a link between the Conservators of Forests and all those within the Conservancy who are interested in forestry. Most of the Committees have met several times during the year, discussing a wide range of subjects, foremost among which were the Dedication Scheme and the promotion of the co-operative movement in forestry. Other matters considered by the Committees included timber prices, disposal of thinnings, plant supplies, the employment of contractors for carrying out forest works, the placing on private estates of men trained under the Forest Workers Training Scheme, and housing difficulties.

The membership of the Committees at the end of the year is given below:—

REGIONAL ADVISORY COMMITTEES

ENGLAND

North West.—Capt. Wolryche-Whitmore (*Chairman*), Mr. J. V. Allen, Mr. N. G. Barraclough, Mr. P. J. B. Clive, Mr. T. H. Evans, Mr. B. W. I. Davies, Mr. J. Edwards, Mr. W. M. F. Vane, M.P., with Mr. E. Hewitt (*Secretary*).

North East.—The Rt. Hon. Lord Bolton (*Chairman*), Col. W. St. A. Warde-Aldam, Capt. J. P. Bradford, Professor R. W. Wheldon, Mr. W. Dobbie, Mr. A. Kirkup, Jr., Mr. A. M. Leitch, Mr. W. Robertson, with Mr. L. A. Chaplin (*Secretary*).

East.—Major R. G. Proby (*Chairman*), Major K. W. Brown, Mr. S. Dye, Col. A. H. Lloyd, Mr. R. W. B. Newton, Col. E. R. Pratt, Mr. D. H. Sanderson, Mr. C. H. Thompson, with Mr. C. H. Clark (*Secretary*).

South East.—Col. H. Eeles (*Chairman*), Mr. J. W. C. Agate, Lt.-Col. W. Burrell, Lord Cowdray, Mr. W. H. Pearson, Mr. A. D. C. Le Sueur, with Mr. H. W. Gulliver (*Secretary*).

South West.—Mr. G. F. Lutterell (*Chairman*), The Hon. J. W. Best, Major H. T. H. Foley, Mr. W. E. Hiley, Mr. J. R. Maer, Mr. M. Phillips Price, Professor M. Skene, Mr. R. Stratton, with Mr. G. F. Taylor (*Secretary*).

SCOTLAND

North.—Major John Stirling of Fairburn (*Chairman*), Lord Lovat, Mr. Gilbert Brown, Mr. James Armstrong, Mr. George Mundell, Mr. D. J. Macleod, Bailie Donald MacPherson, with Mr. M. Nicholson (*Secretary*).

East.—Professor H. M. Steven (*Chairman*), Lord Glentanar, Sir Ian Forbes-Leith, Bt., Mr. Wm. Leven, Mr. Maitland Mackie, Bailie R. A. Raffan, Mr. Wm. Riddoch, with Mr. J. P. Lenman (*Secretary*).

South.—Lord Haddington (*Chairman*), Sir J. Hunter Blair, Bt., Mr. J. C. Carson, Mr. W. P. Earsman, Mr. J. J. Patterson, Professor J. Ritchie, Mr. C. J. Cameron, with Mr. T. H. McGeorge (*Secretary*).

West.—Mr. J. Maxwell MacDonald (*Chairman*), Sir George I. Campbell, Bt., of Succoth, Mr. Peter Campbell, Capt. James Craig, Mr. T. Bruce Jones, Mr. John Kirkwood, Mr. Donald Mackay, with Mr. T. Farmer (*Secretary*).

WALES

North.—Col. G. R. D. Harrison (*Chairman*), Alderman H. T. Edwards, Mr. E. Humphrey Howard, Mr. W. Jones, Mr. R. C. Ridell, Professor T. Thomson, Col. R. J. Wordsworth, with Mr. K. Mayhew (*Secretary*).

South.—Capt. J. D. D. Evans (*Chairman*), Lord Merthyr, Major John Francis, Mr. J. E. Lewis, Mr. H. A. Hyde, Mr. A. E. Gough, Mr. D. G. Badham, with Mr. W. Evans (*Secretary*).

THE FORESTRY FUND

The Forestry Fund was established by the Forestry Act, 1919. From it is paid all the expenditure of the Commissioners, and into it are paid all their receipts from sales of forest produce, rentals, etc., together with such sums as are voted annually by Parliament. The amount required each year is provided in the form of a grant-in-aid, any balance which may remain unexpended at the end of the year being carried forward to the following year. As the Parliamentary Grant is voted in respect of the financial year ending 31st March, the balance remaining in the fund at 30th September of each year includes provision for the remaining six months to the close of the financial year following.

Movements on the Forestry Fund Account since the establishment of the Commission are shown in Table 1 below:

FORESTRY FUND ACCOUNT

Table 1

£

Year ending 30th September	Balance from preceding Year	Receipts			Payments (Appendix 1)
		Total	Parlia- mentary Votes	From Forestry Operations, etc. (Appendix 1)	
	(1)	(2)	(3)	(4)	(5)
GRAND TOTAL, 1920- 1948	—	34,968,088	26,207,800	8,760,288	31,797,242
1920-29	—	4,851,484	4,000,000	851,484	4,502,018
1930-39	—	7,948,652	6,126,800	1,821,852	7,926,093
1940-45	—	7,259,038	3,475,000	3,784,038	6,927,334
1946	703,729	3,312,504	2,750,000	562,504	1,937,614
1947	2,078,619	5,516,690	4,856,000	660,690	3,871,688
1948	3,723,621	6,079,720	5,000,000	1,079,720	6,632,495
1949	3,170,846	—	—	—	—

The balance in the Forestry Fund at 1st October, 1947, was £3,723,621. Receipts amounted to £5,000,000 from Parliamentary Votes and to £1,079,720 from Forestry Operations, etc., making a total of £6,079,720. Payments amounted to £6,632,495, so that the balance in the Fund at 30th September, 1948, was £3,170,846.

In Appendix 1, page 41, the payments and receipts shown above are analysed by heads of account. It will be seen that payments increased by £2,760,807 as compared with the previous year, of which £1,691,309 was under the head of Forestry Operations and £791,784 under the head of Engineering. Receipts increased by £419,030, a rise of over 63 per cent. on the previous year's total. This was mainly due to the great increase in sales of forest produce, derived largely from the thinning of the earlier plantings which are now coming into production on a considerable scale.

Appendix 2, page 42, is a statement of expenditure and income in which amounts due to or by the Commissioners at the end of the forest year are brought into account ; salaries and overheads shown in Columns (2) to (5) of Appendix I are distributed over the heads of account to which they are appropriate ; income from forestry operations, education, etc., is shown separately ; and adjustments are made between heads of account in respect of such items as produce used for forest purposes, transfers of land and buildings between forests and forest workers holdings, and value of work done in forests by trainees and students.

In Appendices 3-9, pages 43 to 47, the expenditure and income under the heads given in Appendix 2 are analysed in greater detail ; further details of individual items of expenditure and receipts are discussed under their appropriate heads in the section of this Report dealing with the progress of work (pages 18 to 40).

SUMMARY OF THE YEAR'S WORK

FOREST YEAR ENDED 30th SEPTEMBER, 1948

In this, the second year of the post-war forestry programme, the weather was on the whole favourable for work in the forest, but in certain districts, especially in the north, May frosts caused widespread damage to nursery stocks and young plantations. There was also a spell of cold dry weather in the spring, which parched the surface vegetation and gave rise to an exceptionally acute period of fire danger in many of the plantations.

Land Acquired.—The area acquired through the Forestry Fund increased during the year by 36,350 acres to a grand total of 1,477,000 acres. Of the total area, 916,700 acres are classed as “forest land,” that is land which is already planted or to be planted, and 560,300 acres are “other land.” “Other land” includes a large proportion of ground classified as unplantable, though much of it is grazed, as well as smaller areas of improved agricultural land, forest nurseries etc. (See Table 2, p. 18.)

The proportion of plantable land in the area acquired during the year was relatively high, 30,000 out of the total of 36,350 acres, but fell far short of the figure of 179,000 acres of plantable land envisaged by the Commissioners for the second year of their programme. Owners were reluctant to make decisions affecting the future management of their land, and offers of areas suitable for afforestation were not readily forthcoming. The plantable land acquired was spread between the three countries as follows:—England 8,600 acres, Scotland 5,600 acres, and Wales 15,800 acres; the comparable figures for the previous year were:—England 8,000 acres, Scotland 9,300 acres and Wales 5,000 acres.

Forest Nurseries.—To provide for an increasing planting programme, the area under nurseries was increased by 308 acres to a total of 2,158 acres. The plant stocks in hand amounted to 417 million seedlings and 144 million transplants. (See pages 23 to 27.)

New Plantations.—The area planted amounted to 36,404 acres. This, though about 6,600 acres short of the White Paper programme,* represents an increase of 10,048 acres over the area planted during the previous year. Shortage of labour in some districts, and also shortage of certain types of planting stock, accounted in the main for the deficit.

The area planted was distributed as follows over the three countries:—England 14,125 acres, Scotland 16,198 acres, Wales 6,081 acres. (See pages 22 and 23.)

Fire Protection.—The dry spell which prevailed over most of the country in the spring and early summer resulted in considerable losses from forest fires; both the number of fires, and the extent of our losses, were much above the average for the previous five years. The number of fires which occurred on or near Forestry Commission property, and which involved control measures, was 1,189; these outbreaks burned 1,837 acres of plantations and caused a loss estimated at £45,000.

* Report on Post-War Forest Policy (Cmd. 6447) p. 112.

Preparation and Sales of Produce

Thinnings:—Good progress was made with the thinning of the young plantations, the area dealt with during the year amounting to 28,590 acres, an increase of nearly 15,000 acres over the previous year. The figures for the individual countries are:—England 19,321 acres, Scotland 6,021 acres, Wales 3,248 acres. A large proportion of the outturn from the thinnings was sold to the mines for pitwood.

Clear Fellings:—The area felled amounted to 717 acres:—England 508 acres, Scotland 117 acres, Wales 92 acres.

Sales of produce from the Commissioners' forests were more than double those of the previous year. The gross income from all classes of forest produce was £905,315, and expenditure under the corresponding head of account was £637,370. The equivalent figures for the previous year were: income £436,111, and expenditure £288,655. A total of nearly 6 million cubic feet was sold in the form of pitwood, round timber, telegraph, transmission and other poles. (Table 19, page 29, and Appendix 3, page 43.)

Engineering.—Road construction for the extraction of thinnings and other forest produce proceeded in 63 forests, a total of 233 miles of road being completed. The roads included many bridges and culverts. (See Table 20, page 29.)

New Buildings and Repairs.—Progress in the building of new houses was still very slow, though slightly better than in the previous year; 108 houses were completed, and work was in hand on a further 299 houses. Better progress was also made in dealing with the repair and maintenance of existing buildings. (See page 30.)

Technical Supervision.—The four Directors of Forestry are assisted by 19 Conservators of Forests, one Deputy Surveyor (New Forest), 20 Divisional Officers (one of whom is Deputy Surveyor, Forest of Dean), and 134 District Officers. During the year 28 District Officers were recruited. The local supervision of the forests was undertaken by 511 Foresters and 304 Foremen, an increase of 161 staff during the year. (See page 31.)

Forest Labour.—There has been little change in the number of workers employed on forest operations—11,100 at 30th September, 1948, compared with 10,500 at 30th September, 1947—but the numbers employed on forest road work show a marked drop from 3,400 to 1,300 in the same period. (See page 31.)

Planting on Private Estates.—Under the Interim Planting Grants Scheme, plantations amounting to 10,184 acres were inspected and approved. Of this area, 6,898 acres were actually planted during the year under review, representing an increase of 3,239 acres over the previous year. In addition it is estimated that a further 2,300 acres were planted during the year without the aid of grants, thus bringing the total of private planting up to approximately 9,200 acres. (See page 31.)

The Dedication Scheme.—By the end of the year only one scheme, relating to an area of 1,006 acres of woodland, was fully completed. A further 13 schemes involving a total of 10,000 acres were awaiting completion. In addition 921 owners controlling 508,000 acres of woodland have signified their willingness to consider dedication. (See page 32.)

Education.—Grants for higher education were made to the Forestry Departments of the Universities of Aberdeen, Edinburgh, Oxford and Wales; also to Cambridge University and King's College, Newcastle-on-Tyne.

With the transfer in February, 1948, of the Welsh School from its temporary premises in the New Forest to Gwydyr Forest, near Bettws y Coed, North Wales, the plan to have two Forester Training Schools in England, two in Scotland and one in Wales has now been achieved. The outturn of men taking the full courses at the five schools was 137; of these 126 entered the service of the Forestry Commission, 9 went into private forestry, and 2 went abroad.

Short courses, of three months duration, for foresters and woodmen were held during the year on the following private estates:—Darnaway Estate, Morayshire, Dartington Hall Estate, Devon, and Raby Estate, Durham.

The Universities continued to make use of Northerwood House for giving practical forestry training to their students. Nine instructional courses were also given to officers of the Commission. (See page 34.)

Research.—Progress has been made in equipping the research station at Alice Holt Forest. Assessment work on the forest experiments has proceeded, special attention being given to projects dealing with racial strains of trees, peat afforestation and the planting of heather moorlands in hill country.

The Committee dealing with nursery manuring problems has continued its work and made useful progress.

Considerable attention has been given to the raising of improved strains of poplar; stocks of selected cuttings have been distributed to the Nursery Trade and to private owners.

Localised outbreaks of a bark beetle (*Ips sexdentatus*) have occurred in some of the Commissioners' forests in South Wales, caused apparently by the spread of beetles from infested pitwood imported from the south-west of France. Counter measures were taken and the outbreaks are believed to be under control.

Grant-aided research on forest soils continued at Oxford University and at the Macaulay Institute for Soil research. (See pages 35 to 37.)

Census of Woodlands.—This census of all woodlands of 5 acres and over in area was started in 1947; by the end of September 1948 the field survey of the whole of Scotland and Wales had been completed, and good progress made in England. The census disclosed a total area of 1,024,000 acres of privately or corporately owned woodland in Scotland, and of 224,000 acres in Wales. Of this woodland, the proportion classified under the combined heads of felled, devastated, and scrub, was 64 per cent. in Scotland and 47 per cent. in Wales; the corresponding figure for England is provisionally estimated at 33 per cent. These data indicate both the size and urgency of the task of bringing the woodlands of the country into a productive state. (See page 37.)

Publications.—Publications issued during the year include a booklet on the *Dedication of Woodlands**; the White Paper (Cmd. 7245) *Report of the New Forest Committee, 1947†*; the *Snowdonia National Forest Park Guide‡*; and

* H.M.S.O. Price 1s.

† H.M.S.O. Price 3s. 6d.

‡ H.M.S.O. Price 2s. 6d.

a descriptive leaflet on the *Forest of Ae**, the first of a series of popular accounts of individual forests. Two new technical leaflets were issued, one on *Poplar Planting*†, and one on the *Spruce Bark Beetles*‡. (See page 38.)

Finance.—The gross payments during the Forest Year 1948 amounted to £6,632,495; receipts amounted to £1,079,720; thus the net payments were £5,552,775, as compared with £3,210,998 in the previous year.

The very considerable increases in payments and receipts during the current year provide a measure of the expanding programme now being undertaken. (See Appendix 1, page 41.)

* H.M.S.O. Price 6d.

† H.M.S.O. Price 2d.

‡ H.M.S.O. Price 2d.

PROGRESS OF WORK

Acquisition and Utilisation of Land

From the 29th November, 1919, to the end of the year under review, 1,477,000 acres had been acquired through the Forestry Fund. The utilisation of this land is given in the accompanying Table 2, which shows that, of the total land acquired, 916,700 acres are classed as "forest land", that is land which is already planted or to be planted, and 560,300 acres are "other land". This "other land" includes a large proportion of ground classified as unplantable, as well as smaller areas of improved agricultural land used for small farms, or holdings for forest workers, and for forest nurseries. It should be noted that much of the land shown in the tables as "to be planted" is let for grazing up to the last possible moment before it is required for planting; the most usual reason for land being classed as "unplantable" is because of high elevation, and the land so classed is also let, as far as possible, for agricultural use.

FOREST UNITS AND UTILISATION OF LAND

Table 2

Description	Great Britain	England	Scotland	Wales
NUMBER OF FORESTS				
At beginning of year ...	302	108	148	46
At end of year ...	322	119	151	52
UTILISATION OF LAND AT 30TH SEPTEMBER, 1948				
	(Thousand acres)			
Total acquired ...	1,477·0	498·1	777·2	201·7
Forest Land: Total ...	916·7	370·0	397·2	149·5
Acquired Plantations ...	56·2	40·6	12·0	3·6
Planted by Forestry Commission ...	513·3	223·2	198·8	91·3
To be planted ...	347·2	106·2	186·4	54·6
Other Land: Total ...	560·3	128·1	380·0	52·2
Nurseries ...	2·0	·9	·8	·3
Agricultural ...	69·7	17·5	36·9	15·3
Forest Workers Holdings (including out-run) ...	13·9	6·5	3·3	4·1
Unplantable and Miscellaneous ...	474·7	103·2	339·0	32·5

Included in the foregoing statement are certain areas which have not, for the time being, been placed at the disposal of the Commissioners by the appropriate Minister. This land is being managed by the respective

Agricultural Departments for grazing and other agricultural purposes. The subjoined table gives the details of such land:—

LAND NOT PLACED AT THE DISPOSAL OF THE COMMISSIONERS

Table 3

At 30th September, 1948

Acres

Description	Great Britain	England	Scotland	Wales
Total	201,637	8,943	185,253	7,441
Forest Land ...	63,907	2,838	59,994	1,075
Agricultural	38,965	6,076	27,110	5,779
Unplantable and miscellaneous	98,765	29	98,149	587

FOREST UNITS

To the end of September, 1947, the Commissioners had established 302 forest units. During the current year the following 20 new units were formed:—

ENGLAND:—

Basing, Hampshire	Gisburn, Yorkshire
Bishopstoke, Hampshire	Long Mynd, Shropshire
Bramfield, Hertfordshire	Plym, Devonshire
Culmhead, Somerset	Purbeck, Dorset
Dalton, Westmorland	Swynnerton, Staffordshire
Enville, Staffordshire	

SCOTLAND:—

Battan, Inverness-shire	Torrie, Perthshire
Hallyburton, Angus and Perthshire	

WALES:—

Aberhirnant, Merionethshire	Commins Coch, Montgomeryshire
Carno, Montgomeryshire	St. Asaph, Denbighshire and Flintshire
Coed Clwyd, Denbighshire	
Coed y Goror, Denbighshire and Shropshire	

The location of these units is shown in Appendix 16, pages 58 to 68.

LAND ACQUIRED TO DATE BY LEASE OR PURCHASE

The net total area in respect of which the legal formalities of acquisition had been completed by 30th September, 1948, was 1,346,561 acres. The corresponding figures for the two previous years were 1,308,193 acres and 1,285,101 acres respectively. In addition to these completed acquisitions, entry had been secured to certain other areas. Details of the areas acquired to date are given in Table 4 below.

LAND ACQUIRED BY LEASE, FEU OR PURCHASE FROM 29TH NOVEMBER, 1919,
TO 30TH SEPTEMBER, 1948

(Excluding Crown Woods transferred to the Commissioners under the
Forestry (Transfer of Woods) Orders in Council)

Table 4

Acres

Description, by Countries	Total (1)	By Lease or Feu			By Purchase		
		Total (2)	Plant- able* (3)	Other (4)	Total (5)	Plant- able* (6)	Other (7)
<i>Total</i>							
Great Britain ...	1,356,950	427,925	284,724	143,201	929,025	573,239	355,786
England ...	395,865	144,238	126,850	17,388	251,627	195,679	55,948
Scotland ...	764,677	229,077	116,817	112,260	535,600	270,996	264,604
Wales ...	196,408	54,610	41,057	13,553	141,798	106,564	35,234
<i>Acquisitions completed</i>							
Great Britain ...	1,346,561	420,739	278,796	141,943	925,822	570,708	355,114
England ...	391,135	139,641	122,657	16,984	251,494	195,546	55,948
Scotland ...	759,018	226,488	115,082	111,406	532,530	268,598	263,932
Wales ...	196,408	54,610	41,057	13,553	141,798	106,564	35,234
<i>Entry Secured</i>							
Great Britain ...	10,389	7,186	5,928	1,258	3,203	2,531	672
England ...	4,730	4,597	4,193	404	133	133	—
Scotland ...	5,659	2,589	1,735	854	3,070	2,398	672
Wales ...	—	—	—	—	—	—	—

* Including planted land.

From the above it will be seen that, of the total area acquired, 857,963 acres were classified at the time of acquisition as plantable, and of this area 322,529 acres (38 per cent.) were in England, 387,813 acres (45 per cent.) in Scotland, and 147,621 (17 per cent.) in Wales.

In addition to the areas acquired, Crown woodlands extending to about 120,000 acres (of which some 60,000 acres are plantable) have been transferred to the Forestry Commissioners. The total area of land acquired for forestry purposes is thus approximately 1,477,000 acres; the use to which this land was being put at the 30th September, 1948, is given in Table 2 on page 18.

PLANTABLE LAND—PROGRESS OF ACQUISITION

The total area of land acquired in the year under review was 36,350 acres, of which 20,746 acres were purchased and 15,604 acres were leased; disposals accounted for 33 acres. Of the land acquired 29,945 acres were classified as plantable, comprising 19,497 acres of bare land, 9,511 acres of land previously under trees, and 937 acres of standing woods. The rate at which plantable land has been acquired since 1920 is given in Table 5 below.

ACQUISITION OF PLANTABLE LAND

Table 5

Year ended 30th September

Acres

Period				Total	By Lease or Feu	By Purchase
Total 1920-1948	...	...	...	857,963	284,724	573,239
1920-29	...	...	...	310,230	156,759	153,471
1930-39	...	...	...	344,757	60,057	284,700
1940-45	...	...	...	117,528	30,431	87,097
1946	...	...	...	33,181	9,996	23,185
1947	...	...	...	22,322	13,016	9,306
1948	...	...	...	29,945	14,465	15,480

The rate of acquisition of plantable land in 1947 and 1948, the first two years of the post-war programme, has been much below expectation. Whereas it was contemplated that in those years at least 300,000 acres would be acquired, the actual area amounts to only 52,267 acres, of which 29,945 acres were acquired during the year under review.

The expenditure on the acquisition of land was £136,850 (Appendix 3, Col. 5, page 43). Of this amount £96,465 was in respect of purchase of land, including standing timber and buildings, £36,531 was on rents and feu duties, and £3,854 was on the redemption of tithes. The expenditure on the acquisition of land is not directly applicable to the areas acquired during the year, since these include land to which entry has been secured but in respect of which contracts have not been completed.

Cultural Operations

The expenditure on cultural operations—that is, works in connection with the making of plantations, their maintenance, protection against damage from fire and other causes, and the raising of young trees in forest nurseries—amounted to £1,967,912, an increase of £615,948 over the corresponding expenditure for last year (Appendix 3, Col. 6, page 43); the details of this expenditure are given in Appendix 4, page 44. The general increase on these heads is due to an all round expansion of the Commissioners' work in accordance with the programme laid down by the Ministers.

AREAS PLANTED AND UNDERPLANTED IN THE YEAR ENDED

Table 6

30TH SEPTEMBER, 1948

Acres

Country or Conservancy	Planted*	Under-planted	Country or Conservancy	Planted*	Under-planted
GREAT BRITAIN	36,404	190			
ENGLAND: Total	14,125	128	SCOTLAND: Total	16,198	50
Conservancy:			Conservancy:		
North West	2,560	7	North	3,470	25
North East	4,770	3	East	5,253	13
East	2,298	4	South	4,154	4
South East	1,106	—	West	3,321	8
South West	2,001	12	WALES: Total	6,081	12
New Forest	800	28	Conservancy:		
Dean Forest	590	74	North	3,099	3
			South	2,982	9

* Included in the above table are 27 acres over which natural regeneration was obtained; the details are as follows:—*England*: North West and East Conservancies, 10 acres and 8 acres respectively, all of broadleaved trees. *Scotland*: North and East Conservancies, 4 acres of conifers, and 5 acres of broadleaved trees respectively.

PLANTATIONS

The area planted or naturally regenerated during the year was 36,404 acres, of which 14,125 acres were planted in England, 16,198 acres in Scotland, and 6,081 acres in Wales ; in addition 190 acres of existing woodlands were under-planted. The areas planted in each Conservancy are given in Table 6 above ; details by forest units are given in Appendices 13 to 15.

Of the 36,404 acres planted in the year under review, 33,379 acres were placed under conifers and 3,025 acres under broadleaved species, most of the latter being in England. The details by countries are given in Table 7 below. This table also analyses the area planted into afforested and re-afforested ; thus 23,932 acres were planted on land which had not previously carried a forest crop, that is to say afforested, and 12,472 acres—slightly more than a third—were on old woodland sites, that is to say re-afforested ; included in this latter figure is the replanting of 589 acres of plantations destroyed by fire.

SUMMARY OF PLANTATIONS MADE DURING THE YEAR ENDED
30TH SEPTEMBER, 1948

Table 7

Acres

Description	Great Britain	England	Scotland	Wales
TOTAL PLANTED:				
All species	36,404	14,125	16,198	6,081
Conifers	33,379	11,250	16,100	6,029
Broadleaved	3,025	2,875	98	52
AFFORESTED:				
All species	23,932	7,729	11,311	4,892
Conifers	23,417	7,238	11,288	4,891
Broadleaved	515	491	23	1
RE-AFFORESTED:				
All species	12,472	6,396	4,887	1,189
Conifers	9,962	4,012	4,812	1,138
Broadleaved	2,510	2,384	75	51

The maintenance of plantations formed in previous years was given due attention, and "beating up," that is the replacing of failures in the two- and three-year-old and older plantations, was carried out where necessary.

The number of plants used in making the new plantations and in beating up was 73 million. The main species used were Norway and Sitka spruces (56 per cent.), Scots and Corsican pines (24 per cent.), European and Japanese larches (6 per cent.), Douglas fir and other conifers (3 per cent.); broadleaved species, mainly oak and beech (11 per cent.). For fuller details of the species used see Appendices 10 and 11, pages 48 to 50.

Expenditure.—The amount spent on preparatory work and planting was £586,132, an increase of £192,345 over the corresponding figure for last year ; this increase is due to the additional amount of work undertaken, and also to an increase in the rate of wages. The amount spent on the maintenance of the plantations was £634,167, which is £228,712 more than last year ; this increase is accounted for by the increased areas requiring attention, and, with some slight increase in the forest labour, it was possible to undertake maintenance work which had been held over. (See Appendix 4, page 44.)

PLANTING PROGRESS TO DATE.—The total area planted by the Commissioners from 1920 to 30th September, 1948, was 542,114 acres; but this area has, however, been reduced by fires, war-time fellings, and failures over the years to a net figure of 513,300 acres. The rate at which planting has proceeded is shown in Table 8 below.

AREA PLANTED

Table 8

		Year ending 30th September		Acres
Period		Total	Afforested	Re-afforested
Total 1920-1948	... ..	542,114	395,408	146,706
1920-29	... ..	138,271	101,976	36,295
1930-39	... ..	230,607	174,428	56,179
1940-45	... ..	100,028	71,732	28,296
1946	... ..	10,448	5,884	4,564
1947	... ..	26,356	17,456	8,900
1948	... ..	36,404	23,932	12,472

From the above table it will be seen that of the total of 542,114 acres planted by the Commission to 30th September, 1948, 395,408 acres were afforested and 146,706 acres were re-afforested; this latter figure includes 15,036 acres replanted after damage by fire. The area planted to date may be further analysed as follows:—

	Total acres	Conifers acres	Hardwoods acres
Total	542,114	500,954	41,160
Afforestation ...	395,408	380,592	14,816
Re-afforestation ...	146,706	120,362	26,344

POST-WAR FORESTRY PROGRAMME.—The year under review is the second year of operations towards fulfilling the planting programme as given in the White Paper on Forestry.* The table below gives the comparison of planting proposals and the areas actually planted.

COMPARISON WITH THE WHITE PAPER POST-WAR PROGRAMME

Table 9

		Year ending 30th September		Acres
Period		Proposed to be Planted	Actually Planted	Deficit on Programme
Total, 1947-48	... ..	73,000	62,760	10,240
1947	... ..	30,000	26,356	3,644
1948	... ..	43,000	36,404	6,596

Of the 62,760 acres planted in 1947 and 1948—the first and second years of the Post-War Programme—the areas re-afforested were 8,900 acres in 1947 and 12,472 acres in 1948, as against the White Paper estimate of re-afforestation of 5,000 acres and 13,000 acres respectively for these years.

NURSERIES

To meet the needs of the progressively increasing planting programme, it is essential to look well ahead in raising the necessary planting stocks. The

* Post-War Forest Policy. Report by H.M. Forestry Commissioners (Cmd. 6447 H.M.S.O., 1943.

area of nursery ground was therefore increased during the year by 308 acres, and further increases are anticipated. The expenditure on nurseries amounted to £498,462, an increase of £134,756 over last year's figure. (See App. 4, Col. 6.)

AREA.—The land allocated to nurseries at the end of the year was 2,158 acres, of which 20 per cent. was seed beds, 32 per cent. transplant lines, and 32 per cent. was fallow or under a green crop. Details of the nursery areas in each Conservancy are given in Table 10 below.

Table 10 USE OF NURSERY AREAS
As at 30th September 1948 Acres

Country or Conservancy	Total	Seedbeds	Transplant Lines	Fallow and Green Crops	Other
GREAT BRITAIN	2,158	441	686	692	339
Percentage of total area ...	100	20	32	32	16
ENGLAND: Total	1,008	211	371	278	148
Conservancy:					
North West	217	42	79	58	38
North East	231	51	97	50	33
East	178	21	61	68	28
South East	107	39	32	24	12
South West	73	7	31	20	15
New Forest	170	41	61	50	18
Dean Forest	32	10	10	8	4
SCOTLAND: Total	823	158	214	331	120
Conservancy:					
North	234	42	49	112	31
East	203	43	60	63	37
South	144	39	50	36	19
West	242	34	55	120	33
WALES: Total	327	72	101	83	71
Conservancy:					
North	139	33	35	44	27
South	188	39	66	39	44

SEED SUPPLY.—The amount of seed sown in the nurseries was 16,354 lb. of conifer seed and 57,073 lb. of broadleaved tree seed. The amounts of seed sown in the last three years are given in Table 11 below.

Table 11 SEED SOWN IN NURSERIES
Year ended 30th September lb.

Description and Country	1946	1947	1948
GRAND TOTAL Great Britain ...	47,930	147,675	73,427
England	27,612	130,583	53,177
Scotland	15,511	12,273	11,836
Wales	4,807	4,819	8,414
CONIFEROUS			
TOTAL Great Britain ...	12,834	15,852	16,354
England	5,271	7,656	6,043
Scotland	6,344	6,482	7,255
Wales	1,219	1,714	3,056
BROADLEAVED			
TOTAL Great Britain ...	35,096	131,823	57,073
England	22,341	122,927	47,134
Scotland	9,167	5,791	4,581
Wales	3,588	3,105	5,358

Sources of Seed Supply.—The seed required for the raising of stocks of forest trees is obtained partly from abroad and partly from collections made from trees in this country. A summary of the amounts imported from abroad, collected from the home woods, and disposed of by sales, is given below.

SUMMARY OF IMPORTS, HOME COLLECTION, AND
SALES OF SEED IN 1947 AND 1948

Table 12 Year ended 30th September lb.

Description	1947	1948
Imports:		
Total	87,496	22,323
Coniferous	17,052	20,217
Broadleaved	70,444	2,106
Home Collected:		
Total	102,998	99,978
Coniferous	1,621	16,656
Broadleaved	101,377	83,322
Sales:		
Total	9,880	3,652
Coniferous	2,797	3,168
Broadleaved	7,083	484

Imported Seed.—In the year under review 20,217 lb. of conifer seed were imported, and satisfactory supplies of the usual species including Corsican pine, Japanese larch, Norway spruce, and Sitka spruce were available. There was, however, a complete failure of the Douglas fir seed crop in Western North America, and the seed of *Pinus contorta* was hard to obtain. Two thousand one hundred and six lb. of broadleaved tree seeds were also imported. Details of the quantities by species and their sources of origin are given in Table 13 below.

IMPORTED SEED

Table 13

Description	Quantity	Value	Origin
	lb.	£	
TOTAL OF ALL SPECIES ...	22,323	29,804	
CONIFEROUS			
Total	20,217	29,718	
Corsican pine	3,264	6,574	Corsica
Japanese larch	4,549	5,989	Japan
Norway spruce	3,584	3,237	France
Norway spruce	994	775	Switzerland
Norway spruce	100	85	Austria
Norway spruce	10	21	United States of America
Sitka spruce (Queen Charlotte Island)	7,506	12,345	British Columbia
Tsuga heterophylla	149	588	British Columbia
Pinus contorta	25	34	British Columbia
Pinus contorta	6	8	United States of America
Sequoia wellingtonia	21	57	California
Abies nordmanniana	9	5	Denmark
BROADLEAVED			
Total	2,106	86	
Beech	210	11	Northern Ireland
Oak (red)	1,896	75	Holland

area of nursery ground was therefore increased during the year by 308 acres, and further increases are anticipated. The expenditure on nurseries amounted to £498,462, an increase of £134,756 over last year's figure. (See App. 4, Col. 6.)

AREA.—The land allocated to nurseries at the end of the year was 2,158 acres, of which 20 per cent. was seed beds, 32 per cent. transplant lines, and 32 per cent. was fallow or under a green crop. Details of the nursery areas in each Conservancy are given in Table 10 below.

USE OF NURSERY AREAS

Table 10

As at 30th September 1948

Acres

Country or Conservancy	Total	Seedbeds	Transplant Lines	Fallow and Green Crops	Other
GREAT BRITAIN	2,158	441	686	692	339
Percentage of total area ...	100	20	32	32	16
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New Forest	170	41	61	50	18
Dean Forest	32	10	10	8	4
Scotland: Total	823	158	214	331	120
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North	234	42	49	112	31
East	203	43	60	63	37
South	144	39	50	36	19
West	242	34	55	120	33
WALES: Total	327	72	101	83	71
Conservancy:					
North	139	33	35	44	27
South	188	39	66	39	44

SEED SUPPLY.—The amount of seed sown in the nurseries was 16,354 lb. of conifer seed and 57,073 lb. of broadleaved tree seed. The amounts of seed sown in the last three years are given in Table 11 below.

SEED SOWN IN NURSERIES

Table 11

Year ended 30th September

lb.

Description and Country	1946	1947	1948
GRAND TOTAL Great Britain ...	47,930	147,675	73,427
England	27,612	130,583	53,177
Scotland	15,511	12,273	11,836
Wales	4,807	4,819	8,414
CONIFEROUS			
TOTAL Great Britain	12,834	15,852	16,354
England	5,271	7,656	6,043
Scotland	6,344	6,482	7,255
Wales	1,219	1,714	3,056
BROADLEAVED			
TOTAL Great Britain	35,096	131,823	57,073
England	22,341	122,927	47,134
Scotland	9,167	5,791	4,581
Wales	3,588	3,105	5,358

Sources of Seed Supply.—The seed required for the raising of stocks of forest trees is obtained partly from abroad and partly from collections made from trees in this country. A summary of the amounts imported from abroad, collected from the home woods, and disposed of by sales, is given below.

SUMMARY OF IMPORTS, HOME COLLECTION, AND SALES OF SEED IN 1947 AND 1948

Table 12 Year ended 30th September lb.

Description	1947	1948
Imports:		
Total	87,496	22,323
Coniferous	17,052	20,217
Broadleaved	70,444	2,106
Home Collected:		
Total	102,998	99,978
Coniferous	1,621	16,656
Broadleaved	101,377	83,322
Sales:		
Total	9,880	3,652
Coniferous	2,797	3,168
Broadleaved	7,083	484

Imported Seed.—In the year under review 20,217 lb. of conifer seed were imported, and satisfactory supplies of the usual species including Corsican pine, Japanese larch, Norway spruce, and Sitka spruce were available. There was, however, a complete failure of the Douglas fir seed crop in Western North America, and the seed of *Pinus contorta* was hard to obtain. Two thousand one hundred and six lb. of broadleaved tree seeds were also imported. Details of the quantities by species and their sources of origin are given in Table 13 below.

IMPORTED SEED

Table 13

Description	Quantity	Value	Origin
	lb.	£	
TOTAL OF ALL SPECIES	22,323	29,804	
CONIFEROUS			
Total	20,217	29,718	
Corsican pine	3,264	6,574	Corsica
Japanese larch	4,549	5,989	Japan
Norway spruce	3,584	3,237	France
Norway spruce	994	775	Switzerland
Norway spruce	100	85	Austria
Norway spruce	10	21	United States of America
Sitka spruce (Queen Charlotte Island)	7,506	12,345	British Columbia
Tsuga heterophylla	149	588	British Columbia
Pinus contorta	25	34	British Columbia
Pinus contorta	6	8	United States of America
Sequoia wellingtonia	21	57	California
Abies nordmanniana	9	5	Denmark
BROADLEAVED			
Total	2,106	86	
Beech	210	11	Northern Ireland
Oak (red)	1,896	75	Holland

Home Collected Seed.—Home collected conifer seed showed considerable increases in the amounts obtained of Scots pine and Corsican pine. In all 32,550 bushels of cones of the species normally used were collected, and from these cones 16,656 lb. of seed were extracted. There was a decrease in the home collection of broadleaved species, due to the scanty crops of beech mast and acorns, but in all 83,322 lb. of seed were harvested. Details by species of the quantities of conifer and broadleaved tree seed collected are given in Tables 14 and 15 below.

HOME COLLECTION OF CONIFER SEED

ble 14

Species	Seed extracted	Bushels of Cones collected			
		Total	England	Scotland	Wales
Total, all species ...	lb. 16,656	32,550	21,762	10,277	511
Scots Pine ...	13,486	28,751	19,410	9,086	255
Corsican Pine ...	2,053	2,491	2,148	147	196
European Larch ...	223	219	25	191	3
Japanese Larch ...	48	59	8	41	10
Douglas Fir ...	10	103	9	91	3
Norway Spruce ...	17	60	13	47	—
Other Conifers ...	819	867	149	674	44

HOME COLLECTION OF BROADLEAVED TREE SEED

Table 15

Species	Total	England	Scotland	Wales
Total, all species ...	lb. 83,322	79,179	2,055	2,088
Ash ...	1,194	430	467	297
Beech ...	1,453	1,413	—	40
Oak ...	69,706	67,708	1,043	955
Sycamore ...	425	272	12	141
Sweet Chestnut ...	8,485	8,019	—	466
Other Broadleaved Trees ...	2,059	1,337	533	189

Sales of Seed.—The following amounts of seeds were sold to the nursery trade and to private owners of woodlands :—

	Total lb.	Trade lb.	Private Owners lb.
Conifer seed ...	3,168	2,989	179
Broadleaved tree seed	484	450	34

STOCKS OF TRANSPLANTS AND SEEDLINGS.—At the end of the forest year the nurseries were stocked with 144 million transplants and 417 million seedlings, being 25 million more transplants and 79 million more seedlings

than last year. Comparative figures, subdivided for conifers and broadleaved trees, for the past three years are given below.

STOCKS OF TRANSPLANTS AND SEEDLINGS

Table 16 At 30th September Thousands of Plants

Description and Country	1946	1947	1948
TRANSPLANTS			
Total, Great Britain	114,890	118,694	143,770
England	47,478	46,864	62,296
Scotland	46,618	54,342	59,819
Wales	20,794	17,488	21,655
CONIFEROUS			
Total, Great Britain	107,318	108,290	134,961
England	40,888	37,346	54,351
Scotland	46,107	53,736	59,330
Wales	20,323	17,208	21,280
BROADLEAVED			
Total, Great Britain	7,572	10,404	8,809
England	6,590	9,518	7,945
Scotland	511	606	489
Wales	471	280	375
SEEDLINGS			
Total, Great Britain	276,369	337,831	416,732
England	130,325	157,139	120,294
Scotland	108,741	138,531	221,120
Wales	37,303	42,161	75,318
CONIFEROUS			
Total, Great Britain	269,641	322,593	410,442
England	124,588	142,750	115,462
Scotland	108,094	138,008	220,117
Wales	36,959	41,835	74,863
BROADLEAVED			
Total, Great Britain	6,728	15,238	6,290
England	5,737	14,389	4,832
Scotland	647	523	1,003
Wales	344	326	455

Forest Protection

The work of forest protection falls under two heads—fire protection, and protection against damage by animals, insects and fungus pests. The cost of these operations increased from £189,016 in 1947 to £249,151 in the present year, an increase due partly to the greater area requiring protection, and partly due to the rise in the wages of forest workers. The principal item of expenditure is fire protection, which accounted for £155,904, the balance being expenditure mainly on the control of rabbits. (Appendix 4, Col. 5, page 44.)

FOREST FIRES

The fire hazard was not uniform throughout the country, the worst districts being the Border forests and the New Forest where the fire danger in the spring and early summer was particularly acute. The number of fires which threatened Forestry Commission plantations was 1,189 ; of these some 88 per cent. were extinguished before damage had been caused. Nevertheless, the loss of plantations amounted to 1,837 acres assessed at £45,000, including

the cost of extinguishing ; of this loss eight fires accounted for 1,443 acres of plantations, damage being assessed at £33,255. Claims aggregating £4,600 were lodged by the Commissioners in respect of damage done during the year.

NUMBER AND EXTENT OF FOREST FIRES 1944-1948

Table 17

Year	Number of Fires	Area Burned (acres)	Assessed Damage Thousands of £
1944	811	1,922	36·5
1945	630	276	7·0
1946	803	1,104	26·0
1947	701	645	25·0
1948	1,189	1,837	45·0

CAUSES OF FOREST FIRES IN 1948

Table 18

Cause	Number of Fires	Area Burned (acres)
Total, all causes	1,189	1,837
Railways	656	136
Adjoining Land	303	606
Road Engine	1	—
General Public	91	67
Commission Employees	29	958
Miscellaneous	9	5
Unknown	100	65

The above analysis of the causes of forest fires shows that while the largest number of fires originated from railways, which were responsible for 55 per cent. of the number of outbreaks, the damage caused thereby was only 8 per cent. of the total ; railways being a known source of danger are, of course, always kept under close observation during the fire season. Fires threatening the Commissioners' property from adjoining land were the next most prolific source of outbreaks, and accounted for 26 per cent. of the total number and 35 per cent. of the damage. The greatest loss during the year, however, is attributed to the actions of employees ; three major fires are suspected to have been caused by employees smoking, while others were due to fire trace burning which got out of control. These fires have been the subject of detailed inquiry, and administrative action has been taken to reduce the risks of future loss from these sources.

Preparation and Sale of Produce

THINNINGS AND CLEAR FELLINGS

The greater part of the produce prepared was obtained from thinnings made in the younger plantations. In the present year the area thinned was 28,590 acres ; this is more than double the area covered in the previous year. Thinnings are generally felled and extracted departmentally, but a recent development has been to sell the thinnings standing to be cut and

extracted by merchants. The area clear felled was 717 acres, as against 679 acres last year. Details of the acreage thinned and felled in each conservancy are given below.

AREAS THINNED AND FELLED

Table 19

			Acres		
Country or Conservancy	Thinned	Felled	Country or Conservancy	Thinned	Felled
Total, GREAT BRITAIN	28,590	717	SCOTLAND: Total ...	6,021	117
ENGLAND: Total ...	19,321	508	Conservancy:		
Conservancy:			North ...	1,193	37
North West ...	2,261	56	East ...	2,785	36
North East ...	857	84	South ...	1,138	40
East ...	7,855	46	West ...	905	4
South East ...	692	131	WALES: Total ...	3,248	92
South West ...	3,057	22	Conservancy:		
New Forest ...	3,178	89	North ...	2,179	1
Dean Forest ...	1,421	80	South ...	1,069	91

The produce sold or used for forest purposes during the year was $6\frac{1}{2}$ million cubic feet. Of this amount, $2\frac{1}{2}$ million cubic feet were prepared for use as pitwood and sent direct to the mines; this does not cover all the pitwood originating from the Commissioners' plantations as further quantities reach the mines from timber, poles and thinnings sold to timber merchants.

Other produce sold from the Commissioners' plantations included round timber, telegraph and transmission poles, posts and stakes, wood for pulp-making, and small quantities of oak bark for use in tanning. The expenditure on the preparation of produce was £637,370, and the income, including sales of plants, amounted to £905,315. (Appendix 3, Cols. 7 and 13, page 43.)

Engineering

This branch, as explained earlier in this Report, was, in April, 1948, merged into the general organisation of the Commission at all levels; at the same time the duties of the engineering personnel were extended to include the supervision and maintenance of the considerable amount of mechanical equipment now used in forest operations generally. With the change of emphasis from unemployment, the road construction work was much more mechanised than before.

At the end of the year, work was proceeding at 63 forests; 233 miles of road had been completed, including bridges of which two were over 90 feet in span. The progress during the year is given below.

FOREST ROADS

Table 20

Country	Length of Road (Miles)		Number of Forests at which work was proceeding
	Completed	Under Construction	
Total, Great Britain ...	233.25	52.5	63
England ...	82.5	15.5	20
Scotland ...	128	25	29
Wales ...	22.75	12	14

The expenditure during the year was £1,268,105, which covers supervision, labour, machinery, and the cost of camps. Payments made by employees for board and lodging at the Commissioners' camps amounted to £20,970. Details of expenditure and income are given in Appendix 5, page 44.

Holdings and Estate Management

The Estate Staff have been occupied with the management of the considerable number of tenancies included in the Commissioners' estates, details of which are given below:—

TENANCIES

Table 21

Description	Total, Great Britain	England	Scotland	Wales
Number of Forest Workers Holdings established:				
At end of year ...	1,511	730	406	375
At beginning of year ...	1,506	730	398	378
During year ...	5	—	8	—3*
Other Tenancies: Total...	6,159	3,084	2,218	857
Agricultural Holdings:				
Under £20 per annum	1,320	414	566	340
Over £20 per annum	641	182	218	241
Foresters' Houses ...	267	93	139	35
Cottages ...	931	476	425	30
Residential and Sporting	701	325	306	70
Easements, Permissions, Minerals, etc. ...	2,138	1,594	403	141
Site Rents and Feus ...	161	—	161	—

* 3 Holdings abandoned

FOREST WORKERS HOLDINGS

At present the Commissioners are concentrating on the provision of houses with reasonable sized gardens rather than on the provision of holdings under this scheme. The number of holdings was increased by eight (Scotland), but three holdings (Wales) were abandoned as derelict; the net increase was thus five only. Expenditure and income are given in Appendix 6, page 45.

NEW HOUSES

The number of new houses completed during the year was 108; of these 53 are in England and 55 in Scotland; at the same time work was in progress in the three countries on a further 299 houses.

It was still difficult to find contractors able and willing to undertake building maintenance and improvement work in isolated districts at reasonable cost. The shortage of materials was still felt, though the situation had much improved compared with last year, and progress was made towards overcoming the arrears of maintenance work which had accumulated during the war.

The expenditure on new buildings amounted to £590,467, and on building repairs to £60,392; these amounts are included in col. 8 of Appendix 3, page 43. The income from rents and royalties amounted to £101,667 (col. 12 of the same Appendix).

Technical Supervision

The headquarters and directorate appointments are given on page 9. The Directors of Forestry were assisted by 19 Conservators, one Deputy Surveyor (New Forest), 20 Divisional Officers (one of whom is Deputy Surveyor, Forest of Dean), and 134 District Officers. There was an increase of 16 in the number of District Officers compared with last year's figure; 28 appointments to the District Officer grade were made, but eight officers in this grade left the service during the year, and four promotions were made.

The local supervision of the work in the forests is carried out by Foresters and Foremen recruited from men who have successfully passed through a Forester Training School. The numbers in these grades at the 30th September, 1948, were:—Foresters 511, Foremen 304, increases of 93 and 68 respectively over the numbers at the end of the previous year.

Labour Employed in State Forests

The number of forest workers in the State Forests has progressively increased since the end of the war. The increase was greatest during 1946-47, increasing from 6,700 in September, 1946, to 10,500 in September, 1947, with, in addition 3,400 men on forest road work, as a measure for the relief of unemployment in certain districts. During the year under review, there has been only a slight increase in the number of forest workers—the number at the 30th September, 1948, was 11,100; the number of men on forest road work decreased to 1,300.

Private Forestry

Planting grants to private owners and to Local Authorities were continued under the Interim Grants Scheme and amounted to £58,653; advances in respect of the proceeds-sharing scheme at Lake Vyrnwy, operated jointly with the Liverpool Corporation, were £296; the salaries and expenses of the staff engaged on advisory and agency work, and on inspections in connection with grant schemes and the Dedication scheme amounted, with the allocation of overhead charges, to £39,890. The expenditure during the year under the head of Private Forestry thus amounted to £98,839 (Appendix 2, col. 3, page 42).

PLANTING

The total area of plantations for which grants have been made to date under the Grants Scheme is 171,342 acres; the rate of progress of planting is given below:—

PROGRESS OF STATE-AIDED PRIVATE PLANTING

Table 22		Acres
Period		Area
Grand Total, 1920-48 ...		171,342
1920-29		72,856
1930-39		53,006
1940-45		23,477
1946		4,219
1947		7,600
1948		10,184

The number of new planting schemes inspected and passed during the year was 647 ; the area of these plantations amounted to 10,184 acres, of which 6,898 acres were planted in the year under report. Details by countries are given below.

GRANT SCHEMES

Table 23

Description	Great Britain	England	Scotland	Wales
Number of Schemes ...	647	400	213	34
Area planted:	Acres	Acres	Acres	Acres
Total	10,184	5,235	4,680	269
Conifers	7,203	2,504	4,486	213
Hardwoods	380	335	26	19
Mixed	2,601	2,396	168	37

In the post-war forestry programme, it was anticipated that 10,000 acres would be planted in the current year by private owners. The total acreage actually planted approximates to this figure, as 6,898 acres were planted during the year under the Interim Grant Scheme, and it is estimated that plantations made without State assistance amount to not less than 2,300 acres.

THE DEDICATION SCHEME

The publication of the explanatory booklet on the Dedication of Woodlands* in January, 1948, provided owners with full details of the deeds of dedication and of the form and scope of the plan of operations required. The Dedication Scheme, however, did not progress as rapidly as the initial response had indicated ; at the beginning of the year under review the number of owners who had signified their willingness to consider dedication was 821, controlling 436,000 acres of woodland ; during the year only 100 more intimations covering 72,000 acres were received, giving a total at the end of the year of 921 owners controlling 508,000 acres of woodlands. The position in the three countries is as follows: England, 652 intimations of willingness to consider dedication, covering 278,500 acres ; Scotland, 208 intimations covering 215,500 ; Wales, 61 intimations covering 14,000 acres.

Progress beyond the stage of signifying willingness to consider dedication was slow ; only 14 Plans of Operations for the working of 11,300 acres of woodlands had been submitted and approved up to the end of the year, though a considerable number of others were in the course of preparation.

The number of Plans of Operations approved and the acreage covered is given by countries in the table below :—

PLANS OF OPERATIONS APPROVED

Table 24

To 30th September 1948

	Great Britain	England	Scotland	Wales
Number of Plans... ..	14	5	8	1
Area (acres)	11,273	1,393	9,744	136

* The Dedication of Woodlands, Forestry Commission Booklet No. 2, H.M. Stationery Office, price 1s. net.

The actual deed of dedication was completed by one estate only ; this was in respect of 1,006 acres of woodland in Surrey. Several other deeds were in the course of preparation at the end of the year.

The private woodlands staff was strengthened during the year to meet the greatly increased call for technical advice and guidance in matters connected with dedication. These officers gave advice on the choice of species to be planted, the treatment of scrub and derelict woodlands, the thinning of plantations, and nursery management.

Education

The expenditure on education, which includes expenditure on Forester Training Schools, Short Courses, and the Forest Workers Training Scheme, amounted to £363,017, and the income, which consisted of payments by private employers for services of trainees under the Forest Workers Training Scheme, payments by trainees for board and lodging, and the value of work done by trainees and students in the Commissioners' forests, was £108,495. Details of the expenditure will be found in Appendix 7 on page 46.

FORESTER TRAINING SCHOOLS AND SHORT COURSES

Expenditure under these heads amounted to £113,910, made up as follows—salaries and expenses of instructors £16,176, allowances to men under training £33,946, and rent, stores, fuel, etc., £63,788. The total expenditure was £42,230 more than in the previous year, due mainly to this being the first full year of operation of the schools. Expenditure on Northerwood House has also been included under this head.

FORESTER TRAINING SCHOOLS

The transfer, in February, of the Welsh School from its temporary premises in the New Forest to Gwydyr Forest near Bettws y Coed, North Wales, gave effect to the proposed establishment of two schools in England, two in Scotland and one in Wales. During the year necessary alterations were carried out at Lynford School in Norfolk, Parkend School in the Forest of Dean, and Gwydyr School, without undue disturbance to the instruction.

Three intensive courses were given at Benmore and Lynford Schools, one of seven and a half months, and two of three months duration, to 38 ex-service men whose attendance at a Forester Training School had been interrupted by national service; of these, 36 qualified for Forester's Certificates and two for Foreman's Certificates. The first full two-year courses since the end of the war were completed at the Dean, Glentress, Gwydyr and Lynford Schools. One hundred and thirty-seven men were awarded Forester's Certificates ; of this number, 126 were placed in employment with the Forestry Commission, nine took up positions in private forestry and two obtained posts in Colonial and Dominion Forest Services. Satisfactory reports have been received from the instructors and foresters of the keenness and intelligence displayed by the students, many of whom were recruited through the Forest Workers Training Scheme.

The first-year class at Lynford School included two Cypriot foresters who were accepted for the full two years course by arrangement with the Colonial Office.

SHORT COURSES FOR FORESTERS AND WOODMEN

The purpose of these courses is to improve both the theoretical knowledge and practical skill of woodmen employed to supervise forestry operations on private estates ; and it was fortunate that the instructors who had conducted former courses were still available, because their long experience of forestry, particularly on private estates, was of great value. Three courses were held during the spring on the following private estates: Darnaway Estate, Morayshire—Instructor, Mr. E. S. Grant ; Dartington Hall Estate, Totnes, Devon—Instructor, Mr. T. Brown ; and Raby Castle Estate, Durham—Instructor, Mr. H. Smith. Of the total of 43 men who attended these courses, 31 were from private estates and 12 from Forestry Commission employment. Each course was of three months duration, and the students were given intensive instruction in the theory and practice of forestry. At the end of each course examinations were held by the Royal Forestry Society of England and Wales for the Woodman's Certificate (in England), and by the Royal Scottish Forestry Society for the Junior Forester's Certificate (in Scotland). All the students were successful in gaining the appropriate certificate, and reports from the instructors and from the men who attended showed that the courses were much appreciated. The thanks of the Commissioners are due to the Earl of Moray, Lord Barnard, and to the Dartington Hall Trustees for the facilities which they provided for these courses.

FOREST WORKERS TRAINING SCHEME

The expenditure under this Scheme amounted to £211,241, of which £110,252 represented allowances to trainees, and £100,989 expenditure on maintenance of training centres, etc. (Appendix 7, page 46). During the year, 470 men either completed their full year's training or entered a Forester Training School. Of this number 239 were employed by the Forestry Commission and 102 on private woodland estates ; 91 entered Forester Training Schools, and 38 decided not to continue in forestry work.

At the end of the year there were 628 men still in training, 493 on Forestry Commission properties and 135 on private estates. Apart from giving the trainees a grounding in forestry work, this scheme has proved an excellent recruiting ground for the Forester Training Schools. By the end of the year, 112 men passed the entrance examination and so qualified for admission to the Schools in due course.

NORTHERWOOD HOUSE

The four Universities giving degree courses in forestry made considerable use of the facilities available at Northerwood House. The hostel was booked for 2½ months during the spring and summer, a total of 123 students attending courses of forestry instruction in the New Forest as part of their practical training. The hostel was also used for special courses for officers and foresters of the Forestry Commission and for conferences.

GRANTS TO EDUCATIONAL INSTITUTIONS

Grants amounting to £9,687 were made during the year as follows: University of Aberdeen—£2,016 ; Imperial Forestry Institute, Oxford—£3,400 ; University College of North Wales, Bangor—£2,529 ; University of Cambridge—£250 ; King's College, Newcastle-on-Tyne—£50 ; University of Edinburgh—£1,442.

Research and Experiment

The headquarters of the Research Branch are at Alice Holt Lodge, near Farnham, Surrey, in the centre of Alice Holt Forest. Besides providing office and laboratory accommodation for the Chief Research Officer and his technical staff, the building also houses the records and central office staff of the section responsible for the Census of Woodlands. Further progress has been made in equipping the Lodge as a Forest Research Station, including the installation of insect breeding cages, and facilities for culturing fungi; additions were also made to the equipment of the photographic section. Details of the expenditure and income under the head of Research and Experiment are given in Appendix 8, page 47.

SAMPLE PLOTS

One of the longer term activities of the Research Branch is the establishment and periodic re-assessment of permanent sample plots. This is the province of the Mensuration Section, whose labours provide indispensable data on the rate of growth, production and response to thinning treatment, etc., of the most important trees used in forestry operations. The following table shows the numbers, by countries, of permanent sample plots.

PERMANENT SAMPLE PLOTS

Table 25

Description	Total	England	Scotland	Wales
In being on 1st October, 1947 ...	239	107	112	20
New Plots established during the year ...	114	60	33	21
Plots abandoned (felled, blown, &c.) during the year ...	8	3	4	1
In being on 30th September, 1948	345	164	141	40
Re-measured during the year ...	26	12	14	—

The large number of new sample plots established during the year represents a special effort to fill in gaps which exist in the yield data for various species, the newer exotics in particular.

A revised yield table for Japanese larch has been completed, and work is in progress on new yield tables for Sitka spruce and other species. Volume tables are being prepared for some of the more important species; special studies were also made to determine the increment of our major hardwood species, e.g., oak, beech and ash, a matter on which there is little exact information.

SILVICULTURE

The staff of the Silvicultural Section has been largely engaged on the supervision and assessment of the numerous experimental plantations throughout the country. Special attention has been given to experimental areas planted on peat; in some of these, e.g., at Inchnacardoch Forest near Fort Augustus, there are experiments dating back over twenty years, and some of the plots have already reached the thinning stage; a report on this project is in course of preparation. Other experimental work on the afforestation of upland heather moorlands in Scotland and the north of England is under review.

Current lines of investigation include experimental work on the maintenance of fertility in forest nurseries, and on studies of the nutritional requirements of seedlings and transplants of coniferous species, particularly Sitka spruce. This series of investigations has been the subject of discussions with the Committee appointed in 1944 to examine these problems, and the development of the work owes much to the help given by Dr. E. M. Crowther of Rothamsted. Work on the selection of fast-growing and at the same time disease-resistant varieties of poplars suitable for use in Great Britain was continued. Stocks of four recommended hybrids—*Populus serotina*, *P. serotina* var. *erecta*, *P. robusta* and *P. gelrica*—have been grown; so that cuttings can be made available to nurserymen and private landowners who may wish to raise stocks of these species. The Commission was represented at the International Commission on Poplars which was held in Italy in April, 1948.

ENTOMOLOGY

The Entomologist has been occupied with local infestations of *Ips sexdentatus* at different places in South Wales. These bark beetles have been brought into the vicinity of our plantations in mining timber imported from France, and concern has been felt lest these beetles should spread and become a serious menace. Prompt measures of felling the infested trees, and removing the bark in which the beetles breed, were taken, and serious outbreaks have not developed.

Some damage was caused to Corsican pine in the east Midlands by the larvae of a moth, *Evetria purdeyi*; this infestation, however, seems to be abating. An aphid, *Neomyzaphis abietina*, has been reported on Sitka spruce from all over Britain; this pest feeds on the needles of the spruce and the defoliation it causes has been serious locally.

The defoliation of hybrid larch by a saw-fly, *Anoplonyx*, has been reported from Perthshire. This insect, though native to this country, has not been previously recorded as a major pest of larch.

PATHOLOGY

The Pathologist has been concerned with a large number of problems relating to the effects of parasitic fungi and other forms of tree disease. Work was continued on the investigation of the damage caused by the fungus *Fomes annosus*, to the pine plantations in East Anglia; the dying back of pines and spruces which has occurred in different parts of Great Britain was also kept under review. Methods to reduce the losses in nursery stocks of Western red cedar, caused by the fungus *Keithia thujina*, were the subject of further investigation.

The appearance of deep cracks in the stems of Sitka spruce in the pole stage has been reported from various localities. Investigations so far have not revealed the cause of this defect.

The Pathologist also visited some of the chestnut growing districts in Italy to study the effects of the fungus *Endothia parasitica*, which is causing much damage to chestnut trees. This fungus has almost completely wiped out the chestnut in parts of eastern North America and its appearance in Southern Europe causes some concern on account of the importance of sweet chestnut

in the southern counties of England. Seed from strains which have proved to be resistant to this fungus have been obtained from the United States, in order to study the growth and behaviour of the resulting plants under our conditions.

MECHANISATION

Increased costs have emphasised the need for mechanisation in all branches of forestry. Certain aspects of mechanisation have already received close attention, notably the improvement of heavy ploughs for preparing land for planting, but the Commissioners consider that the time has now come to put such investigations on a more systematic basis, and have appointed an engineer for this purpose. Priority is being given to the development of improved methods of extracting thinnings, a problem of growing importance in view of the large areas of plantations now reaching the thinning stage.

BOTANICAL AND SOIL RESEARCH

Grants given to Institutions for forest research include £206 to Aberdeen University for botanical investigations by Dr. E. V. Laing, on the racial strains of Douglas fir and Scots pine ; £762 to Dr. M. C. Rayner of Bedford College, London, for the pursuance of mycorrhiza research ; and £1,524 to the Rothamsted Experimental Station for research on the nutrition of trees in forest nurseries ; grants totalling £4,313 were also made to the Macaulay Institute for Soil Research at Aberdeen, and to the Imperial Forestry Institute, Oxford, for the furtherance of research on forest soils. The actual problem under investigation is the study of the physico-chemical changes occurring in the soil when a new plantation reaches the stage of canopy formation.

THE ADVISORY COMMITTEE ON FOREST RESEARCH

This Committee met at Llandrindod Wells in September when the programme of research work was discussed and progress reviewed. Visits were made to experiments in Radnor Forest and the opportunity was taken of visiting other forests in the neighbourhood.

UTILISATION

The usual close liaison on utilisation and other matters has been maintained with the Director and staff of the Forest Products Research Laboratory at Princes Risborough.

Special Services

The expenditure under this head amounted to £43,202 (Appendix 2, Col. 6, page 42), the major part of which is in respect of carrying out the Census of Woodlands. This survey accounted for £33,437 out of the £35,683 shown in Appendix 9, Col. 5, page 47.

CENSUS OF WOODLANDS

After a preliminary period of investigation in 1946, during which field work trials were carried out and statisticians at Rothamsted Experimental Station were consulted as to methods, the survey was started in January 1947. It was planned to complete this survey in thirty months, and to classify in suitable categories all private woods of five acres in area or over. A similar census, but in greater detail, was also planned for the State forests, using the forest staff. Owing to the time factor, no volume estimation was undertaken, but this will be done later by a sampling method.

The classification of the woods was effected by the surveyors marking up a small form divided into squares, with the appropriate headings for the several agreed categories, age classes, type of forest, etc.; at the same time the stand boundaries were demarcated on maps; the working up of the field data, e.g., determining the areas of the woodland blocks, and classification and compilation of the results, was then proceeded with. Punch-card operators at the Forest Research Station at Alice Holt Forest transferred the particulars from the field forms to cards suitable for machine sorting; thereafter the tabulation in the categories required was carried out by arrangements with the War Office.

The work of the Census continued throughout the year, and by the end of September more than two million acres of private woodlands had been surveyed. The fieldwork in Scotland and in Wales was completed, and more than 900,000 acres had been covered in England by the survey parties. The Census disclosed a total of 1,024,000 acres of privately or corporately owned woodland in Scotland, and of 224,000 acres in Wales. Of these areas the proportion classified under the combined heads of felled, devastated, and scrub woodlands, was 64 per cent. in Scotland, and 47 per cent. in Wales; the corresponding figure for England is provisionally estimated at 33 per cent. These data indicate the extent of the task of bringing the country's woodlands into a productive state.

PUBLICATIONS

Nine new items were published during the year by His Majesty's Stationery Office. The most important of these is Booklet No. 2, entitled *The Dedication of Woodlands*, which sets out in detail the principles involved, and the procedure to be followed by landowners who propose to bring their woodlands into the Dedication scheme. The *Report of the New Forest Committee, 1947*, is a White Paper (Cmd. 7245) prepared by the Committee presided over by the Rt. Hon. Harold Baker, P.C., and embodies recommendations for the future management of the New Forest. The *Snowdonia National Forest Park Guide* is the latest addition to the series of popular illustrated guide books which will eventually cover all the National Forest Parks; and a new series describing the more extensive and attractive individual forests has been begun with the issue of a small booklet entitled *Forest of Ae*. The leaflet series was extended by the issue of Leaflet 26 on *Spruce Bark Beetles*, dealing with the genus *Ips* which includes potentially serious pests of spruce plantations, and of Leaflet 27, entitled *Poplar Planting*. The three other new publications were the *Twenty-seventh Annual Report* in respect of the year ending on 30th September, 1946*, the *Twenty-eighth Annual Report* in respect of the year ending on 30th September, 1947†, and *Empire Forests and the War, Statistics prepared for the Fifth British Empire Forestry Conference, Great Britain, June, 1947‡*.

Bulletin No. 15§, entitled *Scottish Moorlands and Tree Growth*, was re-printed during the year after being out of stock for some time, and Leaflet No. 16|| on *Larch Canker* was re-issued after extensive revision.

* H.C. 11, 1947/8 (H.M.S.O. Price 1s. 3d.)

† H.C. 179, 1947/8 (H.M.S.O. Price 1s. 3d.)

‡ H.M.S.O. Price 1s.

§ H.M.S.O. Price 2s. 6d.

|| H.M.S.O. Price 2d.

EXHIBITS AT AGRICULTURAL SHOWS

Forestry exhibits were again in great demand by organisers of agricultural shows, and special efforts were made to cope with this. By the use of a lorry and a van-load of demonstration material, it was possible to exhibit at the larger shows throughout the summer season. The most comprehensive exhibits were staged at the Royal Show at York, the Bath and West Show at Cardiff, the Three Counties Show at Gloucester and the Northumberland Show at Newcastle-on-Tyne. In all, fourteen shows were attended, including the Royal Highland Show at Inverness, where a special exhibit was staged.

The exhibits were designed to demonstrate the various aspects of forestry work and its related occupations, and proved to be a useful method of conveying information, advice and instruction to the public. They also provided opportunities for private woodland owners and farmers to meet and discuss forestry problems with each other and with officers of the Forestry Commission.

The indoor exhibits this year were mainly photographic, supplemented by models and samples of plants, forest produce, etc.; the outdoor exhibits ranged from heathland nurseries to forest fire fighting. Close liaison was maintained with the Forestry Societies, the Forest Products Research Laboratory and the Timber Development Association.

National Forest Parks

The six National Forest Parks, covering a total area of nearly 240,000 acres, continued to attract visitors throughout the summer months. No new Parks were made during the year, but new camping grounds were opened at Glenmore and at Glentroot. The use made of camping grounds has shown that these facilities fill a need for simple and inexpensive accommodation in the somewhat remote districts in which the Forest Parks are situated. The guide books issued by the Forestry Commissioners have proved very popular; and an indication of the public interest in these Forest Parks is provided by the sales of the guide to Snowdonia, 5,000 copies of which were sold within two months of publication.

The Forest Parks are essentially areas to which the public have free access, and it is therefore not possible to give figures of the numbers of people who visited each during the course of the year. But some measure of their popularity is provided by the number of overnight stays recorded at the several official camping grounds.

The details of these are given below:—

<i>Forest Park</i>	<i>Number of overnight stays at Camping Grounds</i>
Argyll	11,275
Dean	620
Glenmore ...	2,588
Glentroot	1,060
Hardknott ...	No site
Snowdonia	481

In the vicinity of the Forest Parks there are also Youth Hostels, and many of the thousands who have made use of these hostels have no doubt also visited the Forest Parks.

The Commissioners recognise the need for more open spaces to which the public may have access for enjoyment and recreation. It is their intention to extend the facilities available at the present National Forest Parks, and to open further areas as soon as the requirements of forest protection and management permit.

(Signed) ROBINSON (*Chairman*)
S. STRANG STEEL
W. L. TAYLOR
RADNOR
J. M. BANNERMAN
R. C. G. COTTERELL
LLOYD O. OWEN
J. E. HAMILTON
JOHN STIRLING
W. H. VAUGHAN

F. W. HAMILTON, *Secretary*,
25, Savile Row,
London, W.1.

APPENDICES

Appendix I PAYMENTS AND RECEIPTS BY HEADS OF ACCOUNT £

Year ending 30th September	Payments											Receipts (13)	Net Payments (14)	
	Total (1)	Salaries and Wages and Allowances (2)	Head-quarters Charges (3)	Charges of Directors of Forestry (4)	Charges of Conservators (5)	Forestry Operations (6)	Private Forestry (7)	Education (8)	Research and Experiment (9)	Special Services (10)	Forest Workers Holdings (11)			Engin- eering (12)
Grand Total	31,797,242	2,668,871	145,096	179,618	454,836	23,927,771	628,971	850,590	285,061	93,711	943,281	1,619,436	8,760,288	23,036,954
1920-29 ...	4,502,018	494,157	22,676	30,586	74,434	3,118,837	299,600	76,004	36,927	23,342	325,455	—	851,484	3,650,534
1930-39 ...	7,926,093	714,343	53,003	49,485	107,251	6,232,917	128,653	73,538	84,916	13,681	468,306	—	1,821,852	6,104,241
1940-45 ...	6,927,334	550,592	31,164	36,705	91,559	5,976,639	69,079	39,813	58,463	1,471	71,849	—	3,784,038	3,143,296
1946 ...	1,937,614	1,04,645	7,678	10,107	22,707	1,637,845	7,891	48,646	17,884	875	19,336	—	562,504	1,375,110
1947 ...	3,871,688	315,582	10,456	19,701	66,144	2,635,112	48,544	286,438	34,655	14,820	26,410	413,826	660,690	3,210,998
1948 ...	6,632,495	429,552	20,119	33,034	92,741	4,326,421	75,204	326,151	52,216	39,522	31,925	1,205,610	1,079,720	5,552,775

Appendix 2

EXPENDITURE AND INCOME

£

Year ending 30th September	Expenditure								Income						Net Expenditure
	Total	Forestry Operations (Appendix 3)	Private Forestry	Education (Appendix 7)	Research and Experiment (Appendix 8)	Special Services (Appendix 9)	Forest Workers Holdings (Appendix 6)	Engin- eering (Appendix 5)	Total	Forestry Operations (Appendix 3)	Education (Appendix 7)	Forest Workers Holdings (Appendix 6)	Engin- eering (Appendix 5)	Miscel- laneous	
Grand Total	32,530,946	26,990,370	841,944	1,011,833	510,208	184,931	1,172,127	1,819,533	9,383,752	8,733,908	218,339	390,163	24,227	17,115	23,147,194
Percentage	100	82.9	2.6	3.1	1.6	0.6	3.6	5.6	100	93.1	2.3	4.1	0.3	0.2	—
1920-29 ...	4,485,649	3,512,577	340,927	101,313	79,650	61,299	389,883	—	916,559	882,108	2,427	27,515	—	4,509	3,569,090
1930-39 ...	8,070,155	7,056,580	166,767	97,998	140,245	42,694	565,871	—	1,943,543	1,770,014	443	168,856	—	4,230	6,126,612
1940-45 ...	7,051,637	6,680,667	96,557	51,853	99,078	7,888	115,594	—	3,972,935	3,839,708	225	127,567	—	5,435	3,078,702
1946 ...	1,984,811	1,821,628	33,943	66,565	33,911	3,387	25,377	—	535,117	499,642	12,465	22,291	—	719	1,449,694
1947 ...	4,176,138	3,061,751	104,911	331,087	65,268	26,461	35,232	551,428	747,620	627,381	94,284	21,803	3,257	895	3,428,518
1948 ...	6,762,556	4,857,167	98,839	363,017	92,056	43,202	40,170	1,268,105	1,267,978	1,115,055	108,495	22,131	20,970	1,327	5,494,578

Appendix 3

FORESTRY OPERATIONS: EXPENDITURE AND INCOME

£

Year ending 30th September	Expenditure (Appendix 2, Column 2)										Income (Appendix 2, Column 10)					Net Expenditure (15)
	Total (1)	Overhead Charges (2)	Superior Supervision (3)	Local Supervision (4)	Acquisition of Land, etc. (5)	Cultural Operations (See Appendix 4) (6)	Preparation and Sale of Produce (7)	Roads and Buildings (8)	Stores and Miscellaneous (9)	Total (10)	Sales of Land and Buildings (11)	Rents and Royalties (12)	Forest Produce (13)	Other (14)		
Grand Total	26,990,370	1,098,946	1,279,204	1,995,378	3,381,851	11,919,085	2,069,093	1,632,605	3,614,208	8,733,908	296,050	1,916,622	5,690,188	831,048	18,256,462	
Percentage	100	4.1	4.7	7.4	12.5	44.2	7.7	6.0	13.4	100	3.4	21.9	65.2	9.5	—	
1920-29 ...	3,512,577	192,997	201,122	174,130	787,509	1,510,801	118,853	115,488	411,677	882,108	78,784	274,091	406,594	122,639	2,630,469	
1930-39 ...	7,056,580	332,060	352,049	493,661	1,534,471	3,071,019	362,395	246,853	664,072	1,770,014	76,484	791,032	699,094	203,404	5,286,566	
1940-45 ...	6,680,667	254,471	285,761	610,503	699,647	3,223,256	499,406	180,692	926,931	3,839,708	130,750	559,603	2,893,709	255,646	2,840,959	
1946 ...	1,821,628	74,069	77,566	175,761	144,726	794,133	162,414	96,313	296,646	499,642	368	95,883	349,365	54,026	1,321,986	
1947 ...	3,061,751	110,065	164,424	247,189	78,648	1,351,964	288,655	237,525	583,281	627,381	759	94,346	436,111	96,165	2,434,370	
1948 ...	4,857,167	135,284	198,282	294,134	136,850	1,967,912	637,370	755,734	731,601	1,115,055	8,905	101,667	905,315	99,168	3,742,112	

CULTURAL OPERATIONS: EXPENDITURE

(Appendix 3, Col. 6)

Appendix 4

£

Year ending 30th September	Grand Total (1)	Plantations				Nurseries (6)
		Total (2)	Prepara- tory work and Planting (3)	Establish- ment and Main- tenance (4)	Forest Protec- tion (5)	
Grand Total, 1920- 1948	11,919,085	8,721,355	3,441,067	3,684,295	1,595,993	3,197,730
<i>Percentage of Column 2</i> ...	—	100	39·5	42·2	18·3	—
<i>Percentage of Column 1</i> ...	100	73·2	28·9	30·9	13·4	26·8
1920-29	1,510,801	1,029,528	638,503	295,201	95,824	481,273
1930-39	3,071,019	2,346,887	1,053,327	916,427	377,133	724,132
1940-45	3,223,256	2,326,965	625,220	1,139,353	562,392	896,291
1946	794,133	560,267	144,098	293,692	122,477	233,866
1947	1,351,964	988,258	393,787	405,455	189,016	363,706
1948	1,967,912	1,469,450	586,132	634,167	249,151	498,462

ENGINEERING: EXPENDITURE AND INCOME

Appendix 5

£

Year ending 30th September	Expenditure (Appendix 2, Column 8)						Income (Appendix 2, Column 13)	Net Expen- diture
	Total (1)	Superior Super- vision and Overhead Charges (2)	Salaries and Expenses of Engineers (3)	Plant, Machin- ery, etc. (4)	Road Construc- tion (5)	Camps and Misc. (6)		
Grand Total	1,819,533	75,069	112,330	360,541	1,154,316	117,277	24,227	1,795,306
<i>Percentage</i>	100	4·1	6·2	19·8	63·4	6·5	—	—
1947	551,428	24,459	34,630	157,047	303,783	31,509	3,257	548,171
1948	1,268,105	50,610	77,700	203,494	850,533	85,768	20,970	1,247,135

Appendix 6

FOREST WORKERS HOLDINGS: EXPENDITURE AND INCOME

£

Year ending 30th September	Expenditure (Appendix 2, Column 7)							Income (Appendix 2, Column 12)			Net Expendi- ture	
	Total (1)	Superior Super- vision and Overhead Charges (2)	Purchase and Rent of Land and Buildings (3)	Buildings			Fencing, Drain- age, etc. (7)	Miscel- laneous (8)	Total (9)	Rents (10)		Other (11)
				New (4)	Adapta- tions (5)	Repairs (6)						
Grand Total. ...	1,172,127	192,148	207,860	448,088	91,899	146,738	54,195	31,199	390,163	386,477	3,686	781,964
Percentage ...	100	16.4	17.7	38.3	7.8	12.5	4.6	2.7	100	99.1	0.9	—
1920-29 ...	389,883	35,894	103,940	192,184	32,302	3,882	17,561	4,120	27,515	26,261	1,254	362,368
1930-39 ...	565,871	94,399	108,894	234,824	43,830	46,341	27,967	9,616	168,856	167,966	890	397,015
1940-45 ...	115,594	42,133	8,659(Cr.)	18,443	7,506	42,094	5,427	8,650	127,567	127,234	333	11,973(Cr.)
1946 ...	25,377	5,573	1,117	945	436	14,110	1,100	2,096	22,291	21,532	759	3,086
1947 ...	35,232	7,247	829	998	5,334	17,147	649	3,028	21,803	21,360	443	13,429
1948 ...	40,170	6,902	1,739	694	2,491	23,164	1,491	3,689	22,131	22,124	7	18,039

Appendix 7

EDUCATION: EXPENDITURE AND INCOME

£

Year ending 30th September	Expenditure (Appendix 2, Column 4)										Income (Appendix 2, Column 11)	Net Expendi- ture
	Total (1)	Superior Supervision and Overhead Charges (2)	Salaries and Expenses (3)	Forester Schools and Short Courses			Forest Workers Training Scheme		Grants to Institutions (9)			
				Instructors Salaries and Expenses (4)	Allowances to Appren- tices (5)	Rent, Stores, Fuel, Light, etc. (6)	Allowances to Trainees (7)	Upkeep of Training Centres (8)				
Grand Total ...	1,011,833	68,083	18,189	63,243	103,691	156,897	290,034	197,521	114,175	218,339	793,494	
<i>Percentage</i> ...	100	6.7	1.8	6.3	10.2	15.5	28.7	19.5	11.3	—	—	
1920-29 ...	101,313	13,125	—	15,401	21,709	20,387	—	—	30,691	2,427	98,886	
1930-39 ...	97,998	12,184	—	10,848	17,682	14,638	—	—	42,646	443	97,555	
1940-45 ...	51,853	6,331	—	6,242	12,688	7,700	—	—	18,892	225	51,628	
1946 ...	66,565	6,751	—	3,709	2,531	4,706	34,148	10,204	4,516	12,465	54,100	
1947 ...	331,087	13,589	6,113	10,867	15,135	45,678	145,634	86,328	7,743	94,284	236,803	
1948 ...	363,017	16,103	12,076	16,176	33,946	63,788	110,252	100,989	9,687	108,495	254,522	

RESEARCH AND EXPERIMENT: EXPENDITURE AND INCOME

Appendix 8

£

Year ending 30th September	Expenditure (Appendix 2, Column 5)					Income	Net Expendi- ture
	Total	Superior Supervision and Overhead Charges	Salaries and Expenses	Labour, Stores, etc.	Grants to Institu- tions		
	(1)	(2)	(3)	(4)	(5)			(6)	(7)
Grand Total ...	510,208	48,455	228,010	175,508	58,235	6,564	503,644
<i>Percentage...</i>	<i>100</i>	<i>9.5</i>	<i>44.7</i>	<i>34.4</i>	<i>11.4</i>	—	—
1920-29 ...	79,650	13,699	38,458	20,230	7,263	1,058	78,592
1930-39 ...	140,245	14,584	55,042	47,030	23,589	2,540	137,705
1940-45 ...	99,078	6,329	47,056	33,768	11,925	1,791	97,287
1946 ...	33,911	2,411	16,892	12,626	1,982	329	33,582
1947 ...	65,268	4,530	30,140	26,231	4,367	217	65,051
1948 ...	92,056	6,902	40,422	35,623	9,109	629	91,427

SPECIAL SERVICES: EXPENDITURE AND INCOME

Appendix 9

£

Year ending 30th September	Expenditure (Appendix 2, Column 6)						Income	Net Expendi- ture
	Total	Superior Super- vision and Overhead Charges	Consul- tative Committee Expenses	Publica- tions	Special Enquiries	Relief of Un- employ- ment		
	(1)	(2)	(3)	(4)	(5)	(6)			(7)	(8)
Grand Total	184,931	76,483	677	7,183	80,760	19,828	442	184,489
<i>Percentage</i>	<i>100</i>	<i>41.3</i>	<i>0.4</i>	<i>3.9</i>	<i>43.7</i>	<i>10.7</i>	—	—
1920-29 ...	61,299	26,585	523	1,995	12,368	19,828	347	60,952
1930-39 ...	42,694	28,698	145	1,279	12,572	—	33	42,661
1940-45 ...	7,888	6,329	9	2	1,548	—	6	7,882
1946 ...	3,387	2,411	—	—	976	—	12	3,375
1947 ...	26,461	6,341	—	2,507	17,613	—	25	26,436
1948 ...	43,202	6,119	—	1,400	35,683	—	19	43,183

Country or Conservancy	Area Planted (Acres)						Total
	Total		Afforested		Re-Afforested		
	Conifers	Broad-leaved	Conifers	Broad-leaved	Conifers	Broad-leaved	
GRAND TOTAL:							
Great Britain ...	33,379	3,025	23,417	515	9,962	2,510	73,044
ENGLAND: ...	11,250	2,875	7,238	491	4,012	2,384	29,519
Conservancy:							
North West ...	2,436	124	1,695	26	741	98	4,768
North East ...	4,755	15	4,462	—	293	15	8,168
East ...	1,376	922	175	234	1,201	688	5,810
South East ...	521	585	107	127	414	458	3,001
South West ...	1,461	540	777	—	684	540	3,737
New Forest ...	577	223	22	104	555	119	2,133
Dean Forest ...	124	466	—	—	124	466	1,902
SCOTLAND: ...	16,100	98	11,288	23	4,812	75	32,912
Conservancy:							
North ...	3,455	15	1,719	15	1,736	—	7,164
East ...	5,238	15	2,519	4	2,719	11	10,668
South ...	4,113	41	3,827	1	286	40	8,685
West ...	3,294	27	3,223	3	71	24	6,395
WALES: ...	6,029	52	4,891	1	1,138	51	10,613
Conservancy:							
North ...	3,092	7	2,788	1	304	6	5,030
South ...	2,937	45	2,103	—	834	45	5,583

30th SEPTEMBER, 1948—SUMMARY BY CONSERVANCIES

Species Planted, including Beating Up (Thousands of plants)										
Scots Pine	Corsican Pine	European Larch	Japanese Larch	Douglas Fir	Norway Spruce	Sitka Spruce	Oak	Ash	Beech	Other Species
15,165	2,218	792	3,708	1,055	11,447	29,490	3,437	41	4,173	1,518
5,941	1,887	158	1,020	535	2,921	9,118	3,304	39	3,916	680
834	429	—	283	107	1,042	1,720	45	—	192	116
661	149	—	264	33	615	6,303	—	—	87	56
2,486	767	5	10	154	15	—	1,324	1	941	107
739	56	—	42	51	425	—	172	1	1,417	98
705	108	—	324	39	374	903	282	2	791	209
479	376	5	67	151	373	147	72	5	418	40
37	2	148	30	—	77	45	1,409	30	70	54
8,257	240	553	1,192	414	6,087	15,379	111	—	150	529
2,702	4	305	397	49	1,192	2,281	—	—	10	224
4,266	236	211	286	187	1,936	3,460	28	—	22	36
840	—	8	292	147	1,845	5,285	82	—	78	108
449	—	29	217	31	1,114	4,353	1	—	40	161
967	91	81	1,496	106	2,439	4,993	22	2	107	309
391	26	1	517	3	776	3,169	—	—	—	147
576	65	80	979	103	1,663	1,824	22	2	107	162

Appendix 11

SUMMARY OF SPECIES USED FOR PLANTING AND BEATING-UP

Thousands of plants

SPECIES	GREAT BRITAIN			ENGLAND			SCOTLAND			WALES		
	Total	Planting	Beating-up	Total	Planting	Beating-up	Total	Planting	Beating-up	Total	Planting	Beating-up
	All Species	73,044	60,026	13,018	29,519	23,198	6,321	32,912	28,180	4,732	10,613	8,648	1,965
Scots Pine	15,165	11,929	3,236	5,941	4,222	1,719	8,257	7,080	1,177	967	627	340
Corsican Pine	2,218	1,487	731	1,887	1,248	639	240	213	27	91	26	65
European Larch	792	695	97	158	101	57	553	521	32	81	73	8
Japanese Larch	3,708	2,907	801	1,020	578	442	1,192	1,012	180	1,496	1,317	179
Douglas Fir	1,055	784	271	535	365	170	414	342	72	106	77	29
Norway Spruce	11,447	9,707	1,740	2,921	2,351	570	6,087	5,173	914	2,439	2,183	256
Sitka Spruce	29,490	24,956	4,534	9,118	7,759	1,359	15,379	13,189	2,190	4,993	4,008	985
Tsuga heterophylla	113	69	44	102	59	43	11	10	1	—	—	—
Thuja plicata	9	1	8	9	1	8	—	—	—	—	—	—
Pinus contorta	413	314	99	142	91	51	271	223	48	—	—	—
Hybrid Larch	72	62	10	19	12	7	53	50	3	—	—	—
Lawson Cypress	136	63	73	77	7	70	59	56	3	—	—	—
Picea omorika	103	85	18	14	8	6	89	77	12	—	—	—
Abies grandis	1	1	—	1	1	—	—	—	—	—	—	—
Ash	41	20	21	39	18	21	—	—	—	2	2	—
Beech	4,173	3,506	667	3,916	3,309	607	150	107	43	107	90	17
Oak	3,437	2,943	494	3,304	2,849	455	111	94	17	22	—	22
Sycamore	39	26	13	17	4	13	19	19	—	3	3	—
Cherry	23	13	10	20	11	9	3	2	1	—	—	—
Others	609	458	151	279	204	75	24	12	12	306	242	64

SUMMARY AREA STATEMENT OF LAND USE BY CONSERVANCIES

Appendix 12

At 30th September, 1948

Acres

Country or Conservancy	Total	Planted during year ended 30th September, 1948		Under Plantations	Provisional Allocation of Other Land	
		Afforested	Re-afforested		Plantable	Agricultural, Unplantable, &c.
GREAT BRITAIN: TOTAL	1,477,167	23,932	12,472	569,627	347,087	560,453
ENGLAND:	498,223	7,729	6,396	263,923	106,101	128,199
North West Conservancy	75,283	1,721	839	41,066	17,211	17,006
North East Conservancy	145,869	4,462	308	58,131	42,467	45,271
East Conservancy	93,746	409	1,889	65,864	18,519	9,363
South East Conservancy	36,859	234	872	21,943	13,278	1,638
South West Conservancy	41,194	777	1,224	27,754	9,637	3,803
New Forest	80,111	126	674	30,459	2,616	47,036
Dean Forest	25,161	—	590	18,706	2,373	4,082
SCOTLAND:	777,206	11,311	4,887	210,767	186,405	380,034
North Conservancy	235,728	1,734	1,736	55,477	46,144	134,107
East Conservancy	132,600	2,523	2,730	64,278	35,480	32,842
South Conservancy	181,885	3,828	326	34,654	58,479	88,752
West Conservancy	226,993	3,226	95	56,358	46,302	124,333
WALES:	201,738	4,892	1,189	94,937	54,581	52,220
North Conservancy	121,656	2,789	310	48,862	35,024	37,770
South Conservancy	80,082	2,103	879	46,075	19,557	14,450

AREA STATEMENT OF LAND USE BY FORESTS—ENGLAND

Appendix 13

At 30th September, 1948

Acres

Forest	Total	Planted during year ended 30th September, 1948		Under Plantations	Provisional Allocation of Other Land	
		Afforested	Re-afforested		Plantable	Agricultural, Unplantable, &c.
NORTH WEST CONSERVANCY:						
TOTAL	75,283	1,721	839	41,066	17,211	17,006
1. Delamere	1,969	—	76	1,731	203	35
2. Thornthwaite	4,880	122	—	3,304	510	1,066
3. Cannock Chase	5,540	—	100	5,395	17	128
4. Mortimer	6,576	—	155	5,742	626	208
5. Walcot	1,849	88	16	1,309	533	7
6. Clipstone	6,972	136	127	5,544	1,115	313
7. Ennerdale	8,032	37	—	2,789	813	4,430
8. Hope	2,985	16	—	576	1,868	541
9. Bawtrey	583	—	1	503	35	45
10. Sherwood	2,345	166	23	2,060	207	78
11. Kershope	12,355	615	—	7,199	1,808	3,348
12. Hardknott	8,011	92	—	778	1,944	5,289
13. Grizedale	5,807	128	310	2,859	2,126	822
14. Greystoke	1,572	314	—	1,158	414	—
15. Cotgrave	370	7	31	79	291	—
16. Dalton	452	—	—	17	357	78
17. Enville	826	—	—	21	790	15
18. Gisburn	2,674	—	—	—	2,276	398
19. Long Mynd	679	—	—	—	474	205
20. Swynnerton	806	—	—	2	804	—

Appendix 13—continued

Forest	Total	Planted during year ended 30th September, 1948		Under Plantations	Provisional Allocation of Other Land	
		Afforested	Re-afforested		Plantable	Agricultural, Unplantable, &c.
NORTH EAST CONSERVANCY:						
TOTAL	145,869	4,462	308	58,131	42,467	45,271
1. Chopwell	816	—	52	689	110	17
2. Allerston	12,060	212	—	9,652	1,329	1,079
3. Rothbury	1,888	—	50	1,022	724	142
4. Selby	756	—	—	718	37	1
5. Kielder	74,282	2,895	10	21,651	21,481	31,150
6. Hamsterley	5,510	169	7	3,683	1,190	637
7. Ampleforth	2,293	34	—	1,697	264	332
8. Rosedale	2,874	3	—	2,247	253	374
9. Harwood	2,109	—	—	1,448	500	161
10. Slaley	1,480	2	48	1,200	55	225
11. Arkengarthdale	1,340	57	—	1,051	80	209
12. Redesdale	17,629	587	114	5,434	5,360	6,835
13. Langdale	5,544	9	—	1,420	2,092	2,032
14. Widehaugh	70	—	—	—	—	70
15. Warke	16,560	494	—	5,933	8,697	1,930
16. Scardale	658	—	27	286	295	77
EAST CONSERVANCY:						
TOTAL	93,746	409	1,889	65,864	18,519	9,361
1. Hazelborough	2,206	126	—	1,769	74	363
2. Salcey	1,279	—	1	1,174	87	18
3. Ampthill	452	—	5	363	—	89
4. Rendlesham	8,062	—	100	6,180	777	1,105
5. Rockingham	5,146	4	35	3,902	1,070	174
6. Swaffham	5,959	—	—	5,173	540	246
7. Thetford Chase	46,212	31	560	31,505	8,445	6,262
8. Bourne	2,500	—	25	1,458	838	204
9. Laughton	2,144	7	125	2,051	28	65
10. Swanton	1,553	—	53	1,087	384	82
11. Dunwich	843	—	18	704	116	23
12. Yardley Chase	2,113	—	—	1,453	508	152
13. Bardney	2,846	137	28	1,567	1,153	126
14. The King's Forest	5,932	—	796	5,066	611	255
15. Wigsley	1,749	29	—	442	1,288	19
16. Willingham	1,903	—	91	874	942	87
17. Wendover	814	13	—	546	219	49
18. Hevingham	229	—	46	46	165	18
19. Shouldham	957	62	6	225	727	5
20. Watlington	306	—	—	264	21	21
21. Bramfield	541	—	—	15	526	—
SOUTH EAST CONSERVANCY:						
TOTAL	36,859	234	872	21,943	13,278	1,638
1. Alice Holt	2,142	—	9	1,802	124	216
2. Bere	1,443	—	14	1,409	5	29
3. Woolmer	2,073	—	—	299	1,754	20
4. Bedbury	3,365	—	151	2,475	664	226
5. Bramshill	4,108	14	18	3,349	659	100
6. Chiddingfold	2,090	—	36	1,823	259	8
7. Lyminge	2,495	—	82	1,915	519	61
8. Friston	1,986	161	22	822	1,090	74
9. Micheldever	2,205	—	—	1,525	597	85
10. Buriton	1,733	—	—	1,366	187	180
11. Westbury	359	—	—	347	2	10
12. Challock	1,422	—	31	464	953	5

Appendix 13—continued

Forest	Total	Planted during year ended 30th September, 1948		Under Plantations	Provisional Allocation of Other Land	
		Afforested	Re-afforested		Plantable	Agricultural, Unplantable, &c.
13. Goodwood	2,824	19	37	858	1,965	1
14. Vinehall	887	—	—	430	427	30
15. Gravetye	910	—	10	373	30	507
16. Marden	1,193	—	79	284	909	—
17. Arundel	2,777	40	136	1,394	1,318	65
18. Orlestone	750	—	56	559	190	1
19. Alton	238	—	33	65	173	—
20. Andover	1,000	—	95	95	883	22
21. Southwater	349	—	—	—	349	—
22. Basing	211	—	63	89	122	—
23. Bishopstoke	299	—	—	200	99	—
SOUTH WEST CONSERVANCY:						
TOTAL	41,194	777	1,224	27,754	9,637	3,803
1. Dymock	1,377	—	—	1,308	13	56
2. Brendon	2,189	—	8	1,847	4	338
3. Eggesford	882	—	—	838	30	14
4. Haldon	3,020	—	68	2,986	—	34
5. Halwill	4,457	36	—	3,289	556	612
6. Quantock	2,283	—	—	1,744	194	345
7. Bodmin	2,634	3	102	1,715	579	340
8. Haugh	606	—	—	513	75	18
9. Wyre	2,404	—	134	1,759	592	53
10. Wilsey Down	904	5	—	858	—	46
11. Bruton	859	—	12	684	170	5
12. Dartmoor	3,764	308	3	2,539	583	642
13. Herodsfoot	388	—	30	176	187	25
14. Westwoods	1,187	—	—	599	336	252
15. Lydford	599	—	16	464	97	38
16. Collingbourne	1,239	—	327	959	272	8
17. Hartland	2,142	204	—	1,217	482	443
18. Mendip	1,194	221	—	833	307	54
19. Savernake	4,477	—	240	2,443	1,942	92
20. Stanway	1,016	—	73	127	889	—
21. Braydon	450	—	45	300	148	2
22. Okehampton	382	—	—	299	57	26
23. Neroche	2,167	—	166	209	1,654	304
24. Culmhead	40	—	—	—	—	40
25. Plym	534	—	—	48	470	16
NEW FOREST:						
TOTAL	80,111	126	674	30,459	2,616	47,036
1. New	65,152	—	474	19,433	—	45,719
2. Parkhurst	1,270	—	14	1,041	—	229
3. Wareham	3,508	4	—	3,245	—	263
4. Ringwood	4,318	—	91	3,765	260	293
5. Ferndown	799	—	13	564	128	107
6. Brighstone	1,393	—	—	977	163	253
7. Combley	559	10	—	550	—	9
8. Gardiner	757	102	—	572	182	3
9. Osborne	133	—	—	133	—	—
10. Charmouth	551	8	63	158	367	26
11. Shalfleet	203	2	19	21	165	17
12. Purbeck	1,468	—	—	—	1,351	117
DEAN FOREST:						
TOTAL	25,161	—	590	18,706	2,373	4,082
1. Dean	23,904	—	590	17,525	2,344	4,035
2. Tidenham Chase	1,257	—	—	1,181	29	47

AREA STATEMENT OF LAND USE BY FORESTS—SCOTLAND

Appendix 14

Acres

Forest	Total	Planted during year ended 30th September, 1948		Under Plantations	Provisional Allocation of Other Land	
		Afforested	Re-afforested		Plantable	Agricultural, Unplantable, &c.
NORTH CONSERVANCY:						
TOTAL	235,728	1,734	1,736	55,477	46,144	134,107
1. Borgie	2,704	—	67	281	1,521	902
2. Inchnacardoch	9,168	—	96	1,615	797	6,756
3. Portclair	5,500	—	94	1,937	441	3,122
4. South Laggan	4,110	—	—	1,124	10	2,976
5. Achnashellach	19,675	—	38	870	1,097	17,708
6. Ratagan	2,481	32	—	1,440	1	1,040
7. Stattadale	1,154	—	—	913	98	143
8. Glen Righ	5,883	152	—	1,707	3,785	391
9. Glen Hurich	15,180	2	8	2,582	1,272	11,326
10. Glen Urquhart	4,000	—	—	1,997	1,058	945
11. Culloden	724	—	—	720	2	2
12. Nevis	7,658	94	—	1,117	846	5,695
13. The Queen's Forest	12,500	—	—	2,139	2,174	8,187
14. Craig nan Eun	1,922	—	—	1,357	—	565
15. Craig Phadrig	211	—	—	204	—	7
16. Glen Shiel	3,653	—	—	765	—	2,888
17. North Strome	1,969	—	—	851	—	1,118
18. Salen	7,498	150	—	2,276	1,274	3,948
19. South Strome	3,556	—	10	1,227	42	2,287
20. Findon	1,334	—	41	1,231	7	96
21. Glen Garry	21,978	—	167	2,912	2,477	16,589
22. Kessock	909	7	—	663	123	123
23. Eilanreach	920	—	—	825	—	95
24. Dornoch	704	—	—	665	5	34
25. Inverinate	1,232	—	—	1,038	—	194
26. Balblair	1,373	—	—	770	363	240
27. Clunes	5,852	32	—	1,094	411	4,347
28. Lael	2,272	—	—	1,882	219	171
29. Fiunary	24,569	107	49	2,340	4,857	17,372
30. Glen Loy	2,547	100	—	1,976	46	525
31. Glen Brittle	8,716	50	—	1,380	91	7,245
32. Longart	1,264	67	—	816	333	115
33. Leanachan	7,546	232	—	1,256	4,067	2,223
34. Guisachan	2,370	45	59	855	1,261	254
35. Ardross	4,148	—	244	2,104	1,535	509
36. Inshriach	2,298	92	—	929	909	460
37. Millbuie	6,415	—	380	5,011	824	580
38. Assich	1,043	83	—	324	501	218
39. Morangie	1,144	200	—	308	744	92
40. Kilcoy	3,204	181	197	989	1,895	320
41. Strath Nairn	3,924	86	—	229	1,988	1,707
42. Ferness	1,538	—	76	170	898	470
43. Strath Conon	9,799	—	145	295	2,398	7,106
44. Strath Dearn	3,002	—	65	184	2,222	596
45. Farigaig	4,590	22	—	55	2,225	2,310
46. Urray	702	—	—	54	584	64
47. Battan	789	—	—	—	743	46

Appendix 14—continued

Forest	Total	Planted during year ended 30th September, 1948		Under Plantations	Provisional Allocation of Other Land	
		Afforested	Re-afforested		Plantable	Agricultural, Unplantable, &c.
EAST CONSERVANCY:						
TOTAL	132,600	2,523	2,730	64,278	35,480	32,842
1. Monaughty	3,014	—	—	2,806	98	110
2. Kirkhill	1,540	—	70	909	505	126
3. Montreatmont	2,344	—	—	2,081	—	263
4. Culbin	6,312	101	112	4,074	1,621	617
5. Edensmuir	1,255	—	—	1,118	121	16
6. Tentsmuir	4,149	—	44	3,414	86	649
7. Drummond Hill	5,274	—	—	3,454	385	1,435
8. Teindland	1,305	—	124	1,060	158	87
9. The Bin	5,927	—	109	4,331	1,114	482
10. Speymouth	4,941	273	—	1,171	3,377	393
11. Blairadam	1,749	56	—	1,384	78	287
12. Drumtochty	3,285	—	—	2,309	21	955
13. Kemnay	1,173	24	23	1,123	29	21
14. Midmar	851	—	—	594	—	257
15. Deer	2,219	—	—	2,035	—	184
16. Scootmore	3,062	50	—	1,936	656	470
17. Clashindarroch	18,727	390	—	5,653	3,910	9,164
18. Roseisle	2,322	13	8	1,866	430	26
19. Blackcraig	2,048	16	19	1,520	28	500
20. Carden	482	2	—	457	—	25
21. Inglismaldie	1,132	—	73	1,048	73	11
22. Durris	3,842	14	236	2,753	864	225
23. Newton	175	—	—	—	15	160
24. Newtyle	1,085	—	—	885	16	184
25. Alltcaileach	3,833	—	303	2,646	1,012	175
26. Kinfauns	642	—	—	641	—	1
27. Whitehaugh	1,576	16	23	1,082	122	372
28. Craig Vinean	2,575	—	331	1,762	419	394
29. Glen Devon	915	75	—	587	303	25
30. Lossie	1,904	97	—	984	611	309
31. Keillour	2,181	—	170	776	1,026	379
32. Tilliefoure	3,632	—	205	1,031	1,119	1,482
33. Blackhall	3,233	—	353	818	1,302	1,113
34. Rosarie	3,322	196	13	690	1,281	1,351
35. Pitfichie	5,053	—	302	564	2,553	1,936
36. Fetteresso	8,063	354	33	1,082	3,999	2,982
37. Strathord	1,020	181	—	510	488	22
38. Ailean	2,939	119	—	264	685	1,990
39. Auchernach	1,560	78	—	207	678	675
40. Gartly Moor	2,421	150	—	294	989	1,138
41. Dallas	2,022	—	103	339	448	1,235
42. Countesswells	664	—	63	350	281	33
43. Pitmedden	1,307	198	13	770	385	152
44. Rannoch	3,179	—	—	695	2,482	2
45. Tomintoul	1,450	120	—	120	911	419
46. Hallyburton	896	—	—	85	801	10
SOUTH CONSERVANCY:						
TOTAL	181,885	3,828	326	34,654	58,479	88,752
1. Glentress	1,976	—	20	1,599	18	359
2. Cairn Edward	15,034	192	—	2,945	6,306	5,783
3. Newcastleton	3,551	15	—	3,255	8	288
4. Dalbeattie	4,406	107	47	3,175	478	753
5. Forest of Ae	10,683	274	1	3,641	3,957	3,085

Appendix 14—continued

Forest	Total	Planted during year ended 30th September, 1948		Under Plantations	Provisional Allocation of Other Land	
		Afforested	Re-afforested		Plantable	Agricultural, Unplantable, &c.
6. Edgarhope	1,634	—	19	979	547	108
7. Greskine	1,154	—	—	848	124	182
8. Auchenroddan	730	—	—	705	—	25
9. Kirroughree	3,728	109	64	2,455	203	1,070
10. Fleet	1,784	—	45	997	195	592
11. Kilsture	500	—	34	475	22	3
12. Change	2,190	206	—	902	635	653
13. Dundeeugh	2,232	58	—	835	1,223	174
14. Tinnisburn	1,404	71	—	1,098	208	98
15. Corriedoo	1,022	89	—	634	244	144
16. Garcrogo	1,921	125	—	484	1,026	411
17. Laurieston	4,405	52	—	438	2,944	1,023
18. Twiglees	5,108	760	5	2,829	1,652	627
19. Castle O'er	2,646	59	—	1,603	828	215
20. Glen Trool	41,551	412	—	608	10,942	30,001
21. Clauchrie	639	80	—	128	500	11
22. Shielswood	1,013	—	—	—	920	93
23. Mabie	3,258	20	91	781	1,347	1,130
24. Wauchope	9,096	380	—	772	5,090	3,234
25. Carrick	48,335	239	—	323	12,435	35,577
26. Elibank	2,912	262	—	553	1,301	1,058
27. Glen Gap	1,994	107	—	107	1,418	469
28. Craik	3,368	131	—	141	2,444	783
29. Cardrona	1,860	—	—	1,198	—	662
30. Craigieburn	586	80	—	146	419	21
31. Leithope	1,165	—	—	—	1,045	120
WEST CONSERVANCY:						
TOTAL	226,993	3,226	95	56,358	46,302	124,331
1. Inverliever	26,985	100	3	4,128	4,156	18,701
2. Glen Duror	8,348	139	—	2,233	7	6,108
3. Glen Branter	10,915	—	—	3,817	350	6,748
4. Ardgartan	18,126	—	—	4,250	1,500	12,376
5. Barcaldine	4,006	—	—	2,827	920	259
6. Benmore	13,000	—	—	3,713	1,996	7,291
7. Glen Finart	8,712	—	—	2,354	700	5,658
8. Fearnoch	1,342	—	—	1,121	—	221
9. Lennox	580	—	—	516	14	50
10. Loch Ard	26,734	648	—	8,268	8,706	9,760
11. Devilla	799	—	24	793	—	6
12. Achaglachgach	1,969	—	3	1,571	68	330
13. Knapdale	19,708	100	—	4,401	2,103	13,204
14. Strathyre	10,091	239	—	4,878	438	4,775
15. Tulliallan	112	—	—	—	—	112
16. Garadhban	1,137	—	—	1,108	—	29
17. Inverinan	12,795	91	34	2,509	3,078	7,208
18. Asknish	5,900	186	—	1,488	3,075	1,337
19. Carron Valley	6,640	543	—	2,616	2,149	1,875
20. Carradale	10,635	171	25	1,303	2,068	7,264
21. Minard	5,189	50	—	875	1,969	2,345
22. Saddell	4,917	176	—	403	1,145	3,369
23. Kilmichael	12,687	312	6	479	5,139	7,069
24. Corlarach	1,522	161	—	264	386	872
25. Glendaruel	6,055	134	—	161	2,489	3,405
26. Strath Lachlan	7,316	176	—	282	3,191	3,843
27. Torrie	773	—	—	—	655	118

AREA STATEMENT OF LAND USE BY FORESTS—WALES

Appendix 15

As at 30th September, 1948

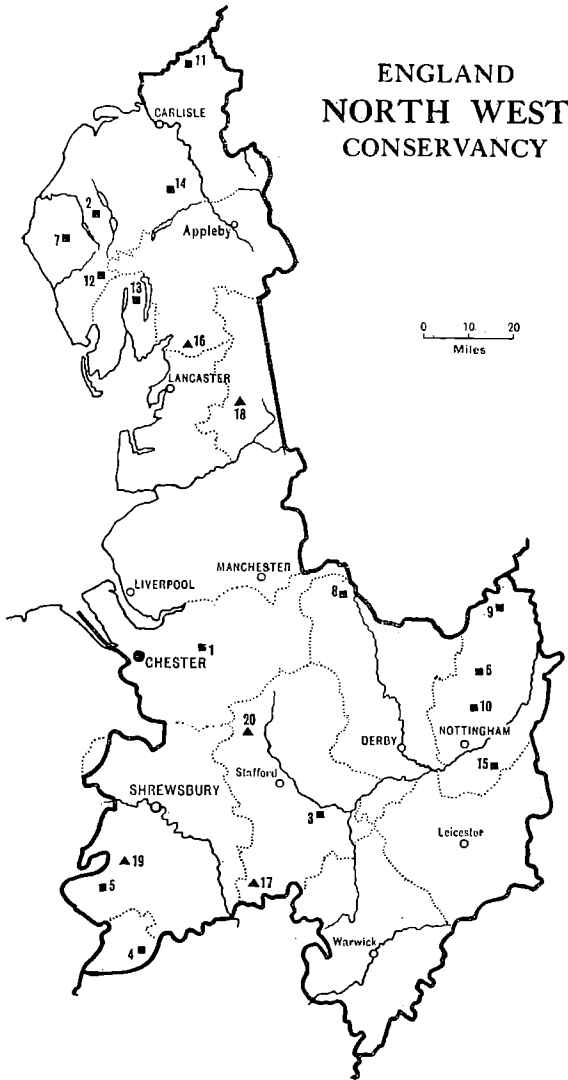
Acres

Forest	Total	Planted during year ended 30th September, 1948		Under Plantations	Provisional Allocation of Other Land	
		Afforested	Re-afforested		Plantable	Agricultural, Unplantable, &c.
NORTH CONSERVANCY:						
TOTAL	121,656	2,789	310	48,862	35,024	37,770
1. Hafod Fawr	1,367	—	14	456	39	872
2. Gwydyr	19,029	368	53	8,258	4,049	6,722
3. Coed y Brenin... ..	16,757	275	6	6,590	3,495	6,672
4. Kerry	2,293	—	6	1,944	223	126
5. Beddgelert	2,771	173	1	1,604	67	1,100
6. Cynwyd	1,700	—	13	1,538	33	129
7. Dovey	13,927	414	97	7,694	3,132	3,101
8. Radnor... ..	4,274	—	—	2,565	434	1,275
9. Cwmeinion	938	—	—	599	5	334
10. Mathrafal	595	—	—	420	153	22
11. Tarenig... ..	2,614	101	—	1,286	130	1,198
12. Bryn Mawr	1,670	—	—	693	700	277
13. Myherin	8,220	166	68	3,835	1,441	2,944
14. Clocaenog	14,932	360	25	6,364	4,943	3,625
15. Dyfnant	4,343	—	14	626	2,650	1,067
16. Hafren	10,205	499	—	2,918	3,483	3,804
17. Coed Sarnau	4,232	394	13	988	2,397	847
18. Newborough	2,101	39	—	120	1,348	633
19. Aberhiraant	6,038	—	—	94	3,730	2,214
20. Carno	297	—	—	—	243	54
21. Coed Clwyd	1,338	—	—	—	911	427
22. Coed y Goror	457	—	—	82	365	10
23. Commins Coch	931	—	—	10	678	243
24. St. Asaph	627	—	—	178	375	74
SOUTH CONSERVANCY:						
TOTAL	80,082	2,103	879	46,075	19,557	14,450
1. Tintern	4,685	—	3	4,013	211	461
2. Margam	1,791	—	1	1,485	—	306
3. Llanover	2,677	24	2	2,316	197	164
4. Llantrisant	1,156	—	—	1,053	8	95
5. Chepstow	998	—	—	989	9	—
6. Rheola	13,660	294	118	6,776	4,334	2,550
7. Brechfa	14,760	607	165	8,736	2,946	3,078
8. Brecon	1,869	6	—	1,589	48	232
9. Glasfynydd	2,243	220	—	1,863	272	108
10. Pembrey	4,503	—	—	1,548	1,261	1,694
11. Caio	3,728	68	—	2,312	704	712
12. Crychan	7,566	98	83	4,097	2,374	1,095
13. Mynydd Ddu	2,720	—	—	1,418	38	1,264
14. Iton	515	—	—	325	190	—
15. Hay	721	—	—	675	—	46
16. St. Gwynno	2,857	147	—	1,412	1,006	439
17. Coed y Rhaiadr	610	—	—	553	9	48
18. Cwmogwr	2,754	134	38	777	1,150	827
19. Giedd	746	65	—	413	237	96
20. Michaelston	4,614	194	—	1,540	2,427	647
21. Tair Onen	189	—	10	43	10	136
22. Usk	1,062	4	111	875	96	91
23. Monmouth	454	—	5	242	122	90
24. Wentwood	926	—	196	464	449	13
25. Cilgwyn	191	17	109	126	60	5
26. Goytre	189	—	38	186	3	—
27. Derry Ormond	768	—	—	—	685	83
28. Taf Fechan	1,130	225	—	249	711	170

OUTLINE MAPS SHOWING DISTRIBUTION OF FORESTS AS AT SEPTEMBER 30th, 1948

Appendix 16

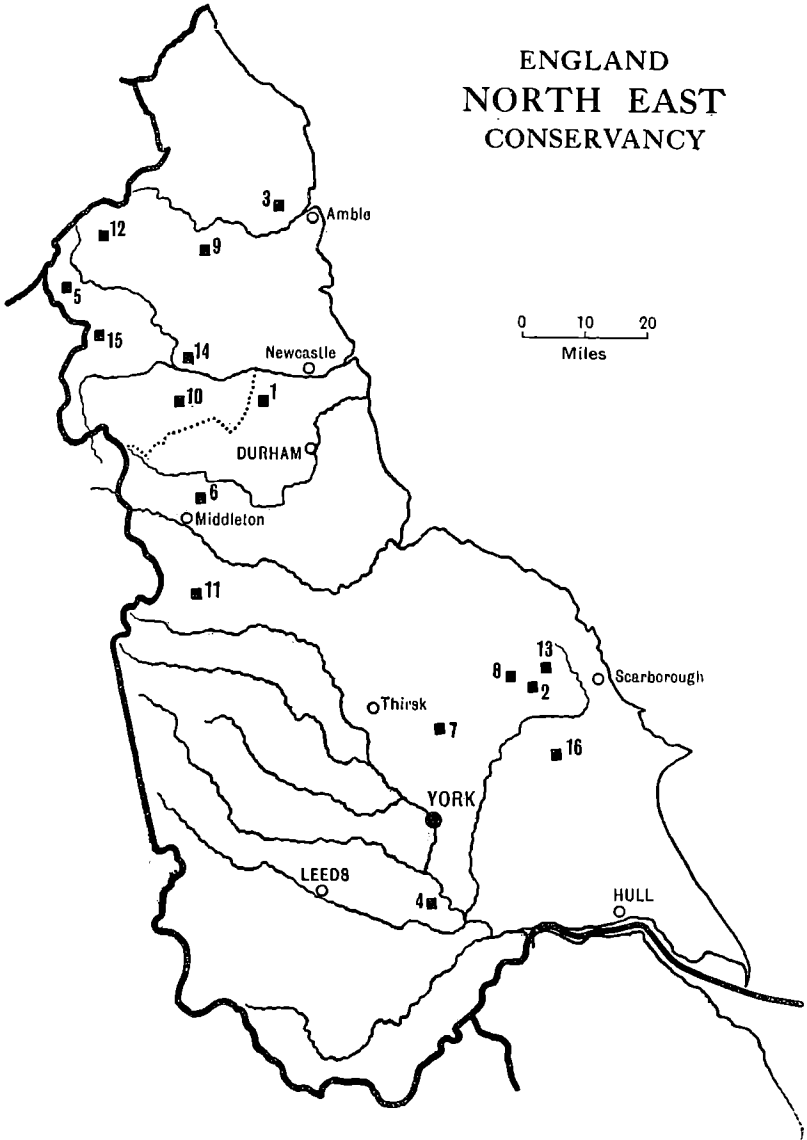
Forests are listed by Conservancies in order of acquisition ; new units are shown by triangles, and former Crown Woods are indicated in the lists by asterisks.



Conservator's Office: Upton Grange, Upton-by-Chester (Chester 4006)

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Delamere, Cheshire* 2. Thornthwaite, Cumberland 3. Cannock Chase, Staffs. 4. Mortimer, Hereford and Salop. 5. Walcot, Salop. 6. Clipstone, Derby, Notts. and Yorks. 7. Ennerdale, Cumberland 8. Hope, Derby 9. Bawtry, Notts. 10. Sherwood, Notts. | <ol style="list-style-type: none"> 11. Kershope, Cumberland 12. Hardknott, Cumberland and Lancs. 13. Grizedale, Lancs. 14. Greystoke, Cumberland 15. Cotgrave, Notts. 16. Dalton, Westmorland 17. Enville, Staffs. 18. Gisburn, Yorks. 19. Long Mynd, Salop. 20. Swynnerton, Staffs. |
|--|--|

ENGLAND NORTH EAST CONSERVANCY



Conservator's Office: Briar House, Fulford Road, York (York 4684)

- | | |
|-----------------------------|-------------------------------|
| 1. Chopwell, Durham* | 9. Harwood, Northumberland |
| 2. Allerston, Yorks. | 10. Slaley, Northumberland |
| 3. Rothbury, Northumberland | 11. Arkengarthdale, Yorks. |
| 4. Selby, Yorks. | 12. Redesdale, Northumberland |
| 5. Kielder, Northumberland | 13. Langdale, Yorks. |
| 6. Hamsterley, Durham | 14. Widehaugh, Northumberland |
| 7. Ampleforth, Yorks. | 15. Warke, Northumberland |
| 8. Rosedale, Yorks. | 16. Scardale, Yorks. |

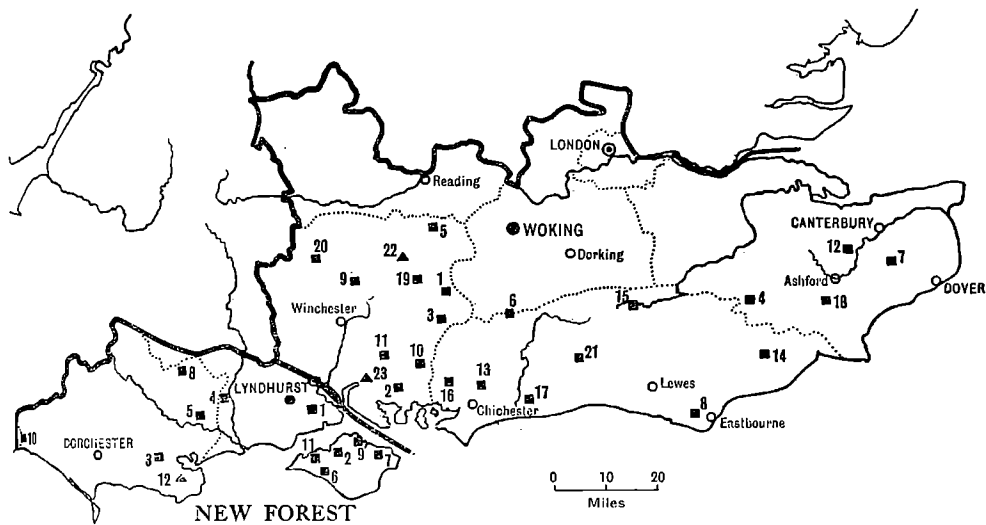
ENGLAND
EAST
CONSERVANCY



Conservator's Office: Brooklands Avenue, Cambridge (Cambridge 54495)

- | | |
|--|--|
| 1. Hazelborough, Bucks and Northants.* | 12. Yardley Chase, Bedford and Northampton |
| 2. Salcey, Bucks. and Northants.* | 13. Bardney, Lincoln |
| 3. Ampthill, Beds. | 14. The King's Forest, Suffolk |
| 4. Rendlesham, Suffolk | 15. Wigsley, Lincoln and Nottingham |
| 5. Rockingham, Northampton | 16. Willingham, Lincoln |
| 6. Swaffham, Norfolk | 17. Wendover, Bucks. |
| 7. Thetford Chase, Norfolk and Suffolk | 18. Hevingham, Norfolk |
| 8. Bourne, Lincoln and Rutland | 19. Shouldham, Norfolk |
| 9. Laughton, Lincoln | 20. Watlington, Oxford |
| 10. Swanton, Norfolk | 21. Bramfield, Herts. |
| 11. Dunwich, Suffolk | |

ENGLAND
SOUTH EAST
CONSERVANCY



SOUTH-EAST CONSERVANCY

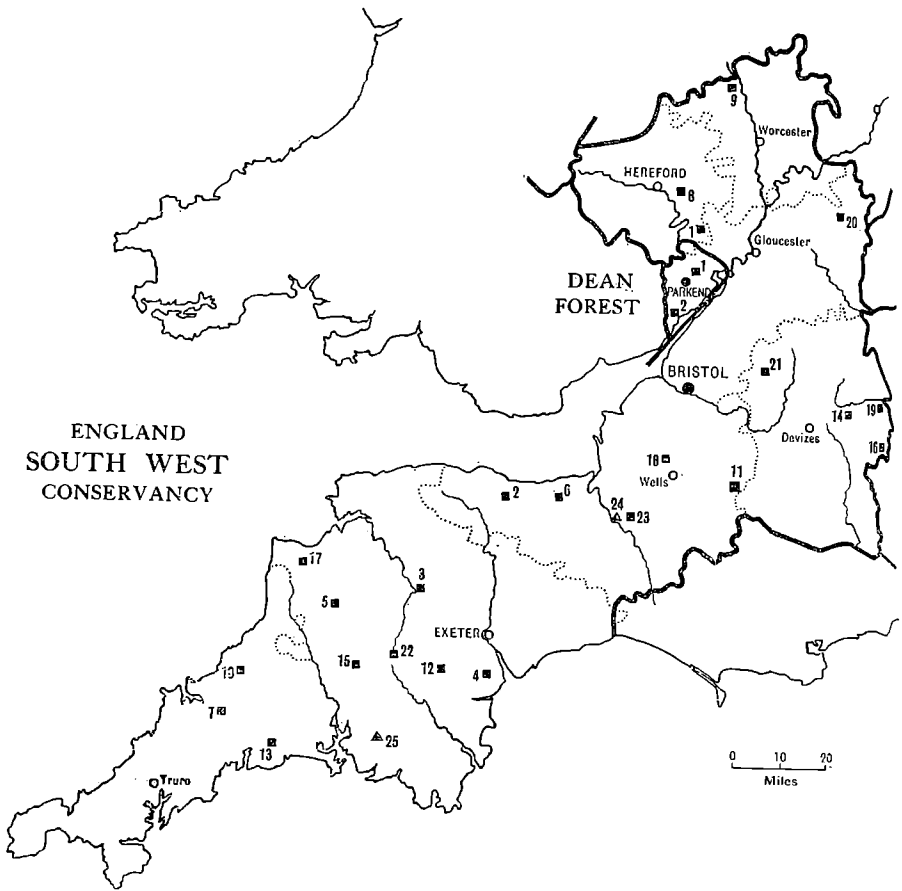
Conservator's Office: Danesfield, Grange Road, Woking (Woking 2270)

- | | |
|------------------------------------|-------------------------|
| 1. Alice Holt, Hants.* | 13. Goodwood, Sussex |
| 2. Bere, Hants.* | 14. Vinehall, Sussex |
| 3. Woolmer, Hants.* | 15. Gravetye, Sussex |
| 4. Bedgebury, Kent and Sussex* | 16. Marden, Sussex |
| 5. Bramshill, Berks. and Hants. | 17. Arundel, Sussex |
| 6. Chiddingfold, Surrey and Sussex | 18. Orlestone, Kent |
| 7. Lyminge, Kent | 19. Alton, Hants |
| 8. Friston, Sussex | 20. Andover, Hants. |
| 9. Micheldever, Hants. | 21. Southwater, Sussex |
| 10. Buriton, Hants. and Sussex | 22. Basing, Hants. |
| 11. Westbury, Hants. | 23. Bishopstoke, Hants. |
| 12. Challock, Kent | |

NEW FOREST

Deputy Surveyor's Office: The King's House, Lyndhurst (Lyndhurst 300)

- | | |
|--------------------------------|---------------------------------|
| 1. New Forest, Hants.* | 7. Combley, Isle of Wight |
| 2. Parkhurst, Isle of Wight* | 8. Gardiner, Dorset and Wilts. |
| 3. Wareham, Dorset | 9. Osborne, Isle of Wight |
| 4. Ringwood, Dorset and Hants. | 10. Charmouth, Devon and Dorset |
| 5. Ferndown, Dorset | 11. Shalfleet, Isle of Wight |
| 6. Brighstone, Isle of Wight | 12. Purbeck, Dorset |



SOUTH-WEST CONSERVANCY

Conservator's Office: 9, Downfield Road, Bristol, 8 (Bristol 34029)

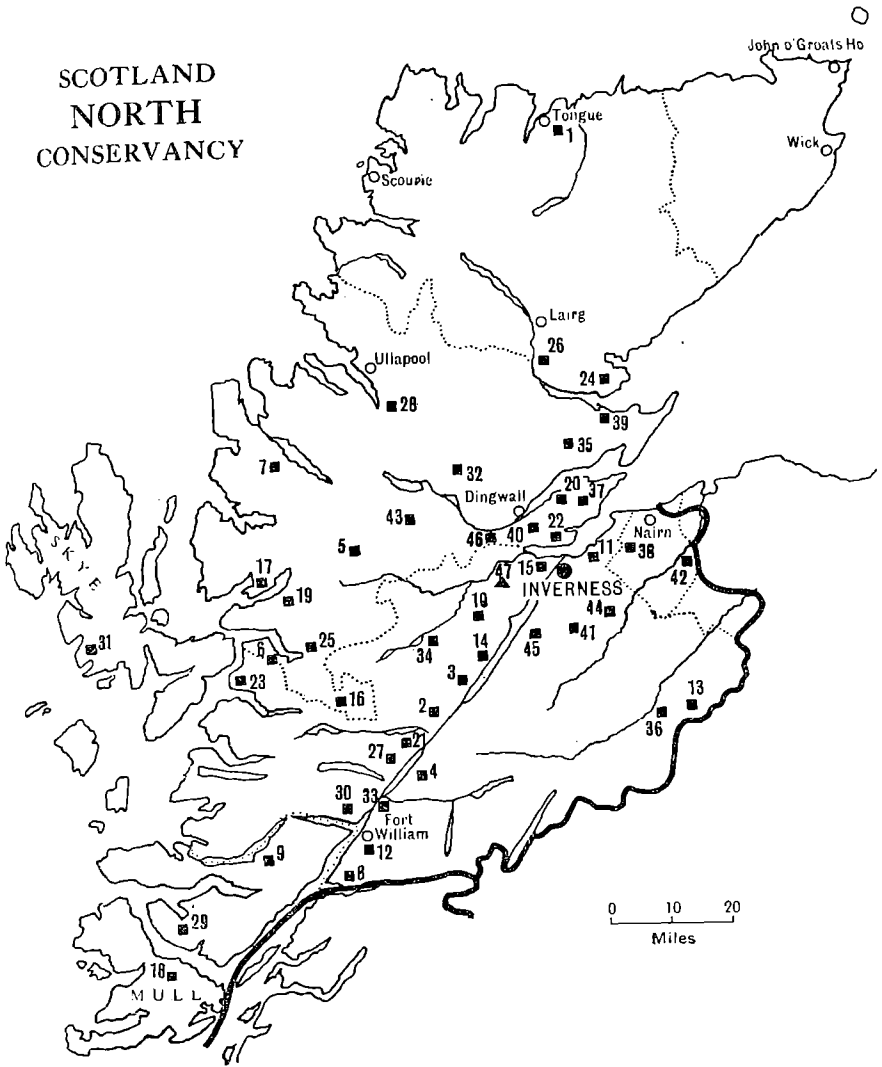
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|-------------------------------------|---------------------------|
| 1. Dymock, Gloucester and Hereford* | 14. West Woods, Wilts. |
| 2. Brendon, Somerset | 15. Lydford, Devon |
| 3. Eggesford, Devon | 16. Collingbourne, Wilts. |
| 4. Haldon, Devon | 17. Hartland, Devon |
| 5. Halwill, Devon | 18. Mendip, Somerset |
| 6. Quantock, Somerset | 19. Savernake, Wilts. |
| 7. Bodmin, Cornwall | 20. Stanway, Gloucester |
| 8. Haugh, Hereford | 21. Braydon, Wilts. |
| 9. Wyre, Worcester | 22. Okehampton, Devon |
| 10. Wilsey Down, Cornwall | 23. Neroche, Somerset |
| 11. Bruton, Somerset and Wilts. | 24. Culmhead, Somerset |
| 12. Dartmoor, Devon | 25. Plym, Devon |
| 13. Herodsfoot, Cornwall | |

DEAN FOREST

Deputy Surveyor's Office: Whitemead Park, Parkend, nr. Lydney (Whitecroft 305)

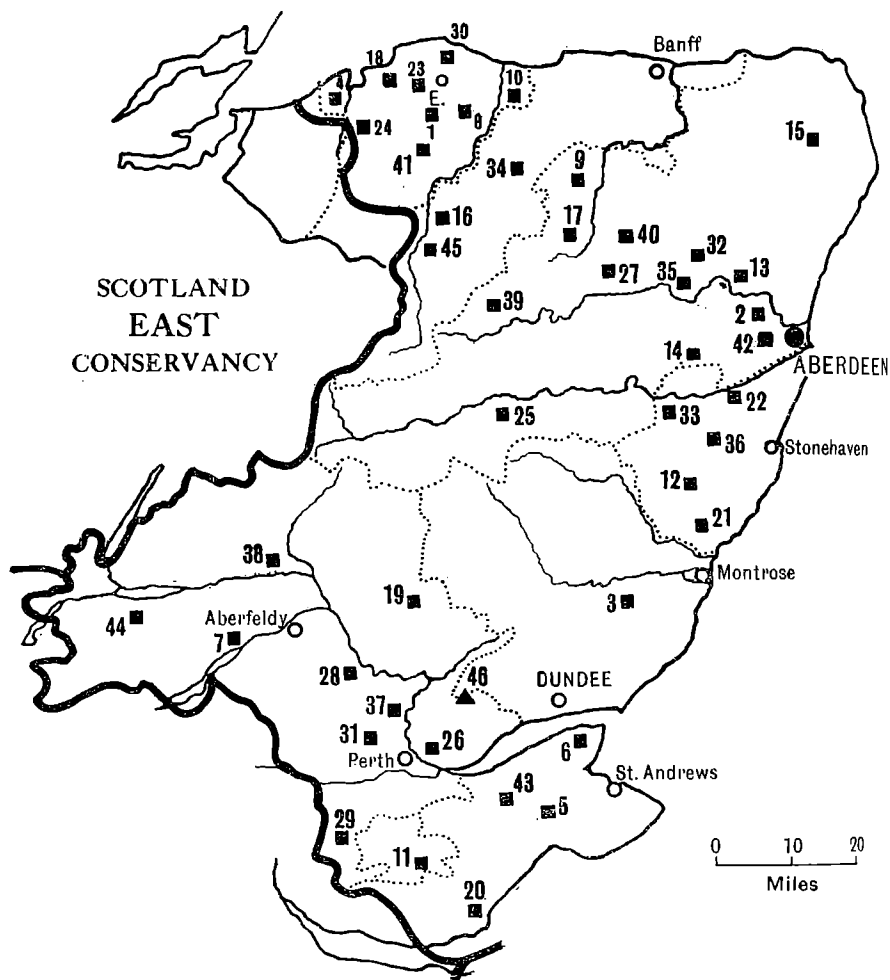
- | | |
|---|-------------------------------|
| 1. Dean Forest, Gloucester, Hereford, and Monmouth* | 2. Tidenham Chase, Gloucester |
|---|-------------------------------|

SCOTLAND
NORTH
CONSERVANCY



Conservator's Office: 60, Church Street, Inverness (Inverness 223)

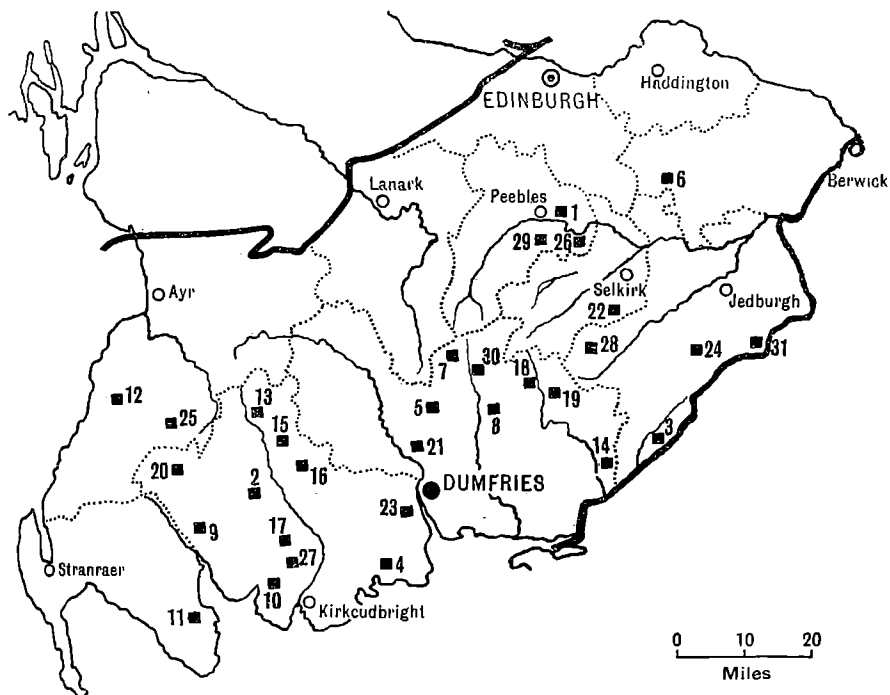
- | | |
|-----------------------------------|--------------------------------|
| 1. Borgie, Sutherland | 25. Inverinate, Ross |
| 2. Inchnacardoch, Inverness | 26. Balblair, Sutherland |
| 3. Portclair, Inverness | 27. Clunes, Inverness |
| 4. South Laggan, Inverness | 28. Lael, Ross |
| 5. Achnashellach, Ross | 29. Fiunary, Argyll |
| 6. Ratagan, Inverness and Ross | 30. Glen Loy, Inverness |
| 7. Slattadale, Ross | 31. Glen Brittle, Isle of Skye |
| 8. Glen Righ, Inverness | 32. Longart, Ross |
| 9. Glen Hurich, Argyll | 33. Leanachan, Inverness |
| 10. Glen Urquhart, Inverness | 34. Guisachan, Inverness |
| 11. Culloden, Inverness | 35. Ardross, Ross |
| 12. Nevis, Inverness | 36. Inshriach, Inverness |
| 13. The Queen's Forest, Inverness | 37. Millbuie, Ross |
| 14. Craig nan Eun, Inverness | 38. Assich, Nairn |
| 15. Craig Phadrig, Inverness | 39. Morangie, Ross |
| 16. Glen Shiel, Ross | 40. Kilcoy, Ross |
| 17. North Strome, Ross | 41. Strath Nairn, Inverness |
| 18. Salen, Isle of Mull | 42. Ferness, Nairn |
| 19. South Strome, Ross | 43. Strath Conon, Ross |
| 20. Findon, Ross | 44. Strath Dearn, Inverness |
| 21. Glen Garry, Inverness | 45. Farigaig, Inverness |
| 22. Kessock, Ross | 46. Urray, Ross |
| 23. Eilanreach, Inverness | 47. Battan, Inverness |
| 24. Dornoch, Sutherland | |



Conservator's Office: 6, Queen's Gate, Aberdeen (Aberdeen 23211)

- | | |
|---------------------------------|----------------------------------|
| 1. Monaghty, Moray | 24. Newtyle, Moray |
| 2. Kirkhill, Aberdeen | 25. Alltcailleach, Aberdeen |
| 3. Montreathmont, Angus | 26. Kinfauns, Perth |
| 4. Culbin, Moray and Nairn | 27. Whitehaugh, Aberdeen |
| 5. Edensmuir, Fife | 28. Craig Vinean, Perth |
| 6. Tentsmuir, Fife | 29. Glen Devon, Perth |
| 7. Drummond Hill, Perth | 30. Lossie, Moray |
| 8. Teindland, Moray | 31. Keillour, Perth |
| 9. The Bin, Aberdeen | 32. Tilliefoure, Aberdeen |
| 10. Speymouth, Moray | 33. Blackhall, Kincardine |
| 11. Blairadam, Fife and Kinross | 34. Rosarie, Banff |
| 12. Drumtochty, Kincardine | 35. Pitfichie, Aberdeen |
| 13. Kemnay, Aberdeen | 36. Fetteresso, Kincardine |
| 14. Midmar, Aberdeen | 37. Strathord, Perth |
| 15. Deer, Aberdeen | 38. Allean, Perth |
| 16. Scootmore, Moray | 39. Auchernach, Aberdeen |
| 17. Clashindarroch, Aberdeen | 40. Gartly Moor, Aberdeen |
| 18. Roseisle, Moray | 41. Dallas, Moray |
| 19. Blackcraig, Perth | 42. Countesswells, Aberdeen |
| 20. Carden, Fife | 43. Pitmedden, Fife |
| 21. Inglismaldie, Kincardine | 44. Rannoch, Perth |
| 22. Durriss, Kincardine | 45. Tomintoul, Banff |
| 23. Newton, Moray | 46. Hallyburton, Angus and Perth |

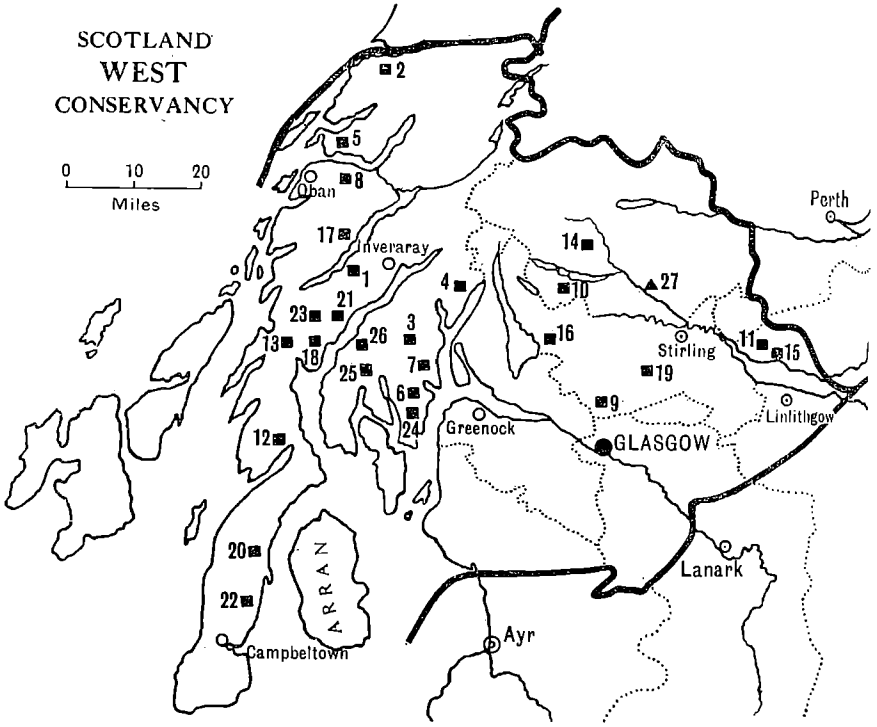
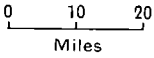
**SCOTLAND
SOUTH
CONSERVANCY**



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- | | |
|---------------------------------------|-------------------------------|
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| 2. Cairn Edward, Kirkcudbright | 18. Twiglees, Dumfries |
| 3. Newcastleton, Roxburgh | 19. Castle O'er, Dumfries |
| 4. Dalbeattie, Kirkcudbright | 20. Glen Trool, Kirkcudbright |
| 5. Forest of Ae, Dumfries | 21. Clauchrie, Dumfries |
| 6. Edgarhope, Berwick | 22. Shielswood, Selkirk |
| 7. Greskine, Dumfries | 23. Mabie, Kirkcudbright |
| 8. Auchenroddan, Dumfries | 24. Wauchope, Roxburgh |
| 9. Kirroughtree, Kirkcudbright | 25. Carrick, Ayr |
| 10. Fleet, Kirkcudbright | 26. Elibank, Peebles |
| 11. Kilsture, Wigtown | 27. Glen Gap, Kirkcudbright |
| 12. Change, Ayr | 28. Craik, Roxburgh |
| 13. Dundegh, Kirkcudbright | 29. Cardrona, Peebles |
| 14. Tannisburn, Dumfries and Roxburgh | 30. Craigieburn, Dumfries |
| 15. Corriedoo, Kirkcudbright | 31. Leithope, Roxburgh |
| 16. Garcrogo, Kirkcudbright | |

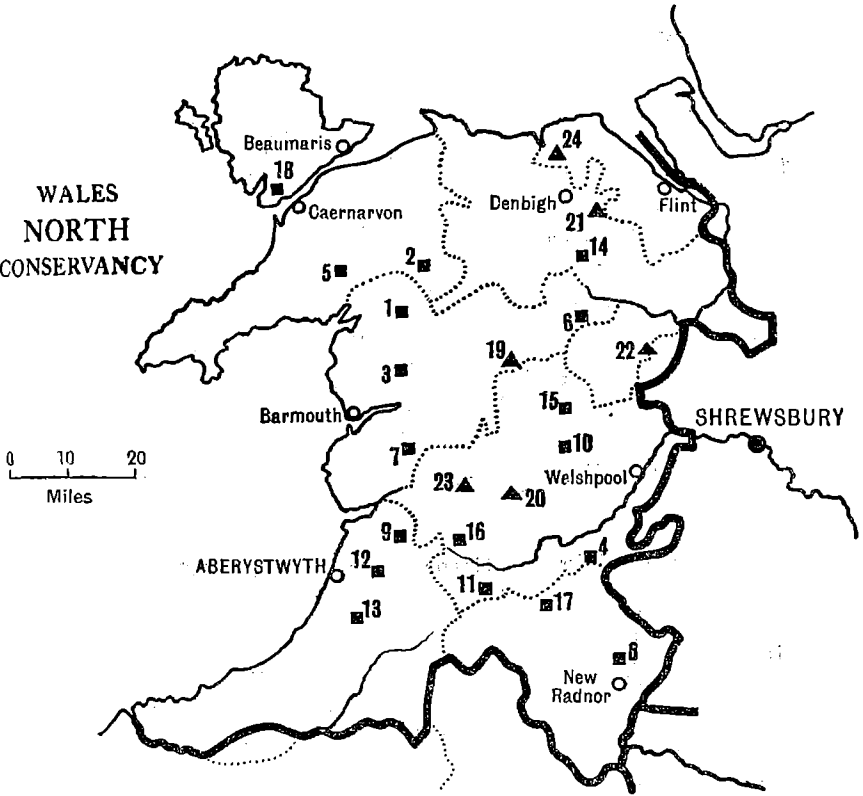
SCOTLAND
WEST
CONSERVANCY



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- | | |
|---------------------------|-----------------------------|
| 1. Inverliver, Argyll* | 15. Tulliallan, Fife |
| 2. Glen Duror, Argyll | 16. Garadhban, Stirling |
| 3. Glen Branter, Argyll | 17. Inverinan, Argyll |
| 4. Ardgartan, Argyll | 18. Asknish, Argyll |
| 5. Barcaldine, Argyll | 19. Carron Valley, Stirling |
| 6. Benmore, Argyll | 20. Carradale, Argyll |
| 7. Glen Finart, Argyll | 21. Minard, Argyll |
| 8. Fearnoch, Argyll | 22. Saddell, Argyll |
| 9. Lennox, Stirling | 23. Kilmichael, Argyll |
| 10. Loch Ard, Perth | 24. Corlarach, Argyll |
| 11. Devilla, Fife | 25. Glendaruel, Argyll |
| 12. Achaglachgach, Argyll | 26. Strath Lachlan, Argyll |
| 13. Knapdale, Argyll | 27. Torrie, Perth |
| 14. Strathyre, Perth | |

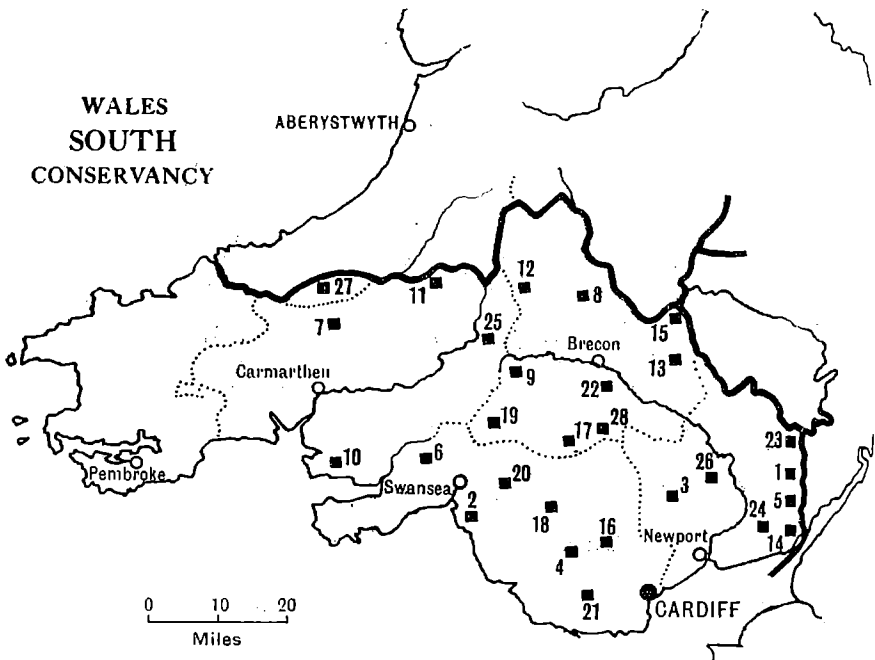
WALES
NORTH
CONSERVANCY



Conservator's Office temporarily at: 35, Hills Lane, Shrewsbury (Shrewsbury 4071):

- | | |
|--------------------------------------|--------------------------------------|
| 1. Hafod Fawr, Merioneth* | 13. Myherin, Cardigan |
| 2. Gwydyr, Caernarvon and Denbigh | 14. Clocaenog, Denbigh and Merioneth |
| 3. Coed y Brenin, Merioneth | 15. Dyfnant, Montgomery |
| 4. Kerry, Montgomery | 16. Hafren, Montgomery |
| 5. Beddgelert, Caernarvon | 17. Coed Sarnau, Radnor |
| 6. Cynwyd, Merioneth | 18. Newborough, Anglesey |
| 7. Dovey, Merioneth and Montgomery | 19. Aberhirnant, Merioneth |
| 8. Radnor, Radnor | 20. Carno, Montgomery |
| 9. Cwmeinion, Cardigan | 21. Coed Clwyd, Denbigh |
| 10. Mathrafal, Montgomery | 22. Coed y Goror, Denbigh and Salop |
| 11. Tarenig, Cardigan and Montgomery | 23. Commins Coch, Montgomery |
| 12. Bryn Mawr, Cardigan | 24. St. Asaph, Denbigh and Flint |

WALES
SOUTH
CONSERVANCY



Conservator's Office: 166, Newport Road, Cardiff (Cardiff 44401)

- | | |
|-------------------------------------|------------------------------|
| 1. Tintern, Monmouth* | 15. Hay, Brecon and Hereford |
| 2. Margam, Glamorgan | 16. St. Gwynno, Glamorgan |
| 3. Llanover, Monmouth | 17. Coed y Rhaiaadr, Brecon |
| 4. Llantrisant, Glamorgan | 18. Cwmogwr, Glamorgan |
| 5. Chepstow, Monmouth | 19. Giedd, Brecon |
| 6. Rheola, Glamorgan | 20. Michaelston, Glamorgan |
| 7. Brechfa, Carmarthen | 21. Tair Onen, Glamorgan |
| 8. Brecon, Brecon | 22. Usk, Brecon |
| 9. Glasfynydd, Brecon | 23. Monmouth, Monmouth |
| 10. Pembrey, Carmarthen | 24. Wentwood, Monmouth |
| 11. Caio, Carmarthen | 25. Cilgwyn, Carmarthen |
| 12. Crychan, Brecon and Carmarthen | 26. Goytre, Monmouth |
| 13. Mynydd Ddu, Brecon and Monmouth | 27. Derry Ormond, Cardigan |
| 14. Itton, Monmouth | 28. Taf Fechan, Brecon |

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