

FORESTRY COMMISSION

THIRTY-SECOND  
ANNUAL REPORT OF THE  
FORESTRY COMMISSIONERS  
FOR THE YEAR ENDING  
SEPTEMBER 30<sup>TH</sup>  
1951

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

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*Ordered by The House of Commons to be Printed  
5th May 1952*

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LONDON

HER MAJESTY'S STATIONERY OFFICE

THREE SHILLINGS NET

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

*18th February, 1952*

*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 32nd Annual Report of the Forestry Commissioners covering the Forest Year ended 30th September 1951.

I am,

Gentlemen,

Your obedient Servant,

(Sd.) ROBINSON,  
*Chairman.*

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# THIRTY-SECOND ANNUAL REPORT

OF THE

## FORESTRY COMMISSIONERS

FOR THE YEAR ENDING

SEPTEMBER 30th 1951

### FOREST POLICY

This, the 32nd Annual Report of the Forestry Commissioners, covers the Forest Year ending 30th September 1951. The year was notable for the passage of the Forestry Act 1951, and also marks the end of the first post-war quinquennium.

### FORESTRY ACT 1951

The Forestry Act 1951 was passed in August 1951, and its main provisions, which relate to the maintenance of reserves of growing trees in Great Britain, came into force on 1st October 1951. From the outbreak of war until that date, fellings were controlled by Statutory Instruments made under Defence Regulation 68. This emergency control was unsuitable for permanent use; at the same time it was clear that the state of the national reserves of home grown timber was such that, throughout the foreseeable future, control of felling would continue to be necessary. Accordingly, the Forestry Commissioners are charged by the Act with "the general duty of promoting the establishment and maintenance in Great Britain of adequate reserves of growing trees". In performing this general duty the Commissioners are required to consult with the Home Grown Timber Advisory Committee which includes members appointed after consultation with organisations representing woodland owners and the timber trade. The Act also provides for the maintenance in each Conservancy of a Regional Advisory Committee, certain members of which are appointed after consultation with the above organisations and with the forestry societies, for the purpose of advising the Commissioners as to the performance of their functions under the provisions of the Act relating to licensing and compulsory felling.

Provision is made that at least one Forestry Commissioner shall be a person having special knowledge and experience of the timber trade. Mr. Stanley C. Longhurst, of the firm of Messrs. E. Longhurst & Sons, Ltd., has accordingly been appointed.

The Act prohibits the felling of any growing tree (apart from certain exceptions such as trees under a given diameter, garden and orchard trees, and a licence-free allowance of 825 cubic feet per quarter) unless a licence has been granted by the Commissioners. A licence may be subject to such conditions as, after consultation with the landowner, the Commissioners may determine to be expedient for securing that the areas felled under licence (or other areas offered by the applicant in lieu) are restocked with trees and that such trees are maintained for up to ten years in accordance with the rules and practice of good forestry. The Commissioners are also given qualified powers to give directions to an owner requiring him to fell trees either to prevent deterioration or further deterioration in the timber, or to improve the growth of other trees.

The Act provides safeguards against arbitrary use of these powers by the Commissioners and for the protection of owners and other interests concerned. Persons aggrieved by felling directions or by the conditions of licence or the refusal of a licence, may have their case referred by the appropriate Minister to an independent Committee. There is provision for compensating, in certain circumstances, an owner who is refused a felling licence, and there are remedies for an owner who can establish that compliance with a felling direction would occasion him a net loss.

Special provision is made for trees subject to forestry dedication covenants, or trees the felling of which is in accordance with a plan of operations, or working plan, approved by the Commissioners. In such cases licences can be refused only if the appropriate Minister has certified that, by reason of an Act of God or other emergency which has taken place since the approval of the plan, the grant of a licence would be detrimental to the national interest. This would carry with it an obligation on the Commissioners to buy, if so required by the owner, the trees for which a licence had been refused. Further, no conditions may be attached to a licence given for the felling of trees which are subject to a dedication covenant, and no directions may be given requiring the felling of such trees. Similarly, in the case of woodlands which although not dedicated are being managed to the satisfaction of the Commissioners in accordance with an approved plan felling directions may not be given.

Special provision is made for trees subject to Tree Preservation Orders made under the Town and Country Planning Acts, 1947. In effect, a licence under the Forestry Act takes the place of a consent under a Tree Preservation Order, except where the Commissioners refer the application to the local planning authority, or to the Minister of Housing and Local Government or the Secretary of State for Scotland. If an application is so referred it is treated as if it were an application for consent under the Order, and no licence from the Commissioners is required.

The Act enables the special parliamentary procedure of the Statutory Orders (Special Procedure) Act, 1945, to be applied to compulsory acquisitions under the Forestry Act, 1945.

While the above summary indicates broadly the scope of the new Forestry Act there are certain of its provisions which call for special comment.

In giving the Commissioners powers to attach replanting conditions to a felling licence the Act has brought about a fundamental change in British forestry. By establishing the principle that it is contrary to the public interest that forest land should be cleared and then allowed to lie derelict the Act will check the further accumulation of unproductive woodland areas, and the Commissioners intend to use the powers they now have in all cases where such action appears appropriate. It will be noted that replanting conditions cannot be attached to licences covering fellings which are in accordance with working plans which have been approved by the Commissioners, but such plans will normally provide for the early replanting of areas scheduled for felling.

Another change of major importance is the new power given by the Act to issue felling directions. This will enable the Commissioners in future to require an owner to thin a neglected plantation or to fell blocks of trees which are deteriorating owing to old age or some other cause. In the present parlous state of our stocks of standing timber it is clearly wrong to allow plantations to deteriorate as a result of neglect of thinning. Also, as long as it is necessary to limit the total volume of timber which may be felled in any given period it is important to ensure that thriving crops

are not cut while woods that are decrepit and should be felled are left standing. That this power is necessary is generally recognised but the Commissioners hope that in practice it will rarely need to be invoked.

The provisions of the Act requiring the appointment as statutory bodies of a Home Grown Timber Advisory Committee and of Regional Advisory Committees represent a new departure only in so far as these bodies are now made statutory. Committees with the same functions were previously in being but their statutory recognition has been universally welcomed as proof of Government's intention to bring the relevant interests into consultation on all major forestry problems.

## PRIVATE FORESTRY

**The Dedication Scheme.**—This scheme continues to make steady, if rather slow progress. During the year under review the area of woodland dedicated has more than doubled, the total now amounting to 73,731 acres, while deeds covering an almost equal area are with the solicitors for completion. The Commissioners are, however, concerned about the delay which sometimes occurs in securing completion and they are anxious that such delays, which are often unavoidable, shall not hold up planting on private estates. In an endeavour to meet this difficulty the Commissioners have arranged to make planting grants available during 1951 and 1952 to estates in process of dedication, provided that the planting is in accordance with an approved plan of operations, and also that dedication is completed not later than the 30th June 1953.

**Revision of Planting and Maintenance Grants.**—When the Dedication Scheme was introduced in 1946 the planting and maintenance grants provided under Basis II of the scheme were fixed at £10 per acre and 3s. 4d. per acre respectively, but the Commissioners undertook to review these grants at the end of five years "in the light of the general trend of ascertained costs throughout Great Britain". Steeply rising costs of labour and materials, however, necessitated an interim revision of the grants, and in October 1949 the planting grant was increased to £12 per acre, and the maintenance grant to 4s. per acre.

During the year under report the Commissioners have carried out their promised review in consultation with the United Kingdom Forestry Committee. Taking into account the further rises in wages and costs of materials which have occurred since October 1949 the planting grant has been increased, as from October 1951, from £12 to £14 per acre, and the maintenance grant from 4s. to 4s. 6d. per acre. The Small Woods planting grant has been similarly increased from £12 to £14 per acre. There is however a generally recognised need for more information and more study of costs of forestry operations in private estates. Accordingly the Commissioners have arranged with the Forestry Departments of the Universities of Oxford and Aberdeen for the collection and analysis of costing data from a considerable number of private estates selected with the co-operation of the United Kingdom Forestry Committee.

**Thinning Grant.**—As the Commissioners stated in their 30th Annual Report the introduction of a system of thinning grants early in 1949 has proved a useful stimulus to private owners to thin their woods and plantations. At that date maximum prices of standing timber were still subject to control and there is little doubt that some private owners were hanging back because they feared that the thinning would not pay its way. In so far as it has served in many cases to tip the scale, the grant may be said to have achieved its object. The extent to which owners have availed themselves of this grant

may be judged from the fact that, during the three years 1949-51, 2,031 schemes covering some 40,300 acres of plantations have been inspected and approved for payment. The yield in thinnings is estimated at nearly 15½ million cubic feet.

The removal in December 1949 of maximum price control materially altered the position in some respects. Prices of standing timber rose substantially, in particular of timber suitable for sawing, and it soon became apparent that there was no longer a need for a subsidy for thinning the older woods and plantations which would yield an appreciable amount of convertible timber. After consultation with the U.K. Forestry Committee a sub-Committee composed of members of the Forestry Committee and of the Forestry Commission was set up to draft regulations for a revised form of thinning grant which would subsidise early thinnings but would make the older woodlands no longer eligible. An agreed scheme was produced and the revised form of grant will be available to private owners as from 1st October 1951. The Commissioners have decided that payment is to be at the flat rate of £3 15s. 0d. per acre and the grant will be available for broadleaved and mixed plantations, as well as for conifers, subject to certain conditions as to the maximum size of trees eligible. The original grant specified a minimum yield (150 cu. ft. per acre) of thinnings as a necessary condition, but in the revised grant this restriction has been removed.

## TIMBER PRODUCTION

The transfer, in January 1950, from the Board of Trade to the Forestry Commission of the functions of licensing timber felling gave the Commissioners the task of fixing the amount of the felling quota, that is, the amount of timber of over six inches quarter girth at breast height which can be licensed for felling during a given period. The period hitherto had been the calendar year, but after consultation with the Home Grown Timber Advisory Committee, the Commissioners decided that it would be better to regulate the quota in future by forest years which run from the 1st October to the 30th September of the following year. To introduce this change involved fixing a nine-months quota for 1951 covering the period 1st January to 30th September.

In determining the maximum amount of timber which could be licensed for felling during this period the Commissioners had three major considerations in view. To keep felling sufficiently below the current increment to insure reasonable progress in rebuilding the scanty growing stocks left after the heavy war-time and post-war fellings. To reconcile the duty of building up reserves of timber with the dictates of good forestry practice. And to license sufficient timber to keep in being a healthy home timber trade capable of rapid expansion in the event of an emergency.

As regards the first of these considerations, the recent Census of Woodlands of five acres and over provided the Commissioners with fairly complete information on the stocking and increment of the larger woods, but there had not been time to analyse the data as fully as was desirable, and it was only possible to make a rough estimate of the volume contained in the hedgerows and "under five-acre" woods which had not been covered by the main census.

In the light of the information then available, and after consultation with the Home Grown Timber Advisory Committee, a quota for the nine months ending 30th September 1951 was provisionally fixed at 16·8 million cubic feet (hoppus) of hardwoods and 5·2 million cubic feet of softwoods, equivalent to 22·4 million and 6·9 million cubic feet respectively in a full year. To prevent



any risk of thinning being delayed because of quota considerations, conifer thinnings over six inches quarter girth at breast height were explicitly excluded from the quota, though in fixing the quota an allowance was made for the volume likely to be felled from this source. The Timber Merchants' representatives on the Committee expressed dissatisfaction with the level of the hardwood quota in particular and urged that it should be increased. The Commissioners, however, felt unable to do this until they had subjected the census data to a more critical analysis especially as regards the distribution of the volume increment over the size classes and had more accurate information on the volume contained in the hedgerow trees and small copses. Work on these lines was carried out during the early part of 1951 and the Commissioners invited a panel of the Home Grown Timber Advisory Committee to examine the data and satisfy themselves as to the bases on which the calculations were made.

The method adopted by the Commissioners for arriving at the appropriate quotas was briefly as follows: As a first step the stock of growing timber (including hedgerow trees) was divided into four categories: hardwoods over 80 years, and under 80 years of age, and softwoods over 60 years and under 60 years of age. The net volume increment of each category was then calculated after making allowance for fellings not under licence and for losses due to decay, fire and other sources of wastage. In determining the actual level of the quotas to be fixed the Commissioners considered it essential to license substantially less than the whole of the net increment of the larger categories of the hardwoods and softwoods, as only in this way could a reserve be built up to help replace the timber felled during the past decade. Accordingly, at a meeting held with the Home Grown Timber Advisory Committee on the 12th June 1951 the Commissioners proposed that quotas should be fixed for the period of ten years from 1st October 1951 at the average annual amounts of 20 million cu. ft. of hardwoods and 5 million cu. ft. of softwoods. The representatives of the timber trade and of the woodland owners, while fully appreciating the need to conserve existing resources, urged that the immediate reduction of the quotas to the levels proposed was unnecessarily drastic and would lead to serious difficulties. At a subsequent meeting they put forward the specific proposal that the quota should be fixed for the year ending 30th September 1952 only at 26 million cu. ft. broadleaved and 7.1 million cu. ft. conifers. This recommendation was accepted by the Commissioners who, however, adhere to their view that a 10 year quota is desirable and it follows that when fixing the amount to be felled in the next 9 years they will take into account the quota for 1951-52. The Commissioners hope that the figure agreed for 1951-52 will be of assistance to the industry generally in the task of adjusting itself to the situation which has arisen.

## THE FIRST POST-WAR QUINQUENNIAL

In their two reports on Post-War Forest Policy,\* prepared and issued as White Papers during the Second World War, the Commissioners discussed the forestry problems which would arise at the end of the war and submitted a series of proposals for action.

The White Paper Cmd. 6447 envisaged that the greater part of the task of afforestation and replanting necessary after the war would fall on the State, and put forward two alternative planting programmes to be carried out by the Forestry Commission; the one, labelled the Intermediate

\* *Post-War Forest Policy. Report by H.M. Forestry Commissioners, Cmd. 6447, 1943.*  
*Post-War Forest Policy. Private Woodlands. Supplementary Report by H.M. Forestry Commissioners. Cmd. 6500, 1944.*

Programme, aimed at planting 675,000 acres in the first post-war decade and the other, labelled the Desirable Programme, aimed at planting 900,000 acres in the same period.

The Commissioners also made a rough estimate of the rate at which planting might be expected to proceed on private estates when the war ended. The figure arrived at was 200,000 acres in the first decade, of which 75,000 acres would be planted during the first five years. It should be noted that these estimates related only to planting to be carried out in woodlands permanently dedicated by their owners to timber production.

In November 1945 the Minister of Agriculture and Fisheries announced the Government's decision that the Commissioners should proceed on the basis of their Desirable Programme.

The first complete post-war year was the forest year ending 30th September 1946. This was a period of reorganisation, following the passing of the Forestry Act, 1945. Among other changes, posts of Director General and Deputy Director General were created, the two Assistant Commissioners were replaced by three regional Directors in charge respectively of England, Wales and Scotland, and a fourth Director was appointed to control Research and Education; the former territorial Divisions became Conservancies with a Conservator in charge of each and Divisional and District Officers working to him. The new Act also set up National Committees for England, Wales and Scotland, upon which certain duties were devolved by the Commission. This reorganisation, coupled with the fact that a considerable number of the Commissioners' staff were still engaged on timber production, made it desirable to regard the year 1945-46 as preparatory, and to treat the forest year 1946-47 as the first year of the post-war plan. The year under report, ending 30th September 1951, thus marks the end of the first quinquennium and seems an appropriate stage at which to review the progress accomplished.

**Planting.**—The Desirable Programme envisaged definite rates of planting by the State, and also by private owners under the Dedication Scheme. These are set out in Table 1 below, together with the areas actually planted year by year.

#### PROGRESS OF STATE AND PRIVATE PLANTING DURING THE FIRST POST-WAR QUINQUENNium

Table 1

Year of Post-War Plan ... ..	1	2	3	4	5	Total
Forest Year ... ..	1946/47	1947/48	1948/49	1949/50	1950/51	
	<b>STATE PLANTING</b>					
	Thousand acres					
White Paper Programme ... ..	30	43	58	72	87	290
Planting achieved ... ..	26·4	36·4	43·9	53·7	57·2	217·6
Percentage of Programme ... ..	88	85	76	75	66	75
	<b>PRIVATE PLANTING</b>					
	Thousand acres					
White Paper Estimate ... ..	5	10	15	20	25	75
Estimated Planting achieved ... ..	9·0	11·2	14·1	16·3	12·3	62·9
Percentage of Estimate ... ..	180	112	94	81	49	84

The table shows that at the end of the fifth year the Commissioners had planted 217,600 acres (75 per cent. of the programme) and private owners 62,900 acres (84 per cent.); the combined planting efforts being 280,500 acres (77 per cent. of the full programme). It will be noted however that there has been a progressive drop in the percentage of achievement in both programmes. In the case of State planting the figure has dropped from 88 per cent. in the first year to 66 per cent. in the fifth year. Private planting made a somewhat better start than was estimated but the progress was not maintained, and in the fifth year barely half of the scheduled acreage was planted.

The delay, now happily overcome, in securing the general acceptance of the Dedication Scheme has been one of the factors which has affected the amount of private planting; but other causes, including rising costs, shortage of plants and labour, and in 1951 the bad weather in the planting season, have also been contributing factors.

In the case of State planting the main reasons for the gap between programme and achievement are shortage of plantable land, and, in the more remote areas, lack of labour. In their White Paper (Cmd. 6447) the Commissioners estimated that they would need to acquire, in order to carry out their planting programme, 1,090,000 acres of plantable land during the first five post-war years; they have only succeeded, however, in acquiring 209,000 acres—some 8,000 acres less than the area actually planted in the quinquennium. It is true that experience has shown that it is possible to carry out a planting programme with somewhat smaller reserves of land than were deemed necessary in the White Paper, but after making full allowance for this, the fact remains that the current reserves have reached a disquietingly low level.

As regards labour, the other major factor affecting the planting programme, the number of workers employed has remained almost constant at about 12,000 over the last three years, the large increase in thinning and planting having been made possible by greater use of mechanical equipment and of incentives such as piece-work and bonus schemes. Labour shortages are specially acute in the more remote areas where dwellings are often few and far between, but the Commissioners have endeavoured to meet this by building and in the five year period have completed a total of 998 houses.

**Maintenance.**—Although new planting is a primary duty of the Commissioners, existing plantations have had their full share of attention. During the five years under review a total area of 138,000 acres has been thinned and it is estimated that over the same period 38 million cubic feet of poles and timber (roughly a million tons) have been extracted from the Commission's forests. In order to extract this large volume of produce it has been necessary to construct many new roads capable of carrying wheeled transport; the total length of roads built for this purpose has amounted to 1,105 miles.

**Finance.**—Following upon the approval by Government of the short-term proposals put forward in the Commissioners' *Report on Post-War Forest Policy* (Cmd. 6447), the Chancellor of the Exchequer undertook to replenish the Forestry Fund during the five financial years 1946-50 by a total amount of £20,000,000. This sum may be compared with the Commissioners' own estimate (made in 1943) that they would spend a total of £19,277,000 in carrying out their programme during the first five post-war years. The total included receipts, which were put at £2,017,000, making an estimated net expenditure of £17,260,000.

The total expenditure actually incurred during the five forest years 1947-51 has amounted to £32,411,000 ; from this must be deducted receipts to the value of £6,426,000, leaving a net expenditure of £25,985,000. Thus the original estimate of a net expenditure of about £17½ million has been exceeded by roughly 50 per cent., though it will be noted that receipts were up by over £4 million, an increase of 220 per cent.

The reasons for the overspending are not far to seek. Costs of administration, labour and materials have all gone up since the original estimate was prepared. Labour, which accounts for a large proportion of the Commission's expenditure, has risen from a basic wage of 60s. 0d. a week in 1943 to an average level of about 90s. 0d. a week during the post-war period, while the introduction of benefits such as holidays, payment for wet time, pensions and insurance have added substantially to the overall cost. In the case of materials such as wire netting, mechanical equipment and tools, many prices have at least trebled. Over and above the general rise in prices the Commissioners also incurred expenditure amounting in total to about £1,300,000 on two projects which were not foreseen in their original estimate. The first of these was an emergency scheme of road construction introduced in 1947 for the relief of unemployment. The need for this work was only temporary and by 1949 the amount of labour employed on forest roads was greatly reduced and the special organization set up for the purpose was then merged in the general service of the Commission. The second was the Forest Workers Training Scheme which began to operate in 1946 as part of a national scheme for giving civilian employment to men released from the armed forces and other forms of war-time national service. The scheme was instrumental in training 1,507 men who subsequently took up employment in forestry either on private estates or with the Forestry Commission.

**Research and Education.** Both of these important ancillary services have been much expanded during the quinquennium. In 1946 a headquarters for the Research Branch was established in Alice Holt Lodge in the former Crown Forest of Alice Holt, near Farnham, Surrey. The Lodge provides office and laboratory accommodation for the Chief Research Officer and the greater part of his staff, and during 1947 to 1949 served as the headquarters of the section responsible for the complete Census of Woodlands which was carried out over that period. The technical staff of the Research Branch has been strengthened by the appointment of officers specialising in forest ecology and tree genetics, and qualified assistants have been appointed to the Silviculturists as well as to the Entomologist and the Pathologist. A photographic section has also been established at Alice Holt. Research on forest soils has been promoted by grants to Rothamsted Experimental Station, the Macaulay Institute for Soil Research at Aberdeen and the Imperial Forestry Institute at Oxford. Recent developments include the appointment of an engineer to study mechanisation in forestry and the setting up of a section to deal with utilisation problems.

In the field of education the expanding planting programme has led to increased demands for forest officers and foresters. Forest officers are recruited from the ranks of forestry graduates, and the Universities giving degree courses in forestry have been helped by means of increased grants to enlarge and improve their teaching facilities.

The need for more foresters and foremen both for the Commission's service and for private forestry has been met by opening three new Forester Training Schools, making a total of five in all.

With the co-operation of private estate owners a series of short (3-month) instructional courses has been provided for private foresters with the object of raising the standard of supervision, especially on the smaller estates.

The Forest Worker Training Scheme has already been mentioned in connection with finance ; this scheme has proved undoubtedly useful as a means of recruiting additional forest labour.

An outstanding event was the gift in 1945, by Major Herbert Aris, of Northerwood House as a Forest Hostel. The house, which is near Lyndhurst in the New Forest, has been kept almost continuously occupied by parties of forestry students from the Universities, for their practical work, and by selected members of the Commissioners' staff, for special courses of instruction. Short courses have also been held at Northerwood House for estate owners, timber merchants, school teachers and other bodies interested in forestry.

## SUMMARY OF THE YEAR'S WORK

The weather throughout the winter and spring was very unfavourable for forest work, rain, snow and frost having greatly hindered planting and nursery operations. A late spring, however, enabled planting and lining-out to be carried on much later than is usual, and while a showery spring and wet summer were generally favourable to the establishment of the newly planted young trees, the persistent wet brought difficulties in its train from excessive weed growth in the nurseries. On the other hand the changeable weather throughout the year resulted in the fire hazard in general being much below the average.

During the year there has been a steady expansion of the national forest estate, and despite adverse weather conditions, the area planted reached the highest yet attained in any year.

**Finance.** The payments and receipts for the forest years ended 30th September, 1950, and 30th September, 1951, were:—

	1950	1951
	£	£
Payments ...	7,025,414	8,012,098
Receipts ...	1,535,748	1,811,846

The amount paid into the Forestry Fund during the Forest Year ended 30th September, 1951, from Parliamentary Votes was £6,350,000, made up of £3,250,000 from the Vote for the financial year 1950-51, and £3,100,000 from the Vote for 1951-52 (page 21). Of the Receipts, amounting to £1,811,846 in 1951, £1,577,708 were from sales of forest produce (page 21).

**Land Acquired.** The net area acquired during the year was 113,200 acres of which 56,000 acres were classed as plantable; the plantable land acquired in England was 16,000 acres, in Scotland 33,000 acres, in Wales 7,000 acres (page 23).

The total area of land acquired to 30th September, 1951, through the Forestry Fund and under the Transfer of Woods Act, 1923, rose to 1,781,000 acres. This comprises 1,074,000 acres classed as "forest land" which is either already planted or will be planted in due course, and 707,000 acres of "other land" which includes nurseries, rough grazing and agricultural land and other land unsuitable for tree planting. The areas of the individual categories are given in Table 3 on page 22.

**Forest Units.**—The number of new forest units formed during the year was thirty-two, fifteen being in England, thirteen in Scotland and four in Wales. The total number of forest units is now 413. (Page 23.)

**New Plantations.**—The area planted during the year was 57,164 acres, of which 17,491 were in England, 26,960 in Scotland and 12,713 in Wales. (Page 26.) The number of young forest trees used to form these plantations, and to replace failures occurring in plantations made previously, was close on 115 million. (Page 27.)

**Forest Nurseries.**—The area used for forest nurseries was reduced by 99 acres and now stands at 2,171 acres. The stocks of young trees were 510 million, made up of 335 million seedlings and 175 million transplanted trees. (Page 31.)

**Fire Protection.**—The number of fires which had to be dealt with was 1,327, of which 95 per cent. were extinguished before causing damage to plantations; the area of plantations destroyed was 348 acres. (Page 34.)

## Preparation and Sale of Produce

*Thinning and Clear Felling.*—Most of the produce sold from the State Forests came from the thinning out of young plantations. The area thinned was 32,888 acres, made up of 19,210 acres in England, 9,384 acres in Scotland and 4,294 acres in Wales. The area of woods clear felled was 3,717 acres, but of this 2,300 acres were classed as scrub or devastated woodlands. The total area comprised 1,771 acres in England, 1,430 acres in Scotland and 516 acres in Wales. (Table 22, page 36.)

*Sales of Forest Produce.*—The gross income from sales of all classes of forest produce was £1,577,708. Expenditure under the corresponding head of account amounted to £754,626. The quantity of produce sold, or used for forest purposes, was 11 million cubic feet. The major products from the thinnings were pitwood, fencing material and poles, but a considerable quantity of logs big enough for the sawmills was also marketed. (Page 36.)

*Licensing of Timber Felling.*—Licences were issued during the twelve months to 30th September 1951 for the felling of the following quantities of timber:—

	<i>Thousand cubic feet quarter-girth measure over bark</i>
<i>Conifers</i>	
Over 6 inches quarter-girth, at breast-height ...	7,777
6 inches quarter-girth and under, at breast-height	6,129
	13,906
<i>Broadleaved Species</i>	
Over 6 inches quarter-girth, at breast-height ...	22,820
6 inches quarter-girth and under, at breast-height	1,887
	24,707
Grand total	38,613

Included in the conifer volume of over 6 inches quarter-girth are 2,233,000 cubic feet of thinnings which did not rank against the felling quota.

*Roads.*—At the end of the year road construction work was in progress at 155 forests, and a total of 291 miles of roads had been completed. (Page 39.)

*New Houses.*—During the year, 324 houses for local supervisors and workmen were completed; work was proceeding on a further 636 houses. (Page 40.)

*The Dedication Scheme.*—Dedication deeds were completed by 79 owners in respect of 37,010 acres of woodland. Plans of Operations have been approved for a further 134 estates, with a woodland area of 76,976 acres. In addition, over 400 estates were engaged on the preparation of Plans of Operations. (Page 41.)

*Planting on Private Estates.*—It is estimated that private owners planted 12,300 acres of which 6,300 acres were planted with the aid of grants. (Page 42.)

*Education.*—Grants amounting to £15,167 were made to the Universities of Aberdeen, Cambridge and Edinburgh, to the Imperial Forestry Institute, Oxford, and to the University College of North Wales, Bangor. (Page 44.)

At the five Forester Training Schools maintained by the Commissioners, 121 men completed the two-year course. Of these, 95 secured appointments in the State service, while four who had been nominated by the Government of Northern Ireland returned to that country; 22 sought positions in private forestry or in forest services overseas. (Page 44.)

Short courses of three months duration were held on two private estates, for foresters and foremen. These were attended by 19 men from private estates and 9 from State Forests. (Page 44.)

The Forest Workers Training Scheme, which had served a useful purpose since its establishment at the end of the war, was closed to new entrants in July 1951. During the year, 116 men either completed their full training or entered a Forester Training School. Twenty-one men were still in training at the end of the year. (Page 44.)

The Universities continued to make extensive use of Northerwood House as a centre for giving practical instruction to forestry students. Short courses were also held there for landowners, timber merchants, school teachers and members of the National Trust, and courses were given for members of the Commissioners' own staff. (Page 44.)

**Research and Experiment.**—Research work into forestry problems has been continued at the Forest Research Station, Alice Holt Lodge, near Farnham, Surrey, and also in experimental areas in many of the State Forests and nurseries. (Page 45.)

The seed testing work at the Research Station has been extended, and trials have been made of selective weed killers for use on coniferous seed beds, of partial sterilisation of old nursery ground to restore fertility and of overhead irrigation of seed beds. (Page 45.)

Studies of methods of restoring derelict woodlands to productivity with special attention to costs remains an important research project. Research and studies in the fields of forest genetics, tree growth and yield, forest pathology and entomology have been continued. (Page 46.)

Progress has been made in machinery research relating to the preparation of ground for planting, and the extraction of produce from the forest. (Page 48.)

Grants for forest research in specific fields have been made to the Rothamsted Experimental Station, the Imperial Forest Institute, Oxford, the Macaulay Institute for Soil Research at Aberdeen and to Bedford College, University of London; the main subjects concerned are the study of forest soils and problems of forest tree nutrition. (Page 49.)

**Publications.**—Seventeen new publications were issued during the year. These included a Guide to the National Pinetum at Bedgebury, Kent; a Report on Forest Research, 1950; a series of Volume Tables for standing timber; and a pamphlet entitled "State Aid Available to Woodland Owners". (Page 49.)

**Publicity and Public Relations.**—The work of the Department, and the need for the protection of the country's woodlands, was brought to the notice of the public by means of press announcements, broadcasts, lectures, organised forest visits, and the provision of display material. Exhibits were provided at 16 of the major agricultural shows. (Page 50.)

**National Forest Parks.**—An additional National Forest Park, named Loch Ard, was established in the Trossachs district of the Scottish Highlands. (Page 51.)



# ORGANISATION

## THE FORESTRY COMMISSIONERS

To comply with the requirements of the Forestry Act, 1951, that at least one of the Commissioners shall have special knowledge and experience of the timber trade, a new Commissioner, Mr. Stanley C. Longhurst, was appointed on 13th September 1951. Mr. Longhurst's appointment fills the vacancy created by the retirement of Sir William Taylor in November 1949.

The Commissioners holding office at the close of the year under review were:—

Lord Robinson, O.B.E. (*Chairman*).  
The Earl of Radnor, K.C.V.O.  
Mr. J. M. Bannerman, O.B.E.  
Major Sir Richard Cotterell, Bt., J.P.  
Mr. J. E. Hamilton, M.C.  
Mr. Stanley C. Longhurst, J.P.  
Mr. Lloyd O. Owen, J.P.  
Major John Stirling of Fairburn, M.B.E.  
Mr. W. H. Vaughan, O.B.E., J.P.,  
Professor J. Walton, F.R.S.E.

*Secretary to the Commissioners* : Mr. H. A. Turner.

## THE NATIONAL COMMITTEES

The three National Committees met at monthly intervals throughout the year. The only change which took place in the Membership of these Committees was in the National Committee for England from which Lord Quibell resigned in May, 1951, and to which Mr. Stanley C. Longhurst was appointed in September, 1951.

The Membership of the three Committees at the end of the year is given below, the Chairman of the Forestry Commission being *ex officio* a member of each Committee.

### THE NATIONAL COMMITTEE FOR ENGLAND:—

The Earl of Radnor (*Chairman*), The Hon. James W. Best, Major Sir Richard Cotterell, Bt., Major Charles Mitchell, Mr. Stanley C. Longhurst.

*Secretary to the Committee*, Mr. E. S. J. Hinds.

### THE NATIONAL COMMITTEE FOR SCOTLAND:—

Major John Stirling of Fairburn (*Chairman*), Mr. J. M. Bannerman, The Duke of Buccleuch and Queensberry, Mr. John A. Cameron, Mr. J. E. Hamilton, Mr. J. Veitch, Professor J. Walton.

*Secretary to the Committee*, Mr. F. C. Handford.

### THE NATIONAL COMMITTEE FOR WALES:—

Mr. Lloyd O. Owen (*Chairman*), Major Sir Richard Cotterell, Bt., Colonel J. C. Wynne Finch, Mr. David Lewis, Professor R. Alun Roberts, Mr. W. H. Vaughan.

*Secretary to the Committee*, Mr. G. Childs.

## THE REGIONAL ADVISORY COMMITTEES

The majority of the Regional Committees met two or three times during the year. Matters discussed in nearly all the regions included the progress of the Dedication Scheme, felling licences, grants for the thinning of plantations, and the problems met with in the rehabilitation of derelict and felled woodlands. Individual Committees considered special problems relating to their own region; these included co-operative forestry, acquisition of land, felled woodlands in particular, forest protection against rabbits and grey squirrels, the disposal of thinnings, and forestry in relation to farming.

The Commissioners wish to record their appreciation of the services of the Chairmen and members of all Regional Advisory Committees.

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

### ENGLAND

*North-West.*—Capt. G. C. Wolryche-Whitmore (*Chairman*), Mr. J. V. Allen, Mr. N. G. Barraclough, Mr. P. J. B. Clive, Mr. J. Edwards, Mr. T. H. Evans, Mr. G. R. Jacob, Mr. W. M. F. Vane, M.P. *Secretary to the Committee*, Mr. T. L. Eadie.

*North-East.*—Lord Bolton (*Chairman*), Capt. J. P. Bradford, Mr. A. Kirkup, Jr., Mr. A. M. Leitch, Mr. W. Robertson, Mr. R. Stanley, Col. W. St. A. Warde-Aldam, Professor R. W. Wheldon. *Secretary to the Committee*, Mr. L. A. Chaplin.

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

*South-East.*—Col. H. S. Eeles (*Chairman*), Mr. J. W. C. Agate, Mr. A. E. Aitkins, Lt.-Col. W. R. Burrell, The Rt. Hon. Viscount Cowdray, Mr. W. H. Pearson, Mr. A. D. C. Le Sueur. *Secretary to the Committee*, Mr. H. W. Gulliver.

*South-West.*—Mr. W. E. Hiley (*Chairman*), The Earl of Bathurst, Col. C. M. Floyd, Major H. T. H. Foley, Mr. J. R. Maer, Mr. F. K. Makins, Mr. M. Philips Price, M.P., Professor M. Skene. *Secretary to the Committee*, Mr. A. W. Matthews.

### SCOTLAND

*North.*—The Earl Cawdor (*Chairman*), Mr. J. Armstrong, Mr. G. Brown, Lord Lovat, Mr. A. R. Mackenzie. *Secretary to the Committee*, Mr. M. Nicolson.

*East.*—Professor H. M. Steven (*Chairman*), Mr. Alexander Anderson, Lord Glentanar, Sir Ian Forbes-Leith, Bt., Mr. W. Leven, Bailie R.A. Raffan, Mr. W. Riddoch. *Secretary to the Committee*, Mr. J. P. Lenman.

*South.*—The Earl of Haddington (*Chairman*), Sir James Hunter Blair, Bt., Mr. C. J. Cameron, Mr. J. C. Carson, Mr. W. P. Earsman, Mr. J. J. Patterson, Professor J. Ritchie. *Secretary to the Committee*, Mr. T. H. McGeorge.

*West.*—Captain J. Maxwell MacDonald (*Chairman*), Major D. C. Bowser, Sir George I. Campbell, Bt., Mr. P. Campbell, Capt. J. Craig, Mr. T. Bruce Jones, Professor J. Kirkwood. *Secretary to the Committee*, Mr. B. Kinnaird.

WALES

*North.*—Col. P. R. Davies-Cooke (*Chairman*), Mr. P. S. Barnie, Alderman H. T. Edwards, Capt. G. L. Bennett Evans, Major W. D. D. Evans, Mr. E. H. Howard, Professor E. C. Mobbs, Professor Thos. Thomson, Mr. D. Tudor, Col. J. F. Williams Wynne. *Secretary to the Committee.* Mr. K. Mayhew.

*South.*—Major J. D. D. Evans (*Chairman*), Mr. D. G. Badham, Major J. Francis, Mr. I. G. Gordon, Alderman A. E. Gough, Mr. H. A. Hyde, Mr. J. E. Lewis, Mr. M. H. Maxwell, Lord Merthyr. *Secretary to the Committee,* Mr. E. H. Bradford.

THE HOME GROWN TIMBER ADVISORY COMMITTEE

The Forestry Commissioners, as required under Section 15 of the Forestry Act, 1951, appointed the following to be members of the Home Grown Timber Advisory Committee. These appointments are for a period of three years from the 8th September, 1951.

The Earl of Radnor		Forestry Commission ( <i>Chairman of the Committee</i> )
Mr. A. H. Gosling	... ..	} Forestry Commission
Mr. O. J. Sangar	... ..	
Mr. A. P. Long	... ..	
Sir Henry C. Beresford-Peirse, Bt.	... ..	
Mr. J. Macdonald	... ..	
Mr. H. A. Turner	... ..	
Sir Edward B. Monkhouse	... ..	} Ministry of Materials
Mr. T. M. Reynolds	... ..	
Lord Bolton	... ..	} Country Landowners' Association
Mr. W. E. Hiley	... ..	
Mr. R. W. B. Newton	... ..	
Major R. G. Proby	... ..	
The Duke of Buccleuch	... ..	} Scottish Landowners' Federation
The Earl Cawdor	... ..	
Mr. T. W. Dalglish	... ..	
Capt. J. Maxwell Macdonald	... ..	
Mr. G. R. Jacob	... ..	} Federated Home Timber Association
Mr. J. R. Maer	... ..	
Mr. C. J. Venables	... ..	
Mr. Harold Wright	... ..	
Mr. Stanley C. Longhurst*	... ..	
Mr. T. Bruce Jones	... ..	} Home Timber Merchants' Association for Scotland
Mr. J. T. Smith	... ..	
Mr. Bryan Latham		Timber Trades Federation

\* Mr. Stanley C. Longhurst resigned from the Committee on being appointed a Forestry Commissioner on 13th September, 1951.

## THE COMMISSIONERS' STAFF

### PROFESSIONAL AND TECHNICAL STAFF

The organisation of the staff at the Headquarters of the Commission and in the Directorates remained substantially unchanged. The Director General and Deputy Director General have been assisted by the Directors of Forestry for England, Scotland and Wales, the Director of Research and Education, and the Chief Engineer.

The officers holding these appointments throughout the year were :

Director General : Mr. A. H. Gosling, C.B., F.R.S.E.

Deputy Director General : Mr. W. H. Guillebaud, C.B.E.

Director of Forestry for England : Mr. O. J. Sangar, C.B.E., M.C.

Director of Forestry for Scotland : Sir Henry Beresford-Peirse, Bt., F.R.S.E.

Director of Forestry for Wales : Mr. A. P. Long, O.B.E.

Director of Research and Education : Mr. James Macdonald.

Chief Engineer : Major-General H. P. W. Hutson, C.B., D.S.O., O.B.E., M.C.

The forest and estate staff of the Directors comprised 19 Conservators, the Deputy Surveyor New Forest, the Deputy Surveyor Dean Forest, 32 Divisional Officers, and 175 District Officers. During the year 28 appointments were made to the District Officer grade ; 7 officers of this grade left the service, and 8 were promoted to Divisional Officer rank.

The local supervision of forest work is carried out by Foresters and Foremen, most of whom have been recruited from men who have passed through one of the Commissioners' Forester Training Schools. The numbers in these grades at the end of the year were :—Foresters, 629, and Foremen, 252. There were also 19 Clerks of Works assisting the Estate Officers.

The Engineer Officers assisting the Directors and Conservators comprised 3 Directorate Engineers, 1 Machinery Research Officer, 2 Planning Officers, 3 Mechanical Engineers, 10 Conservancy Engineers, 37 Assistant Engineers, and 42 Clerks of Works.

### ADMINISTRATIVE, EXECUTIVE AND CLERICAL STAFF

At the Headquarters of the Commission the Secretary was assisted by a staff of a Principal, a Deputy Establishment Officer, a Principal Information Officer, 14 officers of the rank of Higher Executive Officer and above, and 58 other Executive and Clerical Officers. The Controller of Finance had a staff of 10 officers of the rank of Higher Executive Officer and above, and 42 other Executive and Clerical Officers.

The staff attached to the offices of the Directors of Forestry, the Director of Research and Education, and the Conservators comprised 30 officers of the rank of Higher Executive Officer and above, and 461 other Executive and Clerical Officers.

## LABOUR EMPLOYED IN STATE FORESTS

The number of men, women and boys employed on forestry operations and on road work at the 30th September, 1951, was 12,200 of whom 900 were on road work ; the numbers at the corresponding date in 1950 were 12,100 and 1,000 respectively. The average number employed through the year, based on the monthly record, was 12,300.

# THE YEAR'S WORK

## The Forestry Fund

The Forestry Fund was established by the Forestry Act, 1919. From this fund is defrayed all the expenditure of the Commissioners, and into it are paid their receipts from sales of forest produce, rentals, etc., together with the amounts drawn against the annual Parliamentary Vote. Any balance of a Vote not required during the year for which it was voted may not be drawn into the Forestry Fund, but the Commissioners are permitted to carry forward a small working balance to the next Financial Year.

In Table 2 below are shown the drawings during each Forest Year and also the balance remaining in the Forestry Fund at the 30th September (the end of the Forest Year).

Table 2 FORESTRY FUND—SUMMARY  
Year ended 30th September £

	Balance from Preceding Year (1)	Receipts			Payments (Appendix 1) (5)
		Total (2)	From Parliamentary Votes (3)	From Forestry Operations, etc. (Appendix 1) (4)	
GRAND TOTAL, 1920-1951 ...	—	54,099,508	40,652,800	13,446,708	53,704,412
1920-29 ...	—	4,421,484	3,570,000	851,484	4,502,018
1930-39 ...	—	8,114,652	6,292,800	1,821,852	7,926,093
1940-46 ...	—	8,785,542	4,439,000	4,346,542	8,864,948
1947 ...	28,619	3,959,062	3,300,000	659,062	3,870,060
1948 ...	117,621	6,675,749	5,606,000	1,069,749	6,622,524
1949 ...	170,846	6,950,425	5,600,000	1,350,425	6,881,257
1950 ...	240,014	7,030,748	5,495,000	1,535,748	7,025,414
1951 ...	245,348	8,161,846	6,350,000	1,811,846	8,012,098
1952 ...	395,096	—	—	—	—

The amount drawn from Parliamentary Votes into the Fund during the Forest Year to 30th September, 1951, was £6,350,000, made up of £3,250,000 from the Vote for the Financial Year ended 31st March, 1951, and £3,100,000 from the Vote for the year ending 31st March, 1952. Receipts from Forestry Operations amounted to £1,811,846, and payments to £8,012,098, increases of £276,098 and £986,684 respectively compared with last year.

### FINANCIAL TABLES

Appendix 1, page 53, gives the payments, analysed by major heads of account, and the receipts from Forestry Operations, etc.

Appendix 2, page 54, is a statement of expenditure and income. In this table amounts due to or by the Commissioners at the end of the Forest Year have been brought into account; salaries and overheads shown in columns (2) to (5) of Appendix 1 are distributed over the heads of account to which they are appropriate; income from Forestry Operations, Education, etc., is shown separately; and adjustments have been made between heads of account in respect of transactions not reflected in the cash accounts, such as the value of produce used for forest purposes.

In Appendices 3 to 8, pages 55 to 59, the expenditure and income under certain of the heads given in Appendix 2 are shown in greater detail.

### Acquisition and Utilisation of Land

From the 29th November, 1919, to the end of the year under review the net area of land acquired through the Forestry Fund, under the Forestry (Transfer of Woods) Act, 1923, and by gifts from private individuals amounted to 1,781,500 acres. The utilisation or intended utilisation of this land is given in Table 3.

Table 3 UTILISATION OF LAND  
At 30th September, 1951 Thousand acres

	Great Britain	England	Scotland	Wales
Total Acquired ... ..	1,781·5	574·2	973·8	233·5
Forest Land: Total ... ..	1,074·2	432·3	468·1	173·8
Acquired Plantations ... ..	76·4	52·2	19·5	4·7
Planted by Forestry Commission ...	660·6	268·1	269·8	122·7
To be planted ... ..	337·2	112·0	178·8	46·4
Other Land: Total ... ..	707·3	141·9	505·7	59·7
Nurseries ... ..	2·1	·8	·9	·4
Rough Grazing and Agricultural Land ...	410·5	57·7	306·2	46·6
Forest Workers Holdings ... ..	12·9	5·8	3·2	3·9
Unplantable and Miscellaneous ... ..	281·8	77·6	195·4	8·8

This table shows that of the total area acquired 1,074,200 acres are classed as forest land, comprising 737,000 acres of woods and plantations and 337,200 acres of land still to be planted. The land awaiting planting is well distributed between the three countries, England holding 112,000 acres, Scotland 178,800 acres and Wales 46,400 acres. It should be noted that as much as possible of the land remaining to be planted is let for grazing until it is actually required.

#### LAND NOT PLACED AT THE DISPOSAL OF THE COMMISSIONERS

The figures given in the previous table include certain areas which, for the time being, have not been placed at the disposal of the Commissioners, but are under the management of the Agricultural Departments. The details of this land are given in Table 4.

Table 4 LAND NOT PLACED AT THE DISPOSAL OF THE COMMISSIONERS  
At 30th September, 1951 Acres

	Great Britain	England	Scotland	Wales
Total ... ..	340,208	47,973	258,682	33,553
Forest Land ... ..	73,531	13,776	57,306	2,449
Agricultural, rough grazing and miscellaneous ... ..	266,677	34,197	201,376	31,104

The total area involved amounts to 340,208 acres, and includes 266,677 acres of rough grazing, agricultural and other land, and 73,531 acres of forest land. Much of the latter category is held only temporarily by the Agricultural Departments and will be transferred to the Commissioners when the land is required for planting.

## FOREST UNITS

## FOREST UNITS, 1951

Table 5

	Great Britain	England	Scotland	Wales
Number of Forests :—				
At beginning of year ...	381	142	176	63
At end of year ...	413	157	189	67
Increase during the year ...	32	15	13	4

During the year the Commissioners established 32 new Forest Units, bringing the total to date up to 413. The individual forests are listed by Conservancies in Appendices 12 to 14 (pages 63 to 71) and their location is shown on the Conservancy maps (pages 72 to 82) in Appendix 15.

The new forests established during the year are as follows :—

## ENGLAND :—

Coquetdale, Northumberland	Groombridge, Sussex
Knaresborough, Yorks.	Maresfield, Sussex
Londesborough, Yorks.	Rogate, Sussex
Habberley, Shropshire	St. Leonards, Sussex
Charnwood, Leics.	Dunster, Somerset
Packington, Warwick	Honiton, Devon
Oakamoor, Staffs.	St. Clement, Cornwall
Mildmay, Kent	

## SCOTLAND :—

Strathy, Sutherland	Glen Livet, Banff
Oykell, Ross & Sutherland	St. Fillans, Perth
Craigs, Ross	Rowardennan, Stirling
Aigas, Inverness	Glen Rickard, Isle of Arran
Glen Affric, Inverness	Loch Eck, Argyll
Loch Ericht, Inverness	Sunart, Argyll
Strath Mashie, Inverness	

## WALES :—

Lleyn, Caernarvon	Llandeilo, Carmarthen
Glyn y Groes, Denbigh	Teifi, Carmarthen

## ACQUISITION OF LAND DURING THE YEAR

The area acquired during the year amounted to 124,344 acres, including land classed as entry-secured. Disposals and adjustments amounted to 11,137 acres of which 10,197 acres were transferred to the Department of Agriculture for Scotland under Agricultural Purposes Appropriation Orders made by the Secretary of State. The net additional area of land acquired was thus 113,207 acres. Details by categories of land and by countries are given in Table 6.

Of the total of 113,207 acres acquired, 56,113 acres are classified as Plantable Land, and 57,094 acres as Other Land ; the latter category consists mostly of high-lying moorland which will be retained under rough grazing.

LAND ACQUIRED DURING THE YEAR  
[NET AREA]

Table 6

Year ended 30th September, 1951

Acres

	TOTAL	PLANTABLE LAND				OTHER LAND
		Total	Land previously under a Tree Crop	Standing Woods	Bare Land	
Great Britain ...	113,207	56,113	30,448	7,416	18,249	57,094
England ... ..	17,126	15,957	7,795	1,277	6,885	1,169
Scotland ... ..	89,680	33,521	19,347	5,849	8,325	56,159
Wales ... ..	6,401	6,635	3,306	290	3,039	-234

The table subdivides the plantable land into land previously under a tree crop, i.e., felled or otherwise derelict woodlands; standing woods, acquired along with the plantable land; and bare land which has not previously been under trees. It will be noted that of the 56,113 acres no less than 30,448 acres (54 per cent.) consist of felled or derelict woodland and only 18,249 acres (32 per cent.) of bare land for afforestation. The acquisition of pine and birch woodlands in Glen Affric, of which mention was made in the Commissioners' last Annual Report, is mainly responsible for the unusually large area of 7,416 acres under the heading of standing woods.

PROGRESS OF ACQUISITION OF PLANTABLE LAND

The progress made in the acquisition of plantable land from 1920 onwards is given in Table 7.

ACQUISITION OF PLANTABLE LAND

Table 7

Year ended 30th September

Acres

Period	Total	By Lease or Feu	By Purchase
Total 1920-1951 ... ..	1,027,821	349,399	678,422
1920-29 ... ..	310,230	156,759	153,471
1930-39 ... ..	344,757	60,057	284,700
1940-46 ... ..	150,709	40,427	110,282
1947 ... ..	22,322	13,016	9,306
1948 ... ..	29,945	14,465	15,480
1949 ... ..	52,749	13,628	39,121
1950 ... ..	60,996	26,423	34,573
1951 ... ..	56,113	24,624	31,489

For the first time since the Commissioners embarked on their post-war forestry programme it is necessary to record a slight fall-off in the total of plantable land acquired during the year. This is partly due to the fact that the Commissioners are acquiring land in much smaller blocks than previously, which in turn reflects the policy of concentrating on the acquisition of felled or derelict woodland. The Commissioners wish to draw attention to the disquieting position reached this year, in that the area of plantable land acquired was actually less by over 1,000 acres than the area planted. This means that the already scanty reserves of land held for planting have been depleted.



LAND ACQUIRED TO DATE

Table 8 presents a summary statement of the land acquired to date, classified into Plantable (including plantations already formed) and Other Land. The table also shows the areas acquired by lease or feu, and by purchase.

The heading Entry Secured relates to properties in which work was able to proceed, although the legal contracts had not been actually completed.

SUMMARY STATEMENT OF LAND ACQUIRED\*

Table 8 At 30th September, 1951 Acres

	Total	By Lease or Feu			By Purchase		
		Total	Plant-able†	Other	Total	Plant-able†	Other
Total:							
Great Britain	1,661,390	502,614	349,399	153,215	1,158,776	678,422	480,354
England ...	471,907	177,418	154,036	23,382	294,489	228,976	65,513
Scotland ...	961,260	247,756	133,779	113,977	713,504	333,940	379,564
Wales ...	228,223	77,440	61,584	15,856	150,783	115,506	35,277
Acquisitions completed:							
Great Britain	1,639,802	482,184	330,692	151,492	1,157,618	677,427	480,191
England ...	467,549	173,153	149,918	23,235	294,396	228,970	65,426
Scotland ...	947,647	235,208	122,707	112,501	712,439	332,951	379,488
Wales ...	224,606	73,823	58,067	15,756	150,783	115,506	35,277
Entry Secured:							
Great Britain	21,588	20,430	18,707	1,723	1,158	995	163
England ...	4,358	4,265	4,118	147	93	6	87
Scotland ...	13,613	12,548	11,072	1,476	1,065	989	76
Wales ...	3,617	3,617	3,517	100	—	—	—

\* Excluding Crown Woods amounting to 120,000 acres (of which some 60,000 acres are plantable) transferred to the Commissioners under the Forestry (Transfer of Woods) Act, 1923.

† Including planted land.

The grand total amounts to 1,661,390 acres, of which 502,614 acres were acquired by lease or feu and 1,158,776 acres by purchase. Purchases thus comprise a little over two-thirds of the total.

Out of the total of 1,661,390 acres, 1,027,821 acres were classified at the time of acquisition as plantable; of this area 383,012 acres (37 per cent.) are in England, 467,719 acres (46 per cent.) are in Scotland, and 177,090 acres (17 per cent.) in Wales.

The expenditure during the year in connection with the purchase and lease of land was £525,837, made up as follows:—

	£
Purchase of land, including buildings and standing timber	476,439
Rents and feu duties ...	45,724
Redemption of tithes	3,674
	£525,837

The first item includes the purchase of standing timber and buildings on land acquired during the year by lease as well as by purchase, some £250,000 being in respect of the purchase of standing timber on estates leased from the Commissioners of Crown Lands. It should be noted that the expenditure on the purchase of land cannot be directly related to the area acquired during the year, since that area includes land to which entry has been secured pending financial settlement.

The average price paid for plantable land acquired during the year, excluding any timber and buildings, was £2 12s. 6d. per acre; the average rent paid for plantable land was 2s. 5d. per acre.

Sales of land and buildings amounted to £80,138 (Appendix 3, col. 13, page 55), of which £68,840 was in respect of 10,197 acres transferred to the Department of Agriculture for Scotland under Agricultural Purposes Appropriation Orders.

### Cultural Operations

Cultural operations include works carried out in the making of plantations, that is—preparatory work such as fencing, clearing of ground, ploughing and draining, the actual planting of the trees, the maintenance of plantations already made and their protection against damage by fire and other causes. Nursery operations are also included under this head. Expenditure on cultural operations during the year amounted to £2,184,033—an increase of £110,109 over the amount spent in the previous year (Appendix 3, col. 6, page 55).

#### PLANTATIONS

The weather during the planting season (October to April) was the most unfavourable for many years. In the southern half of the Kingdom heavy though intermittent rain storms were the chief obstacle, but in the north-east the land was ice-bound during a large part of the winter. Snow lay on the hill slopes in many parts of Scotland until the end of April and the labour force had to be switched to clearing ground for the following year's planting or to brashing and thinning until the thaw came. One consequence of the severe weather was that spring was fully a month later than usual, and this enabled planting to be carried on successfully until the end of May, and in some districts even into June. In most parts of the country the spring and summer months were showery and so favourable to the establishment of the young plants, and there was a welcome absence of late spring frosts. In the West Conservancy of Scotland, however, there was a bad drought in May and June which caused some failures. It is interesting to note that in that Conservancy over half a million conifer seedlings were planted, mainly one-year old plants from the Devilla heathland nursery. The seedlings started well and stood up to the spring drought better than the majority of the transplants.

In spite of the unfavourable winter the total area of 57,164 acres planted during the year was the largest achieved to date. It should be noted that this figure includes 525 acres of natural regeneration.

Table 9 shows the contribution to the total made by each Conservancy and also gives the additional areas which have been underplanted. The areas planted at individual forests are given in Appendices 12 to 14 (pages 63 to 71).

AREAS PLANTED AND UNDERPLANTED

Table 9

In year ended 30th September, 1951

Acres

Country or Conservancy	Planted	Under-planted	Country or Conservancy	Planted	Under-planted
GREAT BRITAIN	57,164	846	SCOTLAND: Total ...	26,960	81
ENGLAND: Total ...	17,491	716	Conservancy:		
Conservancy:			North ...	6,531	25
North West ...	2,883	17	East ...	7,307	45
North East ...	7,146	388	South ...	7,714	5
East ...	1,891	149	West ...	5,408	6
South East ...	1,968	1	WALES: Total ...	12,713	49
South West ...	2,374	46	Conservancy:		
New Forest ...	879	26	North ...	6,421	11
Dean Forest ...	350	89	South ...	6,292	38

Table 10 analyses the planting carried out during the year, showing the total areas afforested and replanted, subdivided also under conifers and broad-leaved species.

AFFORESTATION AND REPLANTING

Table 10

In year ended 30th September, 1951

Acres

	Great Britain	England	Scotland	Wales
TOTAL PLANTED:				
All species ...	57,164	17,491	26,960	12,713
Conifers ...	52,246	13,590	26,753	11,903
Broadleaved ...	4,918	3,901	207	810
AFFORESTED:				
All species ...	38,018	9,632	18,110	10,276
Conifers ...	37,434	9,201	18,057	10,176
Broadleaved ...	584	431	53	100
RE-PLANTED:				
All species ...	19,146	7,859	8,850	2,437
Conifers ...	14,812	4,389	8,696	1,727
Broadleaved ...	4,334	3,470	154	710

Of the total area, 38,018 acres (67 per cent.) were afforested and 19,146 acres (33 per cent.) were replanted, including the replacement of 577 acres destroyed by fire. As in previous years the greater part of the planting of broadleaved species is done in England, where the chief use is in the replanting of felled woodlands.

PLANTS USED FOR PLANTING AND BEATING-UP.—During the year under review over 114 million young trees were planted in the State forests. Over 95 million of these were used in the formation of new plantations, and 19 million used in beating-up, that is, were put in to mend failures in the more recently formed older plantations. The proportions in which the main species were used for these purposes are given below.

Spruces (Norway and Sitka) ...	42 per cent.
Pines (Scots and Corsican) ...	26 per cent.
Larches (European and Japanese) ...	14 per cent.
Douglas fir and other conifers ...	7 per cent.
Broadleaved trees (chiefly beech and oak)	11 per cent.

There has been a definite trend over the last few years towards a reduction in the proportion of the spruces used and an increase in the proportion of the pines and of Japanese larch. The proportion of broadleaved species used has remained fairly constant at about 10 or 11 per cent.

Appendix 9, on page 60, details the numbers of the individual species used in each Conservancy.

PLANTING PROGRESS TO DATE.—Table 11 sets out the gross area planted to date, with details for the past five years.

AREAS PLANTED 1920-1951

Table 11

Year ended 30th September

Acres

	Total	Afforested	Re-planted
Total, 1920-1951 ... ..	696,901	501,645	195,256
1920-29 ... ..	138,271	101,976	36,295
1930-39 ... ..	230,607	174,428	56,179
1940-46 ... ..	110,476	77,616	32,860
1947 ... ..	26,356	17,456	8,900
1948 ... ..	36,404	23,932	12,472
1949 ... ..	43,886	30,864	13,022
1950 ... ..	53,737	37,355	16,382
1951 ... ..	57,164	38,018	19,146

The figure of 696,901 acres is the gross total without taking account of losses from fire or wind or as a result of felling, disposal, etc. Deductions to allow for these factors amount in all to 36,301 acres, leaving a net area remaining under plantation of 660,600 acres (see Table 3). The total figure of 195,256 acres shown in Table 11 as replanted includes 17,711 acres replanted after fires.

The total area of plantations made to date may be further analysed as follows:—

	Total	Conifers	Broadleaved
	(acres)	(acres)	(acres)
Total planted ... ..	696,901 (100%)	643,928 (92%)	52,973 (8%)
Afforested ... ..	501,645 (72%)	485,005 (69%)	16,640 (3%)
Replanted ... ..	195,256 (28%)	158,923 (23%)	36,333 (5%)

SEED SUPPLY

*General.*—The Commissioners policy is to collect from their own woods and plantations and, by arrangement with the owners, from private woodlands, as much as possible of the seed required to carry out their planting programme. The amount that it is possible to collect in this way varies greatly with the season but it is usually possible to meet our own requirements of most of the broadleaved species, notably of oak, beech, ash and sycamore, and of Scots pine among the conifers. There are still insufficient stands of seed bearing age of most of the other important conifers, Corsican pine, Japanese larch, Douglas fir, and Sitka spruce for example, to play any but a very minor role in the provision of seed of these species, and it is therefore necessary to rely mainly on imports from the countries of origin.

*Home Collection of Seed.*—(Tables 12 and 13, pages 29 and 30.) With the exception of a few species, 1951 was a good seed year in this country. There was a heavy beech mast in many districts, in welcome contrast to the previous year when the crop failed almost completely, and nearly 30 tons of seed were collected. There was also an average to good crop of acorns, the collections totalling over 88 tons; but supplies of seed of ash and sweet chestnut were scanty. Of the conifers, Norway spruce was the outstanding species, 2,400 bushels of cones being collected which on extraction yielded almost one pound of seed per bushel. About 800 bushels of these cones were collected in Inverliever Forest in Argyll, and the seed gave the very satisfactory figure of 90 per cent. laboratory germination. Japanese larch, Douglas fir and *Abies nobilis* also coned fairly prolifically though except in the case of *Abies nobilis* the quantities of seed obtained were not very substantial. The Scots pine cone crop was much below average but as there were ample stocks of seed already in store this was not an embarrassment.

*Imports of Seed.*—(Table 14, page 30.) It will be recalled that the Commissioners, by agreement with woodland owners and with the nursery trade, act as bulk importers of seed of Douglas fir, Sitka spruce, Japanese larch, and Corsican pine, so the purchases cover trade and private requirements of these species, as well as the Commissioners' own needs. Hence these species are prominent in the list in Table 14.

After a period of somewhat lean years it was possible to import a moderate quality of Douglas fir seed from the State of Washington, U.S.A. but owing to the poor crop in British Columbia it was not practicable to get any Canadian seed in 1951. Supplies of those minor, but very desirable species, *Tsuga heterophylla*, *Abies grandis* and *Thuja plicata* were very short. Extensive enquiries for *Tsuga* in particular failed to produce a single pound of seed. The principal broadleaved seed imported was red oak (*Quercus rubra (procera)*) from Holland.

*Sales of Seed.*—(Table 15, page 31.) Sales of seed to the nursery trade and to private owners continued as in previous years. The total quantity of almost 11,000 pounds of seed was swelled this year by the sale of nearly three tons of acorns. The conifer seed sold amounted to 4,584 pounds, nearly 1,000 pounds less than in the previous year. The bulk-imported species account for three quarters of the total conifer seed.

#### HOME COLLECTION OF CONIFER SEED

Table 12 Year ended 30th September, 1951

	Cones collected				Cones kilned	Seed extracted
	Total	England	Scotland	Wales		
	Bushels				Bushels	lb.
Total ... ..	11,116	3,401	5,587	2,128	10,691	10,339
Scots Pine ... ..	2,271	1,202	1,032	37	2,331	1,229
Corsican Pine ... ..	35	29	—	6	10	5
European Larch ... ..	143	16	45	82	150	64
Japanese Larch ... ..	649	246	210	193	681	641
Douglas Fir ... ..	1,144	646	348	150	740	283
Norway Spruce ... ..	2,407	509	1,632	266	2,434	2,220
Other Conifers ... ..	4,467	753	2,320	1,394	4,345	5,897

## HOME COLLECTION OF BROADLEAVED SEED

Table 13

Year ended 30th September, 1951

lb.

	Total	England	Scotland	Wales
Total ... ..	269,267	257,791	3,193	8,283
Ash ... ..	78	78	—	—
Beech ... ..	65,028	59,188	2,586	3,254
Oak ... ..	198,001	193,595	132	4,274
Sycamore ... ..	673	395	108	170
Sweet Chestnut ... ..	1,320	1,320	—	—
Other Broadleaved Trees ... ..	4,167	3,215	367	585

## IMPORTED SEED

Table 14

Year ended 30th September, 1951

Species	Quantity	Origin
Total of all species ...	lb. 38,032	—
<i>Coniferous:</i>		
Total ...	19,826	—
<i>Major species:</i>		
Corsican pine ...	3,304	Corsica
Japanese larch ...	4,158	Japan
Douglas fir ...	3,782	Washington, U.S.A.
Norway spruce ...	3,013	Austria
Norway spruce ...	1,100	France
Norway spruce ...	802	Germany
Sitka spruce ...	2,592	Queen Charlotte Island, B.C.
Pinus contorta ...	653	British Columbia
<i>Minor species:</i>		
Abies grandis ...	9	Montana, U.S.A.
Abies lowiana ...	10	California, U.S.A.
Abies nordmanniana ...	12	Austria
Abies nordmanniana ...	14	France
Abies pectinata ...	14	France
Abies veitchii ...	28	Japan
Araucaria imbricata ...	11	France
Cedrus atlantica ...	22	Italy
Cryptomeria japonica ...	9	France
Cryptomeria japonica ...	8	Italy
Cupressus macrocarpa ...	20	Brittany
Pinus excelsa ...	13	France
Pinus montana ...	71	Austria
Pinus ponderosa ...	62	British Columbia
Pinus radiata ...	12	New Zealand
Sequoia sempervirens ...	10	Italy
Tuja plicata ...	14	Idaho, U.S.A.
Other conifers ...	83	—
<i>Broadleaved:</i>		
Total ...	18,206	—
Chestnut ... ..	374	France
Oak (Red) ... ..	17,733	Holland
Other broadleaved species ... ..	99	—

SALES OF SEED IN 1950 AND 1951

Table 15

Year ended 30th September

lb.

Species	Total		Sold to			
			Nursery Trade		Woodland Owners	
	1950	1951	1950	1951	1950	1951
<i>All species: Total</i> ... ..	8,664	10,925	7,893	10,670	771	255
<i>Coniferous: Total</i> ... ..	5,469	4,584	5,314	4,420	155	164
Scots pine ... ..	866	938	846	912	20	26
Corsican pine ... ..	421	337	406	314	15	23
Japanese larch ... ..	2,050	1,543	2,011	1,489	39	54
Douglas fir ... ..	546	613	534	597	12	16
Norway spruce ... ..	624	236	610	226	14	10
Sitka spruce ... ..	685	752	648	725	37	27
Pinus contorta ... ..	—	78	—	70	—	8
Lawson cypress ... ..	—	41	—	41	—	—
Other conifers ... ..	277	46	259	46	18	—
<i>Broadleaved: Total</i> ... ..	3,195	6,341	2,579	6,250	616	91
Oak ... ..	3,146	5,902	2,551	5,826	595	76
Beech ... ..	21	21	—	6	21	15
Other broadleaved species	28	418	28	418	—	—

PROVISION OF PLANTS FROM NURSERIES

General nursery work, to an even greater extent than planting, is at the mercy of the weather conditions, and the inclement winter and spring made 1950-51 an exceptionally difficult season for the staff concerned with the nurseries. In the north the severe though intermittent winter frosts led to serious losses from frost-lift in both seed beds and transplant lines. Owing to the late spring much of the sowing had to be put off until May and even then the ground was slow to warm up, with the result that germination was tardy and the seedlings, notably of the spruces, much below normal size at the end of the growing season. The wet summer also led to difficulties from excessive weed growth in the seed beds.

In some Conservancies the heathland nurseries proved a god-send because it was possible to switch over lining-out and sowing from the standard nurseries to the lighter heathland soils which were less affected by the wet weather.

*Expenditure.*—Expenditure on nurseries during the year amounted to £485,166, a decrease of £23,999 compared with the previous year.

*Nursery Area.*—The area under nurseries at the end of the year was 2,171 acres, 99 acres less than at 30th September 1950. This reduction results from the closing of a number of the less satisfactory nurseries. Most of the Conservancies are now fully self-supporting in the matter of plant supply. Of the 2,171 acres under nurseries, 1,839 acres are of the agricultural-soil type and 332 acres have been created out of heathland, plantation rides etc.

*Use of Nursery Ground.*—(Table 16, page 32.) Of the 2,171 acres of nursery 410 acres (19 per cent.) were under seed beds, 672 acres (31 per cent.) under transplant lines and 692 acres (32 per cent.) under fallow or green crops. These proportions are much the same as in previous years.

*Amount of seed sown.*—(Table 17, page 33.) The total amount of seed sown was 227,720 lb. of which 209,872 lb. were of broadleaved species and 17,848 lb. of conifers. Sowings of both categories of seed were somewhat greater than in the previous year, the increase in the broadleaved seed being mainly due to the good beech mast.

*Stocks of Seedlings and Transplants.*—(Table 18, page 33.) The stocks of forest trees in the nurseries at 30th September 1951 were 175 million transplants and 335 million seedlings. Compared with the previous year this is a decrease of 20 million transplants but an increase of 28 million seedlings. Comparative figures for the past three years are given in Table 18.

*Sales of Nursery Plants.*—(Table 19, page 34.) During the year under review slightly over five and a half million seedlings and transplants were sold to the nursery trade for lining-out in trade nurseries or for direct resale to woodland owners. In the previous year the number sold was 18 million so there has been a big reduction in the numbers taken up by the trade. While this is no doubt due in part to the smaller area planted this year on private estates it also reflects the increased stocks of plants which have been built up in the trade nurseries. While the Commissioners are always ready to assist the trade by disposing to it of stocks which are surplus to the Commissioners' own requirements it is better for all concerned that the trade should carry sufficient stocks to meet the anticipated needs of the woodland owners, and that the trade should not rely as much as in the past on the Commission surpluses.

#### USE OF NURSERY GROUND

Table 16

At 30th September, 1951

Acres

	Total	Seedbeds	Transplant Lines	Fallow and Green Crops	Other
GREAT BRITAIN ... ..	2,171	410	672	692	397
<i>Percentage of total area</i> ...	100	19	31	32	18
ENGLAND: Total ... ..	843	167	233	304	139
Conservancy:					
North West ... ..	189	18	43	79	49
North East ... ..	158	26	67	45	20
East ... ..	167	40	41	64	22
South East ... ..	102	31	28	30	13
South West ... ..	111	32	29	31	19
New Forest ... ..	73	13	18	32	10
Dean Forest ... ..	43	7	7	23	6
SCOTLAND: Total ... ..	895	134	288	298	175
Conservancy:					
North ... ..	225	42	58	94	31
East ... ..	207	21	66	80	40
South ... ..	240	38	93	65	44
West ... ..	223	33	71	59	60
WALES: Total ... ..	433	109	151	90	83
Conservancy:					
North ... ..	218	56	80	39	43
South ... ..	215	53	71	51	40



## SEED SOWN IN NURSERIES

Table 17

Year ended 30th September

lb.

	1949	1950	1951
<b>TOTAL SEED SOWN</b>			
Great Britain ... ..	258,777	193,283	227,720
England ... ..	216,631	142,294	155,021
Scotland ... ..	15,671	13,255	12,333
Wales ... ..	26,475	37,734	60,366
<b>CONIFEROUS SEED</b>			
Great Britain ... ..	15,904	15,400	17,848
England ... ..	4,711	4,479	4,742
Scotland ... ..	7,612	7,604	6,501
Wales ... ..	3,581	3,317	6,605
<b>BROADLEAVED SEED</b>			
Great Britain ... ..	242,873	177,883	209,872
England ... ..	211,920	137,815	150,279
Scotland ... ..	8,059	5,651	5,832
Wales ... ..	22,894	34,417	53,761

## STOCKS OF TRANSPLANTS AND SEEDLINGS

Table 18

At 30th September

Thousands of Plants

	1949	1950	1951
<b>TOTAL TRANSPLANTS</b>			
Great Britain ... ..	154,329	195,191	175,132
England ... ..	64,814	64,603	50,025
Scotland ... ..	66,186	84,546	85,759
Wales ... ..	23,329	46,042	39,348
<b>CONIFEROUS</b>			
Total, Great Britain ... ..	148,398	175,572	162,588
England ... ..	59,455	50,035	41,220
Scotland ... ..	65,997	82,858	84,323
Wales ... ..	22,946	42,679	37,045
<b>BROADLEAVED</b>			
Total, Great Britain ... ..	5,931	19,619	12,544
England ... ..	5,359	14,568	8,805
Scotland ... ..	189	1,688	1,436
Wales ... ..	383	3,363	2,303
<b>TOTAL SEEDLINGS</b>			
Great Britain ... ..	402,559	306,975	334,928
England ... ..	121,290	72,568	93,238
Scotland ... ..	219,358	174,109	152,551
Wales ... ..	61,911	60,298	89,139
<b>CONIFEROUS</b>			
Total, Great Britain ... ..	364,922	294,426	308,679
England ... ..	90,060	62,951	75,045
Scotland ... ..	217,036	173,224	151,267
Wales ... ..	57,826	58,251	82,367
<b>BROADLEAVED</b>			
Total, Great Britain ... ..	37,637	12,549	26,249
England ... ..	31,230	9,617	18,193
Scotland ... ..	2,322	885	1,284
Wales ... ..	4,085	2,047	6,772

SALES OF NURSERY PLANTS

Table 19

Year ended 30th September, 1951

Thousands

All species: TOTAL	...	5,658
Coniferous: Total	...	3,483
Scots pine	...	1,659
Corsican pine	...	290
European larch	...	1
Japanese larch	...	425
Douglas fir	...	72
Norway spruce	...	1,896
Sitka spruce	...	1,074
Other conifers	...	66
Broadleaved: Total	...	175
Oak	...	99
Beech	...	14
Other broadleaved species	...	62

**Forest Protection**

The work of Forest Protection falls into two categories—protection against fire, and protection against damage by animals, insects and fungus diseases. The cost of these operations during the year was £269,640; fire protection accounted for £142,564, being £8,222 more than in the previous year, and protection against other causes of damage cost £127,076, an increase of £15,893. The amounts spent on Forest Protection in previous years are given in Appendix 4, Col. 5, page 56.

**FIRE PROTECTION**

During most of the year the fire hazard in the plantations was remarkably low, and only for short periods was the fire danger classed as acute. Nevertheless the number of fires, either in or threatening the plantations, which the forest staff had to deal with was, with the exception of 1942, the greatest so far recorded. The number of fires in each of the past five years, the corresponding area burned, and the assessed loss are given in Table 20 below.

NUMBER AND EXTENT OF FOREST FIRES, 1947-1951

Table 20

Year ended 30th September

	Number of Fires	Area Burned (acres)	Assessed Damage £
1947	701	645	25,000
1948	1,189	1,837	45,000
1949	1,094	489	22,000
1950	874	158	7,000
1951	1,327	348	12,000

The total number of fires during the year was 1,327, of which the satisfactorily high proportion of 95 per cent. was extinguished before causing damage to the plantations. Comparable figures for last year were 874 outbreaks of which 92 per cent. was extinguished before causing damage.

The extent of plantations burned was 348 acres ; this is much below the average for the past five years, though more than double the loss sustained in the previous year. Four major fires accounted for the loss of 236 acres ; the largest of these, extending to 123 acres in Gwydyr Forest, North Wales, occurred in the dry spell at Easter and is attributed to carelessness of a member of the general public ; two fires resulting in the loss of 51 acres, were caused by employees of the Commission, one being due to carelessness and the other as the result of an accident while blasting. The fourth major fire came in from adjoining land and resulted in the loss of 62 acres of plantations.

Table 21 analyses the causes of the 1,327 outbreaks which occurred during the year.

#### CAUSES OF FOREST FIRES

Table 21 Year ended 30th September, 1951

	Number of Fires	Area Burned (acres)
Total ... ..	1,327	348
Railways ... ..	1,043	15
Adjoining Land ... ..	132	64
General Public ... ..	64	164
Commission Employees ... ..	13	64
Incendiarism ... ..	13	11
Miscellaneous ... ..	12	8
Unknown ... ..	50	22

The analysis given in Table 21 above shows that railways were responsible for 1,043 fires, or 79 per cent. of the total number of outbreaks. As the railway zones are kept well patrolled by the forest staff during periods of fire danger the majority of the fires are put out before they can spread, and those that did get out of hand caused the loss of only 15 out of the total of 348 acres destroyed. Fires spreading into the forest from adjoining land, often as a result of heather burning, were the second most prolific cause of outbreaks, resulting in the loss of 64 acres. The 64 fires attributable to the general public accounted for 164 acres, nearly half the total area of plantation lost.

#### PROTECTION AGAINST DAMAGE BY ANIMALS

The Commissioners regret that there are still no signs of any abatement of the rabbit nuisance. As long as these pests continue to be tolerated in the countryside so long will forestry be burdened with the unnecessary expense of rabbit-proof fencing, and large numbers of trappers have to be employed to protect our woodlands. During the year under review, just over 235,000 hares and rabbits were killed in the Commissioners forests, 33,000 more than in the previous year.

That other plague of the forester, the grey squirrel, has now attained the status of a major pest over a great part of southern England. More than 20,000 squirrels were killed during the year in the South East and South West Conservancies, the New Forest and the Forest of Dean, and it is reported that they are everywhere on the increase. This is notably the case in the forests in the South Wales coalfield and in parts of Brecon and Carmarthen. Grey squirrels are spreading also in the North East and North West Conservancies of England, and appeared for the first time in Delamere Forest in Cheshire.

Beech and sycamore are the favourite trees for attack but other species, even some of the conifers, are liable to suffer.

Apart from shooting and, during the breeding season, trapping, the destruction of the squirrel nests (dreys) by poking them out with light rods is one of the most effective ways of dealing with this pest. Unfortunately squirrels are highly mobile, and it is clear that concerted action by all the woodland owners in a district is necessary.

### Preparation and Sale of Produce

#### THINNING AND CLEAR FELLING

Table 22 details by Conservancies the areas thinned and clear felled during the year under review.

#### AREAS THINNED AND FELLED

Table 22

Year ended 30th September, 1951

Acres

	Thinned	Felled		Thinned	Felled
GREAT BRITAIN: Total	32,888	3,717	SCOTLAND: Total ...	9,384	1,430
ENGLAND: Total ...	19,210	1,771	Conservancy:		
Conservancy:			North ...	2,997	630
North-West ...	2,977	29	East ...	3,668	771
North East ...	1,801	271	South ...	1,160	5
East ...	7,612	460	West ...	1,559	24
South East ...	1,177	581	WALES: Total ...	4,294	516
South West ...	2,552	228	Conservancy:		
New Forest ...	1,685	30	North ...	2,000	238
Dean Forest ...	1,406	172	South ...	2,294	278

The total area thinned amounts to nearly 33,000 acres, an increase of 890 acres on the previous year. First thinnings accounted for 15,000 out of the 33,000 acres. Although much of the felling and extraction to rides is still done by the forest staff, the area of thinnings sold standing to merchants increased from 3,100 acres in 1950 to 5,400 acres in the year under review.

Clear fellings total 3,717 acres, a considerably larger area than in the previous year. An analysis of these fellings shows 927 acres classified as high forest, 502 acres as coppice-with-standards or simple coppice, and the remaining 2,288 acres as scrub or devastated woodland.

#### SALES OF FOREST PRODUCE

The produce from the State forests sold or used for forest purposes was 11 million cubic feet. The most important individual product was pitwood, of which 2½ million cubic feet were prepared and despatched to the mines; this does not cover all the pitwood originating from the State forests as further quantities reach the mines from timber and poles sold to merchants.

Other products from the State forests include round timber and saw-logs, posts, poles and stakes for fencing, telegraph, transmission and other poles (including a number of flag poles up to 70 feet in length for the Festival of Britain), pulpwood, charcoal wood and firewood. Among the minor forest products were Christmas trees, turnery poles and oak bark for tanning.

All types of forest products were in demand and there was a general tendency during the year for prices to rise. The income from forest produce was £1,577,708, an increase of £284,496 compared with the previous year; included in the above is £27,242 in respect of sales of plants from the forest nurseries. Expenditure on preparation of produce was £754,626 as compared with £724,081 in the previous year. (Appendix 3, Cols. 7 and 15, page 55.)

### Licensing of Timber Felling

The licences issued during the 12 months ended 30th September 1951, were 8,014 in number, and authorised the felling of 38,613,000 cubic feet of timber. This volume was apportioned between conifers and broadleaved species as follows:—

	<i>Thousand cubic feet (quarter-girth measure, over bark)</i>	
<b>CONIFERS</b>		
Over 6 inches quarter-girth at breast-height ...	7,777	
6 inches quarter-girth and under at breast-height	6,129	
	<hr/>	13,906
<b>BROADLEAVED SPECIES</b>		
Over 6 inches quarter-girth at breast-height ...	22,820	
6 inches quarter-girth and under at breast-height	1,887	
	<hr/>	24,707
Total ...		<hr/> <u>38,613</u>

The licensing period up to 31st December 1950 was the calendar year and, as already stated on page 8, in order to facilitate the regulation of the felling quota (that is, the volume of timber over six inches quarter-girth at breast-height which can be licensed for felling in the licensing period) it was decided to make the licensing period coincide with the Forest Year. Thus the licences issued during the Forest Year under review relate to two licensing periods; those issued between 1st October 1950 and 31st December 1950 formed the balance of the quota for the calendar year 1950, and those issued between 1st January and 30th September 1951, were subject to the quota covering the balance of the Forest Year 1950-51.

The licences issued for each of these portions of the Forest Year under review are given below.

#### *Licences issued 1st October 1950 to 31st December 1950*

	<i>Thousand cubic feet (quarter-girth measure, over bark)</i>	
<b>CONIFERS</b>		
Over 6 inches quarter-girth at breast-height ...	490	
6 inches quarter-girth and under at breast-height	1,032	
	<hr/>	1,522
<b>BROADLEAVED SPECIES</b>		
Over 6 inches quarter-girth at breast-height ...	6,060	
6 inches quarter-girth and under at breast-height	511	
	<hr/>	6,571
Total ...		<hr/> <u>8,093</u>

The position in regard to the quota for the Calendar Year 1950 is shown below.

	<i>Quota for 1950. Thousands of cubic feet (quarter-girth measure, over bark)</i>	<i>Volume licensed in 1950. Thousands of cubic feet (quarter-girth measure, over bark)</i>
Conifers ... ..	6,120	6,210
Broadleaved ... ..	26,614	26,314

From the above it will be seen that, for the calendar year 1950, the conifer quota was exceeded by 90,000 cubic feet, but there was a balance of 300,000 cubic feet against the broadleaved quota.

In the same calendar year licences were issued in respect of trees under six inches quarter-girth at breast-height (and so not included in the quota) amounting to 5,465,000 cubic feet of conifers and 1,928,000 cubic feet of broadleaved species.

*Licences issued 1st January 1951 to 30th September 1951*

	<i>Thousand cubic feet (quarter-girth measure, over bark)</i>
<b>CONIFERS</b>	
Over 6 inches quarter-girth at breast-height ...	5,054
Thinnings over 6 inches quarter-girth at breast height ... ..	2,233
6 inches quarter-girth and under at breast-height	5,097
	12,384
<b>BROADLEAVED SPECIES</b>	
Over 6 inches quarter-girth at breast height ...	16,760
6 inches quarter-girth and under at breast-height	1,376
	18,136
Total ... ..	30,520

The position in relation to the quota for the above nine months period, January to September 1951, is as follows:—

	<i>Quota for nine months January to September, 1951. Thousand cubic feet (quarter-girth measure, over bark)</i>	<i>Licensed January to September, 1951. Thousand cubic feet (quarter-girth measure, over bark)</i>
Conifers ... ..	5,169	5,054
Broadleaved species ... ..	16,800	16,760

It will be noted that licences were issued covering the felling of 2,233,000 cubic feet of conifer thinnings of six inches quarter-girth at breast-height and over. These have not been counted against the felling quota although, as explained on page 9 an allowance was made for the volume likely to be contributed from such thinnings.

The administrative cost of the licensing of timber felling in the year under report was £39,582 ; this amount is included under superior supervision and overhead charges in Col. 2, Appendix 8, Special Services, page 59.

## Roads

The policy pursued during the year has been to continue to mechanise construction operations as far as practicable, and to build the forest roads in stages; that is, instead of building a road to its final specification at the start, no more is done at any time than is necessary for immediate or short term requirements, with the proviso that each stage is a step towards the next. The lengths of road constructed in each country are shown below.

### FOREST ROADS

Table 23 Year ended 30th September, 1951

	Length of Road (Miles)				Number of Forests at which work was proceeding
	Completed		Under Construction		
	All weather	Fair weather	All weather	Fair weather	
<b>GREAT BRITAIN: Total</b>	181	110	74	27	155
England ... ..	75	40	47	10	56
Scotland ... ..	72	49	17	10	74
Wales ... ..	34	21	10	7	25

During the year, 291 miles of roads were completed, 181 miles being constructed to an all-weather specification and 110 miles for fair-weather use only; this represents an increase of 21 miles of all-weather and 11 miles of fair-weather roads compared with the previous year; in addition, at the end of the year, 101 miles of road were under construction. The road-work undertaken during the year included the building of the necessary culverts and bridges, some of which required spans of between 60 feet and 90 feet.

Expenditure during the year was £464,289, an increase of £19,477 compared with the previous year.

### Holdings and Estate Management

The Estate staff have been occupied with the management of the considerable number of properties and subjects comprised in the estates at the disposal of the Commissioners. These include forest workers holdings, agricultural holdings, houses for local supervisors and workmen, cottages, residential properties and sporting, as well as numerous easements and permissions of different kinds. A summary of these tenancies is given in Table 24 overleaf.

The total number of tenancies other than Forest Workers Holdings amounted to 7,292, an increase of 351 over the previous year. The number of agricultural holdings has declined owing to transfers to the Agricultural Departments but foresters houses have increased from 401 to 475, and cottages from 1,406 to 1,686. There has been little change in the number of residential and sporting tenancies or in the number of easements etc.

## TENANCIES

Table 24

Year ended 30th September, 1951

Number

Description	Great Britain	England	Scotland	Wales
Forest Workers Holdings ... ..	1,466	701	417	348
Other Tenancies: TOTAL ... ..	7,292	3,626	2,796	870
<b>Agricultural Holdings:</b>				
Under £20 per annum ... ..	1,286	493	459	334
Over £20 per annum ... ..	442	183	148	111
Foresters Houses ... ..	475	170	242	63
Cottages ... ..	1,686	699	891	96
Residential and Sporting ... ..	823	385	352	86
Easements, Permissions, Minerals, etc. ...	2,373	1,696	497	180
Site Rents and Feus ... ..	207	—	207	—

**FOREST WORKERS HOLDINGS**

The Commissioners have continued to give priority to the erection of houses for local supervisors and workmen rather than to the formation of smallholdings, and only seven additional Forest Workers Holdings were formed during the year, all of them by making use of existing buildings. The number of holdings at the end of the year was 1,466 of which 701 were in England, 417 in Scotland and 348 in Wales. The expenditure was £55,664, and income £22,776 ; details are given in Appendix 5, page 57.

**NEW HOUSES**

Lack of accommodation for local supervisors and workmen continues to have a hampering effect on the Commissioners' operations, though progress in the provision of houses has been better than in the previous year. In all 324 houses were completed and 636 were in building, as compared with 247 completed and 749 in building last year. Of the 324 houses completed, 54 were in England, 210 in Scotland and 60 in Wales.

Expenditure on new buildings amounted to £995,499, and on building repairs to £67,255. Income from rents and royalties amounted to £127,397 (Appendix 3, cols. 9 and 14, page 55).

**Stores**

Total expenditure £729,661 (Appendix 3, col. 10, page 55).

The expenditure under this head covers the purchase and maintenance of manual tools, road vehicles, tractors used for forest, nursery and road work, ploughs and other cultivating equipment, as well as road-making plant of various types, and also the hire of machinery. New equipment cost £294,578, repairs and maintenance £364,622, and hire of equipment £70,461. The total expenditure was £66,027 greater than in the previous year.

**Miscellaneous Expenditure**

Total expenditure £709,527 (Appendix 3, col. 11, page 55).

The major items under this head were payments for time lost owing to bad weather (£206,182), paid holidays (£146,902), sick pay (£61,579), and upkeep of hostels and bothies (£65,744). Also included under this head are the cost of transporting workers in isolated areas, farming and estate expenses, local rates, legal charges and pensions to forest workers. The total shows an increase of £93,394 over that of the previous year, and is mainly due to higher wage rates



### Private Forestry

Total expenditure under this head during the year was £262,624. This expenditure includes payments of grants under the Interim Planting Grant, Dedication, and other schemes, payments to the Liverpool Corporation in connection with a proceeds-sharing scheme at Lake Vyrnwy, and the salaries and other expenses of the staff engaged in administering these schemes and employed on agency and advisory work. Payments to the Liverpool Corporation included £18,237 to secure a half interest in the timber growing on an additional area taken into the scheme.

Details of the expenditure are as follows :—

	£
Interim Planting Grants	26,985
Dedication Schemes ...	31,120
Thinning Grants ... ..	102,554
Small Woods Planting Grants	12,174
Poplar Planting Grants ... ..	414
Grants to Co-operative Forestry Societies ...	2,157
Proceeds-sharing Scheme ... ..	24,415
Administration, including advisory services	62,805
<b>Total</b>	<b>£262,624</b>

### THE DEDICATION SCHEME

#### PROGRESS OF DEDICATION

Table 25

Year ended 30th September

	Great Britain		England		Scotland		Wales	
	Number of Dedications	Area (acres)	Number of Dedications	Area (acres)	Number of Dedications	Area (acres)	Number of Dedications	Area (acres)
Total, 1948-51	132	73,731	51	26,771	72	44,997	9	1,963
1948 ...	1	1,006	1	1,006	—	—	—	—
1949 ...	17	12,267	8	4,214	9	8,053	—	—
1950 ...	35	23,448	11	9,062	22	14,165	2	221
1951 ...	79	37,010	31	12,489	41	22,779	7	1,742

It is apparent from the above Table that the Dedication Scheme continues to forge steadily ahead. For the second year in succession the total area dedicated has virtually doubled during the year. The total number of Dedications completed at the 30th September, 1951, amounted to 132 and covered a woodland area of 73,731 acres. Further deeds of dedication relating to 110 estates with 70,326 acres of woodland were then in process of completion, plans of operations for 24 estates covering 6,650 acres were approved, and over 400 estates were engaged in preparing the plans of operation for their woodlands.

PLANTING ON PRIVATE ESTATES

Table 26 below summarises by number and area the planting grant schemes which were inspected and passed for payment during the year. They include : (1) Outstanding Interim Planting Grant Schemes of the type which were introduced to tide over the interval until the Dedication Scheme came into operation ; (2) Planting under the Dedication Scheme, including planting by owners who intend to dedicate by 30th June, 1953, and whose Plans of Operation have been approved by the Conservator ; (3) Small Woods Planting grants for planting carried out in woods considered to be in that category ; and (4) The special grants for poplar planting.

PLANTING UNDER STATE-AIDED SCHEMES

Areas inspected and Passed for Payment

Table 26 Year ended 30th September 1951

	Interim Planting Grants	Planting Under Dedication	Small Woods Planting	*Poplar Planting	Total
GREAT BRITAIN					
No. of Schemes ...	102	108	234	36	480
Total Area, acres ...	1,550	2,585	1,494	84	5,713
Conifers ...	976	2,180	926	—	4,082
Broadleaved ...	120	68	68	84	340
Mixed ...	454	337	500	—	1,291
				(3,541 trees)	
ENGLAND					
No. of Schemes ...	50	48	122	28	248
Total Area, acres ...	561	730	787	71	2,149
Conifers ...	76	476	369	—	921
Broadleaved ...	73	41	51	71	236
Mixed ...	412	213	367	—	992
				(2,992 trees)	
SCOTLAND					
No. of Schemes ...	49	43	85	8	185
Total Area, acres ...	962	1,663	544	13	3,182
Conifers ...	882	1,522	422	—	2,826
Broadleaved ...	47	27	12	13	99
Mixed ...	33	114	110	—	257
				(549 trees)	
WALES					
No. of Schemes ...	3	17	27	—	47
Total Area, acres ...	27	192	163	—	382
Conifers ...	18	182	135	—	335
Broadleaved ...	—	—	5	—	5
Mixed ...	9	10	23	—	42

\* Numbers of poplar trees relate to grants made on the " per tree " basis, and are additional to trees covered by acreage grants.

This table does not give a complete picture of grant-aided planting carried out during the year because it includes a number of schemes planted in earlier years and not inspected until the year under review. On the other hand some schemes which were planted in the current year have not yet been inspected. In addition there is a considerable amount of planting carried out on private estates without the aid of grants, the extent of which is only approximately known.

The following table, compiled from data supplied by the Conservators, provides an estimate of the planting actually carried out during the year on private estates including planting without the aid of grants. The heading "State-aided" includes all types of planting grants.

ESTIMATED TOTAL AREA OF PRIVATE PLANTING

Table 27 Year ended 30th September 1951 Acres

	State-aided	Planted without the aid of Grants	Total
GREAT BRITAIN ... ..	6,300	6,000	12,300
England ... ..	2,000	3,300	5,300
Scotland ... ..	4,000	2,200	6,200
Wales ... ..	300	500	800

The total of 12,300 acres estimated to have been planted during 1950-51 is less by almost 3,000 acres than the area planted last year and represents a break in the hitherto consistent progress of private planting since 1946-47 (See Table No. 1 on page 10). The Commissioners trust that the check will be only temporary.

THINNING GRANTS

The progress of the Thinning Grants Scheme has already been discussed on page 7. The table below gives details of the schemes inspected and passed for payment during the year.

THINNING GRANTS

Schemes Inspected and Passed for Payment

Table 28 Year ended 30th September, 1951

	Number of Schemes	Area (acres)	Estimated Volume (cubic feet)
GREAT BRITAIN ... ..	1,049	20,239	7,804,860
England ... ..	545	7,176	2,527,975
Scotland ... ..	443	12,000	4,939,883
Wales ... ..	61	1,063	337,002

As already stated in a previous section of this Report (page 7), the present year is the third and final year of the Thinning Grants Scheme in its present form. During these three years, 2,031 schemes covering 40,330 acres of thinning have been inspected and passed for payment. It is estimated that these schemes have yielded a total of 15.432 million cubic feet.

## Education

Expenditure under the Education head, which includes the maintenance of Forester Training Schools, Short Courses, the Forest Workers Training Scheme and also grants to Educational Institutions, amounted to £130,097; income, which consisted of payments by private employers for the 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 £40,058. Details will be found in Appendix 6 on page 58.

### FORESTER TRAINING SCHOOLS AND SHORT COURSES

Expenditure amounted to £77,872 made up as follows:—salaries and expenses of Instructors, £21,132; allowances to men under training, £30,910; and rents, stores, fuel, etc., £25,830. Expenditure on Notherwood House is also included.

Of the 269 men in residence at the five Forester Training Schools, 120 completed the 2-year training course and were awarded Forester Certificates. Of these 94 men were placed in employment with the Forestry Commission; 22 sought positions in Colonial forest services and in private forestry; and the four students nominated by the Government of Northern Ireland returned to that country on completion of their training. One man completed the course but failed to gain the Forester Certificate; he was awarded a Foreman's Certificate and will be permitted to take the Forester's examination again next year. The number of students in their first year of training was 143, including four men nominated by the Government of Northern Ireland, two from Cyprus and one from the Windward Islands. At the end of the year, three of the first-year men were not considered suitable for the further year's training and were awarded Foreman Certificates.

Short Courses for foresters and woodmen were held in the spring on two private estates—Raby Castle in Durham, and Darnaway in Morayshire. These courses were attended by 28 men, of whom 19 were from private estates and 9 from State Forests. All those attending the courses were successful in passing the examination held by the Royal Forestry Societies for the Woodman's Certificate (in England and Wales) and the Junior Forester's Certificate (in Scotland).

The thanks of the Commissioners are due to Lord Barnard and to the Earl of Moray for the facilities which they provided for these Courses.

### FOREST WORKERS TRAINING SCHEME

Expenditure under this Scheme amounted to £16,950, of which £9,603 represented allowances to trainees and £7,347 expenditure on the maintenance of Training Centres. The numbers of applicants coming forward for training had fallen considerably during the previous year and the Ministry of Labour decided that no further applicants should be accepted for training under this Scheme after 30th June 1951. During the year under review 116 men either completed their full year's training or entered a Forester Training School. Of this number, 51 entered the employment of the Forestry Commission, 12 were employed by private estates, 50 entered Forester Training Schools and 3 took employment other than forestry. At the end of September 1951, 21 men were in training; of these, 20 were employed in State Forests and one on a private estate.

### NORTHERWOOD HOUSE

Parties of students from five Universities, Oxford, Cambridge, Aberdeen, Edinburgh and the University College of North Wales were accommodated at Notherwood House for five months, whilst studying working plan methods

and silviculture in the New Forest. Four short courses on forest practice were given for landowners and timber merchants, and one for members of the National Trust. The success of the course for school teachers given in August 1950 led to its repetition in 1951 when it was again well attended. 15 Courses were held for the Commissioners' staff, covering the following subjects : Nursery Work (2), Management (2), Utilisation (2), Fire Protection (3), Silviculture (1), the work of Private Woodland Officers (1), Organisation (for office staff) (3), and Accounting (for office staff) (1).

#### GRANTS TO EDUCATIONAL INSTITUTIONS

Grants for educational purposes amounting to £15,167 were made during the year as follows :—

	£
University of Aberdeen ... ..	1,524
Imperial Forestry Institute, Oxford ...	10,199
University College of North Wales, Bangor ... ..	1,519
University of Cambridge ... ..	425
University of Edinburgh ... ..	1,500
	<hr/>
Total ...	15,167
	<hr/>

#### Research and Experiment

Research work and special investigations into forestry problems were continued at the Forest Research Station, Alice Holt Lodge, near Farnham, Surrey, and also in experimental areas in many forests in England, Scotland and Wales. Expenditure amounted to £164,211, as compared with £129,938 in the previous year (for details see Appendix 7, page 59).

A brief outline of some of the more important work undertaken during the year is given in the following paragraphs. Fuller accounts of research projects will be found in the *Report on Forest Research for the Year ending March 1951*.\*

During the year the Research Station at Alice Holt was visited by 306 forest officers and students. These included the International Poplar Congress, the Society of Foresters of Great Britain, the Royal Forestry Society of England and Wales, the Forestry Commission Research Advisory Committee, parties of students from the forestry departments of Bangor University, Oxford University, and Aberdeen University, and from Technical Colleges and Natural History Societies. Visitors came from the following Commonwealth and foreign countries—Australia, Austria, Belgium, Canada, Denmark, France, Germany, India, Ireland, Italy, Libya, Malaya, Netherlands, New Zealand, Norway, Sierra Leone, South Africa, Sweden, Switzerland, Tanganyika, and Turkey.

#### SILVICULTURE

Large numbers of samples of cones of different species from forests throughout the country were examined for seed content and seed viability (tested by the "tetrazolium" method) and recommendations were made on the suitability or otherwise of each stand for bulk collection. Much uneconomic collection was thereby avoided. Four years work on the treatment of conifer seed before sowing was concluded and recommendations for altering present methods of treatment for certain species have been made. Work on the partial sterilisation of infertile seedbeds in old established nurseries

\* To be published shortly by H.M.S.O.

continued, partly to devise cheaper methods of carrying out the operation, and partly to study the factors responsible for the remarkable restoration of fertility that in many cases follows sterilisation. Preliminary experiments were started on the use of overhead irrigation in nurseries, and progress was made in chemical methods of weed control using various vaporising oils and white spirits. More tests and user trials are necessary before practical applications on a large scale can be safely recommended.

Experiments on the afforestation of difficult peaty soils in Caithness and Sutherland are in progress; trial plantations have made an excellent start, but it remains to be seen how the various species and mixtures will develop. A study is being made of methods of raising shelterbelts in Caithness for protecting agricultural land.

A detailed survey of plantations growing on opencast ironstone mining areas has provided interesting information on the success of the species used. In general larch, especially the hybrid larch, and sycamore have been the most successful species on the majority of soils. Scots pine and Corsican pine have done fairly well, but the spruces, Douglas fir, ash, oak and elm have shown little promise.

Derelict woodland investigations remain one of the most important items on the silvicultural research programme. In order to try and define the problems more clearly and to ascertain where the bulk of the problem lies, a survey and reclassification of derelict woodlands in the South East and South West Conservancies of England was made according to underlying geology, soil and forest type. Nearly half the area lies on the fertile (according to forestry standards) or moderately fertile loam soils (about 117,000 acres out of 243,000 acres), and less than one sixth on the soils over chalk and oolite. The predominant forest type was "Scrub" constituting nearly one third of the area (76,000 acres) while one sixth was classed as "Devastated". Inferior coppice and coppice-with-standards together made up a quarter (66,000 acres), the balance being felled areas and derelict broadleaved high forest.

Work has continued in the demonstration area at Weston Common, Alton Forest, Hants, in which a derelict crop is being rehabilitated according to a detailed plan, all operations being carefully costed.

Beech is a species likely to be largely used in rehabilitation of derelict woodlands, and special studies have been made of the factors affecting early growth and forking. It was found that light intensities down to about twenty per cent. of full overhead light had little effect on the rate of growth of very young beech, but that below twenty per cent. serious retardation may be caused. The factors affecting forking and the persistence or otherwise of forks once caused were also investigated.

#### FOREST GENETICS

Steady progress has been made in the survey and selection of plantations for seed collection and of superior individual trees for testing for breeding purposes. The main species under study are Corsican pine, beech, European larch, and Scots pine. Methods of propagating the selected trees vegetatively have been worked out and many thousands of grafts for testing purposes have been made. The first "seed orchard" of European larch from selected parent trees has been laid down.

Poplars and poplar cultivation continued to receive intensive attention. The collection of different clones numbered 224 at the end of the year, and varietal trials of promising clones have now been established in seventeen different localities. Experiments are in progress to determine the best

methods of raising poplar plantations on different types of ground. Studies on disease resistance were continued and certified stocks of four approved varieties, *P. serotina*, *P. serotina* (narrow crowned type), *P. gelrica*, and *P. robusta* were supplied to nurserymen and Forestry Commission nurseries for the third consecutive year, in increasing quantity. The Fourth International Poplar Congress met in Great Britain this year with forty experts from fourteen countries.

#### STUDIES OF GROWTH AND YIELD

The establishment of 31 new sample plots has brought the total number of permanent sample plots up to 470. Table 29 shows their distribution by countries.

PERMANENT SAMPLE PLOTS  
Year ended 30th September 1951

	Great Britain	England	Scotland	Wales
In being on 1st October, 1950 ... ..	441	200	178	63
New plots established during the year ... ..	31	6	14	11
Plots abandoned (felled, blown, etc.) during the year ... ..	2	2	—	—
In being on 30th September, 1951 ... ..	470	204	192	74
Re-measured during the year ... ..	149	40	77	32

Some of the new plots were laid down in larch provenance experiments to obtain comparative data for larch of different seed origins.

An increasing amount of work was undertaken on the statistical analysis of experiments, and advising on their design and layout, as well as on sampling techniques. The nucleus of a section to deal with such work has been formed.

General volume tables for Scots pine, European larch, Norway and Sitka spruces and Corsican pine have been completed and published. (See page 49.) The revision of yield tables for conifers has proceeded. Revised thinning schedules have been prepared and published in a new edition of the booklet *The Thinning of Plantations*.\*

An investigation into methods of sampling for forest enumerations indicated that satisfactory estimates of volume and increment of a 500-acre block of woodland can be obtained, given proper sampling methods, with a sampling fraction of only one per cent.

#### FOREST PATHOLOGY

Although a wide range of tree diseases was kept under observation intensive work has had to be confined to a few of the more important of these, including the group dying of Sitka spruce, and the dying back from the top, usually in groups, of Norway spruce. These are quite distinct diseases, for while the group dying of Sitka spruce may be attributable to soil conditions, the Norway spruce disease is almost certainly not, and has all the appearance of attack by a virulent pathogenic organism.

Other diseases causing some concern are the debility of Corsican pine on certain sites in North England and Scotland and the dying of Scots pine on calcareous soils. Two leaf-cast diseases, namely *Phaeocryptopus gäumannii* on Douglas fir and *Lophodermium pinastri* on pines are locally troublesome.

\* H.M.S.O. 1s. 3d.

Of the diseases affecting broadleaved trees the following are receiving special attention:—A canker disease of the beech; elm disease, with special reference to the possible control of the disease on specimen trees by the use of insecticides, because the fungus is spread by the elm bark beetle; and the bacterial canker of poplars. Some further work has been done to ascertain the distribution of the new sycamore disease which first appeared in Wanstead Park, London. The fungus causing the disease has now been identified as *Cryptostroma corticale*.

#### FOREST ENTOMOLOGY

The main activity of the Entomological Section has been the study of the Green Spruce Aphis (*Neomyzaphis abietina* Walker). It is interesting to note that there is no evidence of any egg stage, and propagation appears to be entirely asexual. The seasonal fluctuations in population and the relative susceptibility of different species of spruce to attack have been investigated.

Last year's survey of activity of various species of sawflies on larch and spruce has been followed up; in general, activity was less than in the previous year. A preliminary survey has also been made of the seedfly *Megastigmus spermotrophus* which causes serious damage to seed crops of Douglas fir and various other conifers.

Collections of Pine Shoot Tortrix have been made in various parts of the country to determine its parasites. It is a matter of some interest to record that these included a species, *Copidosoma geniculatum*, imported from Austria and released in 1936. There was no evidence however that this parasite was playing any important part in controlling the Tortrix.

Considerable consignments of the parasite *Ibalia leucospoides* Hocknw. were sent by air to New Zealand for the control of *Sirex* "wood wasps" in the extensive new coniferous forests there.

#### MACHINERY RESEARCH

Progress was made in the following mechanical development projects:—Field trials of British makes of crawler tractors to replace imported machines which are no longer procurable, special attention being given to tractors suitable for traversing soft peaty ground; the development of ploughs for draining and planting including trials of a plough mounted on a tracked tractor; trials of power-operated cableways and of aluminium chutes for the extraction of timber from hilly country; and tests of peeling machines for small diameter poles.

Preliminary trials of machines for clearing derelict woodland have been made, and vehicles for haulage over various types of ground are under investigation.

Tests with a self-pressurised back-pack fire extinguisher indicated the unsuitability of this type owing to the reduced amount of water that can be carried. Development of machines is in progress for applying formalin and weedkillers to nursery seedbeds, and for root-pruning seedlings. The Swedish "H.I.A.B." hoist has proved a useful device for loading poles on to lorries.

#### ADVISORY COMMITTEE ON FOREST RESEARCH

This Committee met twice during the year, in London in the winter and at Scarborough in the autumn, to review the work of the Research Branch. During the latter meeting, visits were made to the experiments in Allerston forest (E. Yorkshire), and the work of the team of soil research workers from the Forestry Department, Oxford University, was seen.



## UTILISATION RESEARCH

A Utilisation Development Officer has been appointed and started work during the year under review.

## GRANTS TO UNIVERSITIES AND OTHER INSTITUTIONS

The Commissioners have continued to make grants for research work on special forestry problems of a fundamental scientific nature to be carried out in the Forestry Departments of the Universities and other institutions qualified to undertake such work. The grants made during the year included £1,509 to Rothamsted Experimental Station for work on the nutrition of trees in forest nurseries, £865 to Dr. Levisohn of Bedford College, University of London, for research in soil mycology as affecting tree growth. For the furtherance of research on forest soils, grants totalling £4,819 were made to the Macaulay Institute for Soil Research, Aberdeen, the Rothamsted Experimental Station and the Imperial Forestry Institute, Oxford. The researches undertaken at these centres include studies of the influence of tree growth on soil profile development, and other chemical, physical and biological changes that take place in soils after afforestation.

Other grants have been made in connection with botanical studies of tree variation, and investigation of the *Megastigmus* seedfly. Research has also been done (without grants) on the control of *Fomes annosus* in East Anglian pines (Cambridge University), the effect of partial sterilisation of forest nursery soils on the fungal flora of the soil (Cambridge University) and on the nesting of insectivorous birds in bird boxes in forests (by the Edward Grey Institute for Field Ornithology).

## Publications

The following sixteen new publications\* were issued during the year:—

- (1) Annual Report, 1949. (H.C.5.)
- (2) Annual Report, 1950. (H.C.214.)
- (3) Report on Forest Research, 1950.
- (4) Booklet 3. Chestnut Blight.
- (5) Guide to the National Pinetum and Forest Plots at Bedgebury.
- (6) Britain's Forests, Tintern.
- (7) Britain's Forests, Cannock Chase.
- (8) Britain's Forests, Coed y Brenin (and Welsh Version, Hanes Coed y Brenin).
- (9) Forest Record 3. Census of Woodlands, 1947-49.
- (10) Forest Record 4. Cambial Injuries in a Pruned Stand of Norway Spruce.
- (11) Forest Record 5. General Volume Table for Oak in Great Britain.
- (12) Forest Record 6. General Volume Table for Beech in Great Britain.
- (13) Forest Record 7. General Volume Table for Birch in Great Britain.
- (14) Forest Record 8. General Volume Tables for Scots Pine in Great Britain.
- (15) Forest Record 9. General Volume Tables for European Larch in Great Britain.
- (16) Forest Record 10. General Volume Tables for Norway Spruce in Great Britain.

\* Published by H.M. Stationery Office at the following prices: No. 1, 4s. 0d.; No. 2, 2s. 6d.; No. 3, 3s. 6d.; Nos. 4 & 5, 2s. 6d. each; Nos. 6 & 7, 9d. each; Nos. 8 & 9, 6d. each; No. 10, 9d.; Nos. 11 & 12, 4d. each; No. 13, 3d.; Nos. 14 & 15, 9d. each; No. 16, 1s. 0d.

The Booklet on *Chestnut Blight* deals with the serious *Endothia* disease of the sweet chestnut now prevalent in some parts of Europe but so far unknown in Great Britain. This booklet, which contains reproductions in full colour of five drawings of the disease, has attracted considerable attention abroad, and requests to reprint the booklet have been received from Spain and Greece.

The *Guide to the National Pinetum and Forest Plots at Bedgebury* describes the unique and attractive collection of coniferous trees from all parts of the world, which is maintained there in co-operation with the Royal Botanic Gardens, Kew. Members of the Kew staff collaborated in the preparation of this booklet.

Forest Records Nos. 5 to 10 inclusive are *General Volume Tables* for timber trees commonly grown in Britain; these are used to estimate the volume of standing timber, and were prepared by the staff of the Forest Research Station at Alice Holt.

Three new publications, namely *Tintern, Cannock Chase, and Coed y Brenin*, were added to the "Britain's Forests" series. These illustrated booklets are designed to make better known to the public the work of the Commission, and seven have been issued so far.

Bulletin No. 14, *Forestry Practice\** and Forest Operations Series No. 1, *The Thinning of Plantations†* were revised during the year, and eight other publications were reprinted.

In addition to the foregoing priced publications, a pamphlet entitled *State Aid available to Woodland Owners‡* was issued for the information of landowners, estate agents, and others.

### Publicity and Public Relations

The Commissioners continued to take special steps to keep the public informed of their work and, as in previous years, much valuable help was forthcoming from the Press.

More than 20 notices concerning forestry were issued to newspapers and other publications. Press conferences were held to draw attention to certain aspects of forestry. Arrangements were made for Press representatives to see forest operations in the Cowal Peninsula, Argyllshire, and at Cannock Chase, Staffordshire, one of the areas where the Commissioners have established extensive plantations which are now supplying pitwood to the adjacent coalmines; a Press visit was also made to Dovey Forest, North Wales. Several of the State forests were the subjects of special broadcasts by the B.B.C., and others were mentioned in various programmes.

Lectures were arranged on behalf of the Department by the Central Office of Information, nearly 100 talks being given by officers of the Forestry Commission and some 300 talks by C.O.I. speakers.

Help was given to the Festival of Britain authorities in staging the forestry section at the South Bank Exhibition in which were displayed a number of scale models, including representations of the Snowdonia National Forest Park, Culbin Forest in Morayshire, the new forest village of Kielder in Northumberland, and the Dudmaston, Shropshire, estate of Captain Wolryche-Whitmore, a private estate which is noted for its high standard of forest management. An exhibit was staged at the Highland and Islands Festival

\* H.M.S.O. 2s. 6d.

† H.M.S.O. 1s. 3d.

‡ Obtainable on request from the Secretary, Forestry Commission, 25, Savile Row, London, W.1.

at Inverness, and material provided for other Festival events at Penrith, Chepstow, Newport and Fort William. Further participation in the Festival took the form of "At Home Days in the Forest", a number of local authorities accepting invitations to visit forests along with members of the public, and to plant commemorative trees.

Display material for instructional purposes was loaned to numerous schools and other educational establishments, and many requests for information from students and others were dealt with.

The Commissioners provided forestry exhibits at 16 major agricultural shows, including the Royal Show at Cambridge, the Royal Highland Show at Aberdeen, the Royal Welsh Show at Builth Wells and the Bath and West Show at Dorchester. The exhibits were well attended and the forestry staff in attendance dealt with many requests for technical information and advice on forestry problems.

### National Forest Parks

An important development during the year was the designation by the Commissioners of a new National Forest Park situated in the Trossachs in Central Scotland. The new Forest Park, the fourth to be established in Scotland, will be known as the Loch Ard National Forest Park, comprising the Forest of Loch Ard together with the newly-acquired property of Rowardennan to the west, and covering an area of some 39,000 acres, of which 10,635 acres are under forest. The Park stretches from Loch Venachar to Loch Lomond, and includes the southern slopes of those fine peaks, Ben Venue and Ben Lomond. Two camping grounds, with the usual facilities, are to be provided.

The six Forest Parks already established continue to be well patronised by holiday makers; the number of visitors making overnight stays on the Park camping grounds was 53,600, an increase of nearly 11,000 over the previous year.

The details are as follows:—

<i>Forest Park</i>	<i>Number of overnight stays at camping grounds</i>
Forest of Dean ... ..	1,900
Hardknott (Lake District) ...	No site
Argyll ... ..	25,800
Glen More (Cairngorms)	19,200
Glen Trool (Galloway)	5,100
Snowdonia	1,600
	<hr/> 53,600 <hr/>

### **Acknowledgement to Staff**

The Commissioners gratefully acknowledge the loyal service they have received from their staff at all levels.

(Signed) ROBINSON (*Chairman*)  
RADNOR (*Deputy Chairman*)  
J. M. BANNERMAN  
R. C. G. COTTERELL  
LLOYD O. OWEN  
JOHN STIRLING  
W. H. VAUGHAN  
JOHN WALTON  
STANLEY LONGHURST

H. A. TURNER, *Secretary*.  
25, Savile Row,  
London, W.1.

# APPENDICES

## Appendix 1

### PAYMENTS BY HEADS OF ACCOUNT, AND RECEIPTS

£

Year ending 30th September	Payments											Receipts (12)	Net Payments (13)
	Total (1)	Salaries Wages and Allow- ances (2)	Head- quarters Charges (3)	Charges of Directors of Forestry (4)	Charges of Conserva- tors (5)	Forestry Opera- tions (6)	Private Forestry (7)	Education (8)	Research and Experi- ment (9)	Special Services (10)	Forest Workers Holdings (11)		
Grand Total 1920-51	53,704,412	4,359,035	223,497	281,311	762,021	43,251,670	1,067,390	1,340,022	537,105	816,748	1,060,613	13,446,708	40,257,704
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
1940-46	8,864,948	715,237	38,842	46,812	114,266	7,614,484	76,970	88,459	76,347	2,346	91,185	4,346,542	4,518,406
1947 ...	3,870,060	315,582	10,701	20,112	67,250	2,886,341	48,544	286,438	34,655	174,027	26,410	659,062	3,210,998
1948 ...	6,622,524	429,552	20,381	34,322	96,532	5,010,696	75,204	326,151	52,216	545,545	31,925	1,069,749	5,552,775
1949 ...	6,881,257	480,677	25,511	29,646	89,452	5,798,466	87,618	231,001	68,802	35,457	34,627	1,350,425	5,530,832
1950 ...	7,025,414	542,125	27,581	38,557	105,383	5,893,670	145,616	145,060	80,439	11,114	35,869	1,535,748	5,489,666
1951 ...	8,012,098	667,362	29,802	31,791	107,453	6,696,259	205,185	113,371	102,803	11,236	46,836	1,811,846	6,200,252

*Note*.—Appendix 1 gives the payments, analysed by major heads of account, and the total receipts.

## Appendix 2

## EXPENDITURE AND INCOME

£

Year ending 30th September	Expenditure								Income				Net Expendi- ture  (13)
	Total (1)	Forestry Opera- tions (Appendix 3) (2)	Private Forestry (3)	Education (Appendix 6) (4)	Research and Ex- periment (Appendix 7) (5)	Special Services (Appendix 8) (6)	Forest Workers Holdings (Appendix 5) (7)	Total (8)	Forestry Opera- tions (Appendix 3) (9)	Education (Appendix 6) (10)	Forest Workers Holdings (Appendix 5) (11)	Miscel- laneous (12)	
Grand Total 1920-51	54,749,812	48,411,762	1,415,884	1,587,787	918,415	1,099,058	1,316,906	14,501,042	13,592,116	414,045	461,214	33,667	40,248,770
Percentage ...	100	88.4	2.6	2.9	1.7	2.0	2.4	100	93.7	2.9	3.2	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
1940-46	9,036,448	8,502,295	130,500	118,418	132,989	11,275	140,971	4,508,052	4,339,350	12,690	149,858	6,154	4,528,396
1947 ...	4,174,509	3,415,770	104,911	331,087	65,268	222,241	35,232	745,991	629,009	94,284	21,803	895	3,428,518
1948 ...	6,752,392	5,549,723	98,839	363,017	92,056	608,587	40,170	1,257,814	1,125,861	108,495	22,131	1,327	5,494,578
1949 ...	6,853,245	6,264,861	116,968	268,625	114,058	46,411	42,322	1,456,984	1,333,508	97,306	22,946	3,224	5,396,261
1950 ...	7,224,049	6,630,693	194,348	177,232	129,938	45,045	46,793	1,677,600	1,588,147	58,342	25,329	5,782	5,546,449
1951 ...	8,153,365	7,479,263	262,624	130,097	164,211	61,506	55,664	1,994,499	1,924,119	40,058	22,776	7,546	6,158,866

Note.—Appendix 2 is a statement of expenditure and income. In this Table amounts due to or by the Commissioners at the end of the Forest Year have been brought into account; salaries and overheads shown in columns (2) to (5) of Appendix 1 are distributed over the heads of account to which they are appropriate; income from Forestry Operations, Education, etc., is shown separately; and adjustments have been made between heads of account in respect of transactions not reflected in the cash accounts, such as the value of produce used for forest purposes.

In Appendices 3 to 8, pages 55 to 59, the expenditure and income under certain of the heads given in Appendix 2 are shown in greater detail.

Year ending 30th September	Expenditure (Appendix 2, Column 2)											Income (Appendix 2, Column 9)					Net Expenditure (17)
	Total (1)	Overhead Charges (2)	Superior Supervision (3)	Local Supervision (4)	Acquisition of Land, etc. (5)	Cultural Operations (Appendix 4) (6)	Preparation and Sale of Produce (7)	Roads (8)	Buildings (9)	Stores (10)	Miscellaneous (11)	Total (12)	Sales of Land and Buildings (13)	Rents and Royalties (14)	Forest Produce (15)	Other (16)	
Grand Total 1920-51 ...	48,411,762	1,780,404	2,323,204	3,208,763	4,437,521	18,247,181	4,249,287	2,347,635	3,973,950	3,316,879	4,526,938	13,592,116	392,206	2,275,275	9,650,996	1,273,639	34,819,646
Percentage	100	3.7	4.8	6.6	9.2	37.7	8.8	4.8	8.2	6.8	9.4	100	2.9	16.7	71.0	9.4	—
1920-29 ...	3,512,577	192,997	201,122	174,130	787,509	1,510,801	118,853	37,502	77,986	41,733	369,944	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	61,872	184,981	86,845	577,227	1,770,014	76,484	791,032	699,094	203,404	5,286,566
1940-46 ...	8,502,295	328,540	363,327	786,264	844,373	4,017,389	661,820	107,019	169,986	294,370	929,207	4,339,350	131,118	655,486	3,243,074	309,672	4,162,945
1947 ...	3,415,770	121,225	181,096	248,404	78,648	1,351,964	288,655	208,194	462,808	309,475	629,009	629,009	759	94,346	436,111	97,793	2,786,761
1948 ...	5,549,723	159,773	234,174	296,817	136,850	1,967,912	637,370	484,291	658,869	492,129	481,538	1,125,861	8,924	101,667	905,315	109,955	4,423,862
1949 ...	6,264,861	196,906	283,352	368,906	262,234	2,070,139	701,487	539,656	762,595	545,699	533,887	1,333,508	3,781	108,414	1,089,888	131,425	4,931,353
1950 ...	6,630,693	208,208	327,089	413,735	267,599	2,073,924	724,081	444,812	891,478	663,634	616,133	1,588,147	12,218	122,842	1,293,212	159,875	5,042,546
1951 ...	7,479,263	240,695	380,995	426,846	525,837	2,184,033	754,626	464,289	1,062,754	729,661	709,527	1,924,119	80,138	127,397	1,577,708	138,876	5,555,144

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- 1951 ... ..	18,247,181	13,537,003	5,624,461	5,533,049	2,379,493	4,710,178
<i>Percentage of Column 2</i> ...	—	100	41·5	40·9	17·6	—
<i>Percentage of Column 1</i> ...	100	74·2	30·8	30·3	13·1	25·8
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
1940-46 ... ..	4,017,389	2,887,232	769,318	1,433,045	684,869	1,130,157
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
1949 ... ..	2,070,139	1,552,022	672,502	611,185	268,335	518,117
1950 ... ..	2,073,924	1,564,759	728,157	591,077	245,525	509,165
1951 ... ..	2,184,033	1,698,867	782,735	646,492	269,640	485,166



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 1920-51 ...	1,316,906	217,793	211,534	450,423	109,863	225,602	60,001	41,690	461,214	456,246	4,968	855,692		
Percentage ...	100	16.5	16.1	34.2	8.3	17.1	4.6	3.2	100	98.9	1.1	—		
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		
1940-46 ...	140,971	47,706	7,542(Cr.)	19,388	7,942	56,204	6,527	10,746	149,858	148,766	1,092	8,887(Cr.)		
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		
1949 ...	42,322	7,001	1,087	420	2,953	25,940	1,620	3,301	22,946	22,529	417	19,376		
1950 ...	46,793	8,497	1,063	1,305	6,023	24,464	2,125	3,316	25,329	25,120	209	21,464		
1951 ...	55,664	10,147	1,524	610	8,988	28,460	2,061	3,874	22,776	22,120	656	32,888		

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- 1951 ... ..	18,247,181	13,537,003	5,624,461	5,533,049	2,379,493	4,710,178
<i>Percentage of Column 2</i> ...	—	100	41·5	40·9	17·6	—
<i>Percentage of Column 1</i> ...	100	74·2	30·8	30·3	13·1	25·8
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
1940-46 ... ..	4,017,389	2,887,232	769,318	1,433,045	684,869	1,130,157
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
1949 ... ..	2,070,139	1,552,022	672,502	611,185	268,335	518,117
1950 ... ..	2,073,924	1,564,759	728,157	591,077	245,525	509,165
1951 ... ..	2,184,033	1,698,867	782,735	646,492	269,640	485,166

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 1920-51 ...	1,316,906	217,793	211,534	450,423	109,863	225,602	60,001	41,690	461,214	456,246	4,968	855,692		
Percentage ...	100	16.5	16.1	34.2	8.3	17.1	4.6	3.2	100	98.9	1.1	—		
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		
1940-46 ...	140,971	47,706	7,542(Cr.)	19,388	7,942	56,204	6,527	10,746	149,858	148,766	1,092	8,887(Cr.)		
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		
1949 ...	42,322	7,001	1,087	420	2,953	25,940	1,620	3,301	22,946	22,529	417	19,376		
1950 ...	46,793	8,497	1,063	1,305	6,023	24,464	2,125	3,316	25,329	25,120	209	21,464		
1951 ...	55,664	10,147	1,524	610	8,988	28,460	2,061	3,874	22,776	22,120	656	32,888		

Year ending 30th September	Expenditure (Appendix 2, Column 4)										Income (Appendix 2, Column 10)	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	1,587,787	95,546	56,271	120,990	200,960	268,483	402,053	288,454	155,030	414,045	1,173,742	
1920-51 ...	100	6.0	3.5	7.6	12.7	16.9	25.3	18.2	9.8	—	—	
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	
1940-46 ...	118,418	13,082	—	9,951	15,219	12,406	34,148	10,204	23,408	12,690	105,728	
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	
1949 ...	268,625	11,200	12,632	17,713	33,445	43,012	75,965	61,456	13,202	97,306	171,319	
1950 ...	177,232	9,559	12,046	18,902	32,914	42,744	26,451	22,130	12,486	58,342	118,890	
1951 ...	130,097	6,704	13,404	21,132	30,910	25,830	9,603	7,347	15,167	40,058	90,039	

## RESEARCH AND EXPERIMENT: EXPENDITURE AND INCOME

## Appendix 7

£

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)		
Grand Total 1920-51 ...	918,415	73,626	406,406	353,410	84,973	10,915	907,500
Percentage ...	100	8.0	44.3	38.5	9.2	—	—
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
1940-46 ...	132,989	8,740	63,948	46,394	13,907	2,120	130,869
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
1949 ...	114,058	7,001	55,244	44,027	7,786	1,248	112,810
1950 ...	129,938	8,497	56,691	55,534	9,216	1,194	128,744
1951 ...	164,211	9,673	66,461	78,341	9,736	1,909	162,302

## SPECIAL SERVICES: EXPENDITURE AND INCOME

## Appendix 8

£

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)		
Grand Total 1920-51	1,099,058	173,424	677	12,872	131,092	780,993	592	1,098,466
Percentage	100	15.8	0.1	1.2	11.9	71.0	—	—
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
1940-46 ...	11,275	8,740	9	2	2,524	—	18	11,257
1947 ...	222,241	6,341	—	2,507	17,613	195,780	25	222,216
1948 ...	608,587	6,119	—	1,400	35,683	565,385	19	608,568
1949 ...	46,411	12,601	—	1,860	31,950	—	11	46,400
1950 ...	45,045	33,988	—	2,410	8,647	—	14	45,031
1951 ...	61,506	50,352	—	1,419	9,735	—	125	61,381

Country or Conservancy	Total Area Planted (Acres)	Details of Area Planted (Acres)					
		Coniferous Total	Broad-leaved, Total	Afforested		Replanted	
				Conifers	Broad-leaved	Conifers	Broad-leaved
GREAT BRITAIN ...	57,164	52,246	4,918	37,434	584	14,812	4,334
ENGLAND: ...	17,491	13,590	3,901	9,201	431	4,389	3,470
Conservancy:							
North West ...	2,883	2,648	235	1,417	34	1,231	201
North East ...	7,146	6,980	166	6,479	67	501	99
East ...	1,891	1,027	864	232	140	795	724
South East ...	1,968	687	1,281	88	140	599	1,141
South West ...	2,374	1,300	1,074	980	48	320	1,026
New Forest ...	879	832	47	5	2	827	45
Dean Forest...	350	116	234	—	—	116	234
SCOTLAND: ...	26,960	26,753	207	18,057	53	8,696	154
Conservancy:							
North ...	6,531	6,497	34	2,612	6	3,885	28
East ...	7,307	7,229	78	3,685	15	3,544	63
South ...	7,714	7,658	56	7,004	10	654	46
West ...	5,408	5,369	39	4,756	22	613	17
WALES: ...	12,713	11,903	810	10,176	100	1,727	710
Conservancy:							
North ...	6,421	5,991	430	5,245	46	746	384
South ...	6,292	5,912	380	4,931	54	981	326

ENDED 30TH SEPTEMBER, 1951—SUMMARY BY CONSERVANCIES

Total plants used	Species Planted, including Beating Up (Thousands of plants)										
	Scots Pine	Corsican Pine	European Larch	Japanese Larch	Douglas Fir	Norway Spruce	Sitka Spruce	Oak	Beech	Other Species	
										Conifers	Broad leaved
114,939	20,756	9,566	720	15,703	2,717	13,766	34,294	3,643	7,421	5,359	994
36,656	4,837	6,348	50	2,990	1,405	3,941	7,446	2,654	5,907	526	552
5,372	707	1,175	—	792	132	386	1,700	84	253	72	71
13,126	2,545	327	—	1,729	191	2,584	5,139	—	460	86	65
5,637	427	2,421	—	17	236	422	—	1,098	706	112	198
4,790	723	312	—	99	347	233	—	282	2,777	8	9
4,666	172	1,425	4	275	4	180	587	303	1,457	183	76
1,659	251	662	—	38	435	57	18	36	105	19	38
1,406	12	26	46	40	60	79	2	851	149	46	95
51,840	13,164	1,288	655	7,181	775	7,244	17,620	262	193	3,341	117
13,128	6,014	59	260	1,615	236	1,385	2,680	5	44	806	24
15,117	5,220	916	241	2,994	330	1,601	2,175	86	75	1,440	39
14,398	1,037	148	17	1,651	145	2,939	7,795	156	24	445	41
9,197	893	165	137	921	64	1,319	4,970	15	50	650	13
26,443	2,755	1,930	15	5,532	537	2,581	9,228	727	1,321	1,492	325
13,618	890	1,303	15	2,009	243	826	5,863	503	600	1,194	172
12,825	1,865	627	—	3,523	294	1,755	3,365	224	721	298	153

SUMMARY OF SPECIES USED FOR PLANTING AND BEATING UP

Appendix 10

Year ended 30th September 1951

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 ...	114,939	95,266	19,673	36,656	27,557	9,099	51,840	46,103	5,737	26,443	21,606	4,837
Scots Pine ...	20,756	17,588	3,168	4,837	3,279	1,558	13,164	12,176	988	2,755	2,133	622
Corsican Pine ...	9,566	6,887	2,679	6,348	4,565	1,783	1,288	1,135	153	1,930	1,187	743
European Larch ...	720	641	79	50	19	31	655	607	48	15	15	—
Japanese Larch ...	15,703	12,399	3,304	2,990	2,063	927	7,181	6,137	1,044	5,532	4,199	1,333
Douglas Fir ...	2,717	1,981	736	1,405	962	443	775	658	117	537	361	176
Norway Spruce ...	13,766	11,737	2,029	3,941	3,139	802	7,244	6,383	861	2,581	2,215	366
Sitka Spruce ...	34,294	30,604	3,690	7,446	6,812	634	17,620	15,544	2,076	9,228	8,248	980
Tsuga heterophylla ...	539	466	73	54	42	12	203	171	32	282	253	29
Thuja plicata ...	362	331	31	107	81	26	46	43	3	209	207	2
Pinus contorta ...	2,871	2,480	391	89	85	4	2,093	1,862	231	689	533	156
Hybrid Larch ...	242	196	46	4	—	4	238	196	42	—	—	—
Lawson Cypress ...	657	563	94	110	80	30	547	483	64	—	—	—
Picea omorika ...	5	5	—	5	—	—	5	5	—	—	—	—
Abies grandis ...	222	180	42	134	96	38	88	84	4	—	—	—
Ash ...	123	104	19	25	11	14	61	60	1	37	33	4
Beech ...	7,421	5,392	2,029	5,907	4,179	1,728	193	154	39	1,321	1,059	262
Oak ...	3,643	2,716	927	2,654	1,787	867	262	245	17	727	684	43
Sycamore ...	73	64	9	12	9	3	38	36	2	23	19	4
Other Conifers ...	460	354	106	28	18	10	121	106	15	311	230	81
Other Broadleaved ...	799	578	221	515	330	185	18	18	—	266	230	36



SUMMARY AREA STATEMENT OF LAND USE: BY CONSERVANCIES

Appendix 11

At 30th September, 1951

Acres

Country or Conservancy	Total	Planted during year ended 30th September, 1951		Under Plantations	Provisional Allocation of Other Land	
		Aforested	Re-planted		Plantable	Agricultural, Unplantable, &c.
GREAT BRITAIN ... ..	1,781,510	38,018	19,146	736,975	337,194	707,341
ENGLAND: ... ..	574,154	9,632	7,859	320,289	111,960	141,905
North West Conservancy	92,441	1,451	1,432	49,500	22,836	20,105
North East Conservancy	183,222	6,546	600	78,343	50,967	53,912
East Conservancy ... ..	97,474	372	1,519	68,809	9,587	19,078
South East Conservancy	44,243	228	1,740	29,703	12,592	1,948
South West Conservancy	56,765	1,028	1,346	37,527	13,598	5,640
New Forest ... ..	74,808	7	872	36,161	1,226	37,421
Dean Forest ... ..	25,201	—	350	20,246	1,154	3,801
SCOTLAND: ... ..	973,788	18,110	8,850	289,236	178,822	505,730
North Conservancy ... ..	347,819	2,618	3,913	74,996	42,439	230,384
East Conservancy ... ..	176,342	3,700	3,607	87,655	43,961	44,726
South Conservancy ... ..	200,386	7,014	700	55,910	56,607	87,869
West Conservancy ... ..	249,241	4,778	630	70,675	35,815	142,751
WALES: ... ..	233,568	10,276	2,437	127,450	46,412	59,706
North Conservancy ... ..	130,946	5,291	1,130	66,056	26,256	38,634
South Conservancy ... ..	102,622	4,985	1,307	61,394	20,156	21,072

AREA STATEMENT OF LAND USE: BY FORESTS—ENGLAND

Appendix 12

At 30th September, 1951

Acres

Forest	Total	Planted during year ended 30th September, 1951		Under Plantations	Provisional Allocation of Other Land	
		Aforested	Re-planted		Plantable	Agricultural, Unplantable, &c.
NORTH WEST CONSERVANCY:						
TOTAL ... ..	92,441	1,451	1,432	49,500	22,836	20,105
1. Delamere ... ..	1,937	—	8	1,899	—	38
2. Thornthwaite ... ..	4,871	—	—	3,486	298	1,087
3. Cannock Chase ... ..	6,144	—	120	5,397	698	49
4. Mortimer ... ..	7,422	—	261	6,400	694	328
5. Walcot ... ..	1,849	44	63	1,814	17	18
6. Clipstone ... ..	9,737	122	256	6,561	2,900	276
7. Ennerdale ... ..	8,405	46	—	3,123	259	5,023
8. Hope ... ..	2,987	16	—	659	1,182	1,146
9. Bawtry ... ..	583	—	—	523	9	51
10. Sherwood ... ..	2,829	23	69	2,384	378	67
11. Kershope ... ..	12,504	349	—	8,561	1,386	2,557
12. Hardknott ... ..	8,011	154	—	1,145	1,187	5,679
13. Grizedale ... ..	5,807	229	153	3,408	1,423	976
14. Greystoke ... ..	1,762	—	—	1,418	104	240
15. Cotgrave ... ..	370	36	33	310	60	—
16. Dalton ... ..	452	—	79	227	137	88
17. Kinver ... ..	900	—	120	384	486	30
18. Gisburn ... ..	2,674	332	—	827	1,778	69
19. Long Mynd ... ..	679	100	—	205	212	262
20. Swynnerton ... ..	806	—	200	551	255	—
21. Bagot ... ..	1,221	—	70	191	1,030	—
22. Longtown ... ..	178	—	—	—	113	65
23. Spadeadam ... ..	8,909	—	—	24	6,831	2,054
24. Charnwood ... ..	275	—	—	—	275	—
25. Habberley ... ..	412	—	—	—	412	—
26. Oakmoor ... ..	429	—	—	3	424	2
27. Packington ... ..	288	—	—	—	288	—

Appendix 12—continued

Forest	Total	Planted during year ended 30th September, 1951		Under Plantations	Provisional Allocation of Other Land	
		Afforested	Re-planted		Plantable	Agricultural Unplantable, &c.
<b>NORTH EAST CONSERVANCY:</b>						
TOTAL ... ..	183,222	6,546	600	78,343	50,967	53,912
1. Chopwell ... ..	816	—	32	791	6	19
2. Allerston ... ..	13,941	171	220	10,262	2,257	1,422
3. Rothbury ... ..	2,463	—	109	1,468	805	190
4. Selby ... ..	795	—	39	794	—	1
5. Kielder ... ..	74,373	3,870	131	31,424	16,745	26,204
6. Hamsterley ... ..	5,810	454	—	5,006	388	416
7. Ampleforth ... ..	3,663	—	35	1,824	1,469	370
8. Rosedale ... ..	10,807	322	18	3,122	4,536	3,149
9. Harwood ... ..	5,266	—	—	1,449	2,961	856
10. Slaley ... ..	1,480	—	—	1,252	—	228
11. Arkengarthdale ... ..	1,340	47	—	1,121	—	219
12. Redesdale ... ..	17,627	490	—	8,311	5,849	3,467
13. Langdale ... ..	10,816	173	16	2,082	1,192	7,542
14. Widehaugh ... ..	70	—	—	—	—	70
15. Warke ... ..	29,458	859	—	8,806	11,247	9,405
16. Scardale ... ..	840	30	—	366	182	292
17. York ... ..	611	97	—	176	434	1
18. Cleveland ... ..	855	33	—	76	770	9
19. Wharnccliffe ... ..	1,076	—	—	—	1,024	52
20. Coquetdale ... ..	201	—	—	—	201	—
21. Knaresborough ... ..	485	—	—	—	485	—
22. Londesborough ... ..	429	—	—	13	416	—
<b>EAST CONSERVANCY:</b>						
TOTAL ... ..	97,474	372	1,519	68,809	9,587	19,078
1. Hazelborough ... ..	2,453	—	41	1,855	228	370
2. Salcey ... ..	1,279	—	—	1,195	54	30
3. Ampthill ... ..	452	1	13	366	3	83
4. Rendlesham ... ..	4,660	2	17	3,620	54	986
5. Rockingham ... ..	5,464	2	24	4,216	665	583
6. Swaffham ... ..	3,810	—	10	3,171	44	595
7. Thetford Chase ... ..	48,357	156	273	33,470	1,888	12,999
8. Kesteven ... ..	3,313	—	53	1,757	1,035	521
9. Loughton ... ..	2,144	—	5	2,071	15	58
10. Swanton ... ..	1,651	—	50	1,310	108	233
11. Dunwich ... ..	1,355	27	—	729	600	26
12. Yardley Chase ... ..	2,115	—	20	1,414	4	697
13. Bardney ... ..	2,865	41	193	2,274	452	139
14. The King's Forest ... ..	5,932	27	338	4,261	1,314	357
15. Wigsley ... ..	1,938	—	87	926	637	375
16. Willingham ... ..	1,904	94	22	1,377	429	98
17. Wendover ... ..	1,164	—	36	713	395	56
18. Hevingham ... ..	310	5	29	194	97	19
19. Shouldham ... ..	956	—	90	573	298	85
20. Watlington ... ..	295	—	7	281	8	6
21. Bramfield ... ..	541	—	87	160	361	20
22. Burwell ... ..	581	—	67	127	454	—
23. Gaywood ... ..	352	15	40	113	230	9
24. Tunstall ... ..	3,374	2	17	2,635	11	728
25. Walden ... ..	209	—	—	1	203	5

Appendix 12—continued

Forest	Total	Planted during year ended 30th September, 1951		Under Plantations	Provisional Allocation of Other Land	
		Afforested	Re-planted		Plantable	Agricultural, Unplantable, &c.
<b>SOUTH EAST CONSERVANCY:</b>						
TOTAL ... ..	44,243	228	1,740	29,703	12,592	1,948
1. Alice Holt ... ..	2,142	—	20	1,894	32	216
2. Bere ... ..	1,443	—	—	1,414	—	29
3. Woolmer ... ..	2,073	—	—	627	1,426	20
4. Bedgebury ... ..	2,341	—	111	1,974	147	220
5. Bramshill ... ..	4,275	—	89	3,626	548	101
6. Chiddingfold ... ..	2,090	—	7	1,770	314	6
7. Lyminge ... ..	2,496	—	103	2,332	102	62
8. Friston ... ..	1,986	104	83	1,285	685	16
9. Micheldever ... ..	2,141	—	109	1,659	353	129
10. Buriton ... ..	1,732	—	—	1,410	45	277
11. Westbury ... ..	359	—	—	349	—	10
12. Challock ... ..	1,502	—	118	1,349	148	5
13. Charlton ... ..	2,534	—	201	1,055	1,479	—
14. Vinehall ... ..	850	—	8	782	51	17
15. Gravetye ... ..	910	—	—	380	23	507
16. Marden ... ..	1,193	124	—	672	521	—
17. Arundel ... ..	2,778	—	146	2,085	626	67
18. Orlestone ... ..	750	—	102	658	90	2
19. Alton ... ..	948	—	136	383	564	1
20. Andover ... ..	1,000	—	115	723	254	23
21. Southwater ... ..	349	—	60	230	119	—
22. Basing ... ..	211	—	—	179	32	—
23. Bishopstoke ... ..	299	—	—	200	99	—
24. Abinger ... ..	1,050	—	91	156	729	165
25. Shipbourne ... ..	238	—	30	56	180	2
26. Crawley ... ..	315	—	—	315	—	—
27. Hemsted ... ..	1,024	—	29	977	13	34
28. Sindon ... ..	1,358	—	74	698	660	—
29. Hursley... ..	2,194	—	108	293	1,901	—
30. Groombridge ... ..	112	—	—	—	102	10
31. Maresfield ... ..	434	—	—	16	417	1
32. Mildmay ... ..	274	—	—	27	247	—
33. Rogate ... ..	113	—	—	12	101	—
34. St. Leonards ... ..	729	—	—	117	584	28
<b>SOUTH WEST CONSERVANCY:</b>						
TOTAL ... ..	56,765	1,028	1,346	37,527	13,598	5,640
1. Dymock ... ..	1,600	—	62	1,389	142	69
2. Brendon ... ..	2,190	—	—	1,886	—	304
3. Eggesford ... ..	880	—	—	841	20	19
4. Haldon ... ..	3,152	—	3	2,958	145	49
5. Halwill ... ..	4,459	48	60	3,396	387	676
6. Quantock ... ..	2,283	6	50	1,913	11	359
7. Bodmin ... ..	1,492	19	53	1,011	310	171
8. Haugh ... ..	606	—	—	551	36	19
9. Wyre ... ..	2,396	—	85	2,312	25	59
10. Wilsey Down ... ..	1,183	101	—	976	131	76
11. Bruton ... ..	975	—	45	795	171	9
12. Dartmoor ... ..	2,286	—	—	1,669	6	611
13. Herodsfoot ... ..	667	—	48	303	340	24
14. Westwoods ... ..	1,194	—	46	756	142	296
15. Lydford ... ..	597	—	—	542	13	42
16. Collingbourne ... ..	1,239	—	87	1,081	148	10
17. Hartland ... ..	2,143	—	—	1,402	131	610
18. Mendip ... ..	1,197	55	—	1,099	10	88
19. Savernake ... ..	4,470	—	207	1,629	2,389	452
20. Stanway ... ..	1,018	10	39	292	82	644

Appendix 12—continued

Forest	Total	Planted during year ended 30th September, 1951		Under Plantations	Provisional Allocation of Other Land	
		Afforested	Re-planted		Plantable	Agricultural, Unplantable, &c.
<b>SOUTH WEST—continued</b>						
21. Braydon ... ..	593	—	7	305	286	2
22. Okehampton ... ..	382	—	—	324	19	39
23. Neroche ... ..	2,130	—	84	613	1,486	31
24. Culmhead ... ..	40	—	—	—	—	40
25. Plym ... ..	1,147	—	98	342	801	4
26. Wareham ... ..	3,971	167	—	3,327	260	384
27. Gardiner ... ..	1,276	—	22	609	662	5
28. Charmouth ... ..	675	26	13	384	201	90
29. Purbeck ... ..	1,468	451	—	723	637	108
30. Blandford ... ..	2,510	—	90	364	1,944	202
31. Fernworthy ... ..	1,479	145	—	1,472	4	3
32. Glynn ... ..	2,249	—	124	1,264	848	137
33. Poorstock ... ..	503	—	70	70	433	—
34. Stokeleigh ... ..	489	—	53	199	282	8
35. Erme ... ..	334	—	—	—	334	—
36. Shepton ... ..	160	—	—	12	148	—
37. Dunster ... ..	1,050	—	—	718	332	—
38. Honiton ... ..	123	—	—	—	123	—
39. St. Clement ... ..	159	—	—	—	159	—
<b>NEW FOREST:</b>						
TOTAL ... ..	74,808	7	872	36,161	1,226	37,421
1. New ... ..	65,155	2	561	28,563	29	36,563
2. Parkhurst ... ..	1,270	—	22	1,008	43	219
3. Ringwood ... ..	5,043	—	150	3,974	750	319
4. Ferndown ... ..	799	—	30	656	45	98
5. Brighstone ... ..	1,525	—	74	1,166	163	196
6. Combley ... ..	559	—	—	550	—	9
7. Osborne ... ..	133	—	8	133	—	—
8. Shalfleet ... ..	324	5	27	111	196	17
<b>DEAN FOREST:</b>						
TOTAL ... ..	25,201	—	350	20,246	1,154	3,801
1. Dean ... ..	23,944	—	350	19,038	1,150	3,756
2. Tidenham Chase ... ..	1,257	—	—	1,208	4	45

AREA STATEMENT OF LAND USE: BY FORESTS—SCOTLAND

Appendix 13

Acres

Forest	Total	Planted during year ended 30th September, 1951		Under Plantations	Provisional Allocation of Other Land	
		Afforested	Re-planted		Plantable	Agricultural, Unplantable, &c.
<b>NORTH CONSERVANCY:</b>						
TOTAL ... ..	347,819	2,618	3,913	74,996	42,439	230,384
1. Borgie ... ..	2,705	—	174	757	556	1,392
2. Inchnacardoch ... ..	9,168	—	63	2,144	260	6,764
3. Portclair ... ..	5,500	—	88	2,352	—	3,148
4. South Laggan ... ..	4,110	—	—	1,127	—	2,983
5. Achnashellach ... ..	19,674	—	15	903	3	18,768
6. Ratagan ... ..	2,481	—	—	1,558	—	923
7. Slattadale ... ..	1,154	4	—	694	9	451
8. Glen Righ ... ..	5,883	—	—	1,836	355	3,692

Appendix 13—continued

Forest	Total	Planted during year ended 30th September, 1951		Under Plantations	Provisional Allocation of Other Land	
		Afforested	Re-planted		Plantable	Agricultural, Unplantable, &c.
9. Glen Hurich ...	15,180	20	—	2,806	995	11,379
10. Glen Urquhart ...	3,851	95	57	2,247	568	1,036
11. Culloeden ...	1,892	—	323	1,209	670	13
12. Nevis ...	7,659	—	—	969	1	6,689
13. The Queen's Forest ...	12,500	75	74	2,476	824	9,200
14. Craig nan Eun ...	1,922	—	—	1,370	—	552
15. Craig Phadrig ...	573	—	112	448	52	73
16. Glen Shiel ...	3,653	—	—	765	—	2,888
17. North Strome ...	1,969	—	—	873	—	1,096
18. Salen ...	7,498	150	—	2,563	238	4,697
19. South Strome ...	3,556	—	—	1,163	—	2,393
20. Findon ...	1,334	6	—	1,238	—	96
21. Glen Garry ...	21,978	—	222	3,759	728	17,491
22. Kessock ...	987	—	73	779	118	90
23. Eilanreach ...	922	—	—	837	—	85
24. Dornoch ...	733	—	—	670	15	48
25. Inverinate ...	1,234	—	—	1,034	—	200
26. Balblair ...	1,374	50	101	1,107	63	204
27. Clunes ...	5,852	—	57	1,250	246	4,356
28. Lael ...	2,344	—	—	1,841	76	427
29. Finuary ...	24,566	301	—	3,197	2,214	19,155
30. Glen Loy ...	2,546	50	—	1,827	201	518
31. Glen Brittle ...	8,716	5	—	1,390	6	7,320
32. Longart ...	1,264	—	106	1,123	22	119
33. Leanachan ...	7,546	345	—	2,034	3,826	1,686
34. Guisachan ...	2,371	104	—	1,320	950	101
35. Ardross ...	4,148	—	346	3,042	625	481
36. Inshriach ...	2,297	14	109	1,332	444	521
37. Millbuie ...	6,922	—	—	5,834	482	606
38. Assich ...	1,043	56	51	597	83	363
39. Morangie ...	6,036	340	105	1,476	2,947	1,613
40. Kilcoy ...	4,691	—	501	2,890	1,248	553
41. Strath Nairn ...	3,924	176	10	814	960	2,150
42. Ferness ...	1,538	3	95	551	424	563
43. Strath Conon ...	9,799	50	100	791	521	8,487
44. Strath Dearn ...	2,305	—	133	567	887	851
45. Farigaig ...	4,590	21	93	311	427	3,852
46. Urray ...	1,028	—	276	434	527	67
47. Battan ...	1,036	—	18	128	827	81
48. Rumster ...	2,362	123	—	249	150	1,963
49. Laiken ...	845	—	100	176	651	18
50. Clach Liath ...	547	144	26	211	331	5
51. Shin ...	13,602	218	—	487	945	12,170
52. Torrachilty ...	3,620	—	137	137	389	3,094
53. Raasay ...	715	54	46	241	286	188
54. Boblainy ...	2,895	—	302	302	2,458	135
55. Ceannacroc ...	16,955	94	—	119	1,482	15,354
56. Struie ...	758	120	—	120	490	148
57. Glen Affric ...	53,393	—	—	2,062	6,178	45,153
58. Strathy ...	504	—	—	—	281	223
59. Craigs ...	1,208	—	—	—	1,186	22
60. Sunart ...	1,475	—	—	5	1,210	260
61. Aigas ...	1,183	—	—	13	546	624
62. Strath Mashie ...	2,420	—	—	258	1,600	562
63. Loch Ericht ...	933	—	—	183	506	244
64. Oykell ...	352	—	—	—	352	—

Appendix 13—continued

Forest	Total	Planted during year ended 30th September, 1951		Under Plantations	Provisional Allocation of Other Land	
		Afforested	Re-planted		Plantable	Agricultural, Unplantable, &c.
EAST CONSERVANCY:						
TOTAL ... ..	176,342	3,700	3,607	87,655	43,961	44,726
1. Monaughty ... ..	4,397	—	226	3,213	636	548
2. Kirkhill ... ..	1,541	6	139	1,288	123	130
3. Montreathmont ... ..	2,405	—	47	2,128	233	44
4. Culbin ... ..	6,344	250	113	5,139	928	277
5. Edensmuir ... ..	1,569	—	—	1,211	219	139
6. Tentsmuir ... ..	4,379	55	38	3,568	115	696
7. Drummond Hill ... ..	5,580	—	—	3,635	255	1,690
8. Teindland ... ..	2,371	—	—	1,166	865	340
9. The Bin ... ..	5,987	168	7	4,731	251	1,005
10. Speymouth ... ..	9,142	—	788	3,958	4,149	1,035
11. Blairadam ... ..	1,720	—	—	1,463	63	194
12. Drumtochty ... ..	3,340	10	53	2,402	4	934
13. Kemnay ... ..	1,227	—	50	1,202	4	21
14. Midmar ... ..	1,340	—	—	672	370	298
15. Deer ... ..	2,251	—	—	2,058	50	143
16. Scootmore ... ..	3,068	100	—	2,240	348	480
17. Clashindarroch ... ..	21,148	702	—	8,082	8,318	4,748
18. Roseisle ... ..	2,322	51	—	1,986	310	26
19. Blackcraig ... ..	2,048	—	—	1,526	32	490
20. Carden ... ..	532	—	22	479	31	22
21. Inglismaldie ... ..	1,143	—	14	1,123	12	8
22. Durris ... ..	3,842	—	210	3,510	49	283
23. Newton ... ..	175	—	—	—	15	160
24. Newtyle ... ..	1,085	—	—	886	15	184
25. Alltcailleach ... ..	3,833	—	205	3,493	165	175
26. Kinfauns ... ..	718	—	19	670	47	1
27. Whitehaugh ... ..	1,576	25	—	1,202	1	373
28. Craig Vinean ... ..	4,463	227	—	2,530	639	1,294
29. Glen Devon ... ..	915	91	—	850	27	38
30. Lossie ... ..	1,904	100	—	1,367	228	309
31. Keillour ... ..	1,726	59	68	1,263	427	36
32. Tilliefoure ... ..	3,632	—	309	1,859	723	1,050
33. Blackhall ... ..	2,425	—	251	1,601	797	27
34. Rosarie... ..	3,576	355	61	1,809	1,514	253
35. Pitfichie ... ..	5,247	—	351	1,782	2,257	1,208
36. Fetteresso ... ..	8,063	470	11	2,491	2,909	2,663
37. Strathord ... ..	1,086	148	—	997	83	6
38. Allean ... ..	2,940	176	—	898	1,179	863
39. Tornashean ... ..	9,278	115	—	899	2,647	5,732
40. Dallas ... ..	2,021	100	—	642	483	896
41. Countesswells ... ..	664	44	—	543	86	35
42. Pitmedden ... ..	1,807	—	115	1,324	393	90
43. Rannoch ... ..	3,786	103	—	1,063	2,326	397
44. Tomintoul ... ..	1,444	24	114	468	563	413
45. Hallyburton ... ..	1,583	—	129	381	1,192	10
46. Corrennie ... ..	1,913	69	154	405	1,310	198
47. Delgaty... ..	816	—	64	112	702	2
48. Glen Isla ... ..	10,465	215	37	558	2,757	7,150
49. Glen Doll ... ..	8,163	27	—	122	1,356	6,685
50. Glen Errochty... ..	2,440	—	12	18	1,632	790
51. Ledmore ... ..	137	—	—	—	—	137
52. Glen Livet ... ..	765	10	—	642	123	—

Appendix 13—continued

Forest	Total	Planted during year ended 30th September, 1951		Under Plantations	Provisional Allocation of Other Land	
		Aforested	Re-planted		Plantable	Agricultural, Unplantable, &c.
<b>SOUTH CONSERVANCY:</b>						
TOTAL ... ..	200,386	7,014	700	55,910	56,607	87,869
1. Glentress ... ..	2,349	—	92	1,684	205	460
2. Cairn Edward ... ..	15,032	1,006	—	5,257	5,968	3,807
3. Newcastleton ... ..	3,553	—	—	3,280	105	168
4. Dalbeattie ... ..	4,366	139	16	3,750	12	604
5. Forest of Ae ... ..	10,708	799	17	5,576	2,337	2,795
6. Edgarrow ... ..	1,711	—	25	1,045	172	494
7. Greskine ... ..	1,155	3	12	842	130	183
8. Auchenroddan ... ..	730	—	—	704	—	26
9. Kirroughtree ... ..	10,955	128	5	3,085	4,672	3,198
10. Fleet ... ..	1,357	—	—	988	163	206
11. Kilsture ... ..	500	—	—	492	4	4
12. Change ... ..	2,190	92	—	1,532	—	658
13. Dundee ... ..	5,965	200	12	1,134	3,321	1,510
14. Tinnisburn ... ..	1,404	32	—	1,247	27	130
15. Corriedoo ... ..	1,022	92	—	932	44	46
16. Garcrogo ... ..	1,921	119	91	981	717	223
17. Laurieston ... ..	4,405	195	—	1,099	2,281	1,025
18. Twiglees ... ..	5,137	379	—	4,565	215	357
19. Castle O'er ... ..	2,646	47	—	2,148	136	362
20. Glen Trool ... ..	41,550	800	—	2,799	13,001	25,750
21. Clachrie ... ..	639	68	15	379	255	5
22. Shielswood ... ..	1,013	—	—	—	—	1,013
23. Mabie ... ..	2,726	104	112	1,624	642	460
24. Wauchope ... ..	9,111	507	—	2,206	5,381	1,524
25. Carrick... ..	46,789	850	—	2,262	7,050	37,477
26. Elibank... ..	2,912	239	12	1,308	710	894
27. Glen Gap ... ..	1,994	196	—	706	819	469
28. Craik ... ..	3,368	459	—	1,344	769	1,255
29. Cardrona ... ..	1,860	53	—	1,384	—	476
30. Craigieburn ... ..	585	72	5	385	192	8
31. Leithope ... ..	1,165	86	—	273	892	—
32. Brownmoor ... ..	457	—	55	110	347	—
33. Dalmacallan ... ..	1,455	—	72	137	819	499
34. Kilgrammie ... ..	568	73	47	182	386	—
35. Bareagle ... ..	107	39	—	39	11	57
36. Duns ... ..	319	—	—	—	318	1
37. Penninghame ... ..	4,372	73	98	171	2,722	1,479
38. Stenton... ..	311	—	13	28	283	—
39. Yair Hill ... ..	1,979	164	1	232	1,501	246
<b>WEST CONSERVANCY:</b>						
TOTAL ... ..	249,241	4,778	630	70,675	35,815	142,751
1. Inverliever ... ..	29,527	222	3	4,709	2,127	22,691
2. Glen Duror ... ..	8,319	—	—	2,241	150	5,928
3. Glen Branter ... ..	8,726	24	—	3,364	274	5,088
4. Ardgartan ... ..	18,127	—	—	4,259	953	12,915
5. Barcaldine ... ..	4,006	223	—	3,269	525	212
6. Benmore ... ..	9,686	—	188	2,299	1,304	6,083
7. Glen Finart ... ..	8,712	66	54	2,600	32	6,080
8. Fearnoch ... ..	1,342	—	—	1,121	—	221
9. Lennox... ..	580	—	—	533	—	47
10. Loch Ard ... ..	26,666	671	—	10,153	5,564	10,949
11. Devilla ... ..	944	—	—	904	26	14
12. Achaglachgach ... ..	1,969	33	—	1,609	—	360
13. Knapdale ... ..	19,705	143	211	4,955	1,966	12,784

Appendix 13—continued

Forest	Total	Planted during year ended 30th September, 1951		Under Plantations	Provisional Allocation of Other Land	
		Afforested	Re-planted		Plantable	Agricultural, Unplantable, &c.
14. Strathyre ... ..	10,461	151	7	5,308	243	4,910
15. Tulliallan ... ..	112	—	—	—	—	112
16. Garadhbán ... ..	1,297	—	—	1,068	172	57
17. Inverinan ... ..	12,796	352	—	3,020	2,762	7,014
18. Asknish ... ..	5,900	344	6	2,358	1,248	2,294
19. Carron Valley ... ..	6,640	422	—	3,597	1,148	1,895
20. Carradale ... ..	10,156	310	40	2,372	1,019	6,765
21. Minard ... ..	5,188	275	—	1,581	1,644	1,963
22. Saddell ... ..	4,917	289	—	1,068	400	3,449
23. Kilmichael ... ..	12,687	520	13	1,843	2,831	8,013
24. Corlarach ... ..	1,522	25	2	803	4	715
25. Glendaruel ... ..	6,996	188	25	797	2,011	4,188
26. Strath Lachlan ... ..	7,616	267	53	1,147	1,262	5,207
27. Torrie ... ..	976	127	—	531	315	130
28. Garelochhead ... ..	827	126	5	151	550	126
29. Glen Coe ... ..	331	—	—	36	229	66
30. Kilmory ... ..	3,169	—	23	76	2,026	1,067
31. Glen Rickard ... ..	1,660	—	—	9	530	1,121
32. Loch Eck ... ..	5,502	—	—	2,412	30	3,060
33. Rowardennan ... ..	11,753	—	—	482	4,109	7,162
34. St. Fillans ... ..	426	—	—	—	361	65

AREA STATEMENT OF LAND USE: BY FORESTS—WALES

Appendix 14

As at 30th September, 1951

Acres

Forest	Total	Planted during year ended 30th September, 1951		Under Plantations	Provisional Allocation of Other Land	
		Afforested	Re-planted		Plantable	Agricultural, Unplantable, &c.
<b>NORTH CONSERVANCY:</b>						
TOTAL ... ..	130,946	5,291	1,130	66,056	26,256	38,634
1. Hafod Fawr ... ..	1,367	48	—	601	33	733
2. Gwydyr ... ..	19,120	561	66	9,635	1,956	7,529
3. Coed y Brenin ... ..	16,757	436	67	8,054	1,738	6,965
4. Kerry ... ..	2,326	29	4	2,180	19	127
5. Beddgelert ... ..	2,771	32	—	1,680	30	1,061
6. Cynwyd ... ..	1,829	—	—	1,477	237	115
7. Dovey ... ..	14,532	615	154	9,574	2,538	2,420
8. Radnor ... ..	4,897	18	125	2,870	729	1,298
9. Cwmeinion ... ..	938	—	—	606	—	332
10. Mathrafal ... ..	1,015	—	62	517	474	24
11. Tareinig ... ..	2,614	20	—	1,469	81	1,064
12. Bryn Mawr ... ..	1,839	176	—	1,086	507	246
13. Myherin ... ..	9,886	196	136	4,929	1,441	3,516
14. Clocaenog ... ..	14,901	582	5	8,205	3,616	3,080
15. Dyfnant ... ..	4,531	285	58	1,357	2,036	1,138
16. Hafren ... ..	10,614	713	—	4,874	2,697	3,043
17. Coed Sarnau ... ..	4,405	443	11	2,347	874	1,184
18. Newborough ... ..	2,181	52	—	569	951	661
19. Aberhirnant ... ..	6,399	270	36	1,033	2,089	3,277



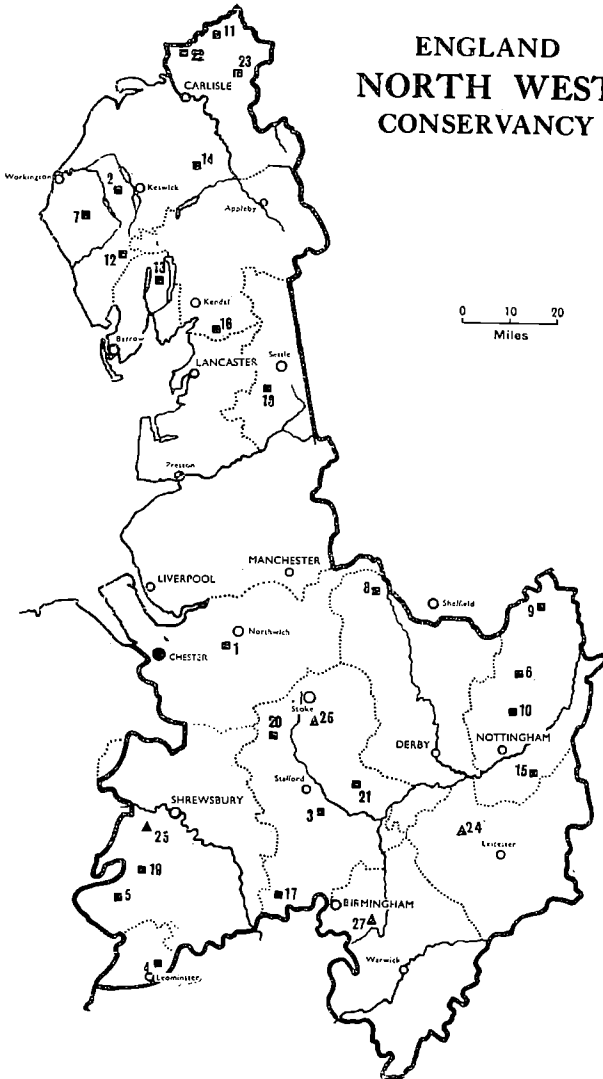
Appendix 14—continued

Forest	Total	Planted during year ended 30th September, 1951		Under Plantations	Provisional Allocation of Other Land	
		Afforested	Re-planted		Plantable	Agricultural, Unplantable, &c.
20. Carno ... ..	485	78	—	306	120	59
21. Coed Clwyd ... ..	1,522	205	—	471	760	291
22. Coed y Goror ... ..	988	74	138	564	400	24
23. Commins Coch ... ..	1,073	189	—	448	368	257
24. St. Asaph ... ..	1,367	54	117	651	617	99
25. Bechan ... ..	227	—	35	108	119	—
26. Coed Penllyn ... ..	1,351	93	30	233	1,074	44
27. Pentraeth ... ..	390	122	—	122	230	38
28. Glyn y Groes ... ..	558	—	86	90	463	5
29. Lley ... ..	59	—	—	—	59	—
Chirk Depot ... ..	4	—	—	—	—	4
<b>SOUTH CONSERVANCY:</b>						
TOTAL ... ..	102,622	4,985	1,307	61,394	20,156	21,072
1. Tintern ... ..	4,904	—	120	4,275	220	409
2. Margam ... ..	5,637	258	155	2,355	2,370	912
3. Llanover ... ..	2,837	44	—	2,403	169	265
4. Llantrisant ... ..	1,356	4	1	1,050	213	93
5. Chepstow ... ..	998	—	7	996	2	—
6. Rheola ... ..	13,749	903	153	8,913	3,452	1,384
7. Brechfa ... ..	15,190	357	70	11,212	344	3,634
8. Brecon ... ..	1,870	—	—	1,575	—	295
9. Glasfynydd ... ..	2,951	161	—	2,564	261	126
10. Pembrey ... ..	4,503	193	—	1,645	743	2,115
11. Caio ... ..	3,568	—	67	2,521	—	1,047
12. Crychan ... ..	9,960	696	86	5,697	1,908	2,355
13. Mynydd Ddu ... ..	2,719	50	—	1,571	400	748
14. Itton ... ..	515	—	13	362	152	1
15. Hay ... ..	925	70	—	775	124	26
16. St. Gwynno ... ..	3,418	449	5	2,597	109	712
17. Coed y Rhaiadr ... ..	952	—	—	589	312	51
18. Cwmogwr ... ..	3,953	353	—	1,537	1,159	1,257
19. Giedd ... ..	746	2	13	584	18	144
20. Michaelston ... ..	5,369	436	5	2,549	1,971	849
21. Tair Onen ... ..	189	—	—	49	—	140
22. Talybont ... ..	1,117	—	3	1,027	—	90
23. Monmouth ... ..	609	—	18	316	202	91
24. Wentwood ... ..	1,162	—	144	852	294	16
25. Cilgwyn ... ..	191	—	—	189	—	2
26. Goytre ... ..	240	—	15	208	28	4
27. Derry Ormond ... ..	923	79	82	592	146	185
28. Taf Fechan ... ..	1,131	175	—	899	125	107
29. Coed Taf Fawr ... ..	2,342	170	—	397	737	1,208
30. Stebech ... ..	1,401	18	191	309	1,050	42
31. Dunraven ... ..	3,990	403	—	403	1,001	2,586
32. Draethen ... ..	342	—	37	58	271	13
33. Ebbw ... ..	595	—	58	58	517	20
34. Gamrhiw ... ..	493	—	—	39	345	109
35. Irfon ... ..	340	64	64	128	212	—
36. Towy ... ..	832	—	—	—	832	—
37. Llandeilo ... ..	141	100	—	100	5	36
38. Teifi ... ..	464	—	—	—	464	—

**OUTLINE MAPS SHOWING CONSERVANCY BOUNDARIES AND DISTRIBUTION OF FORESTS AS AT SEPTEMBER, 30th, 1951**

**Appendix 15**

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.



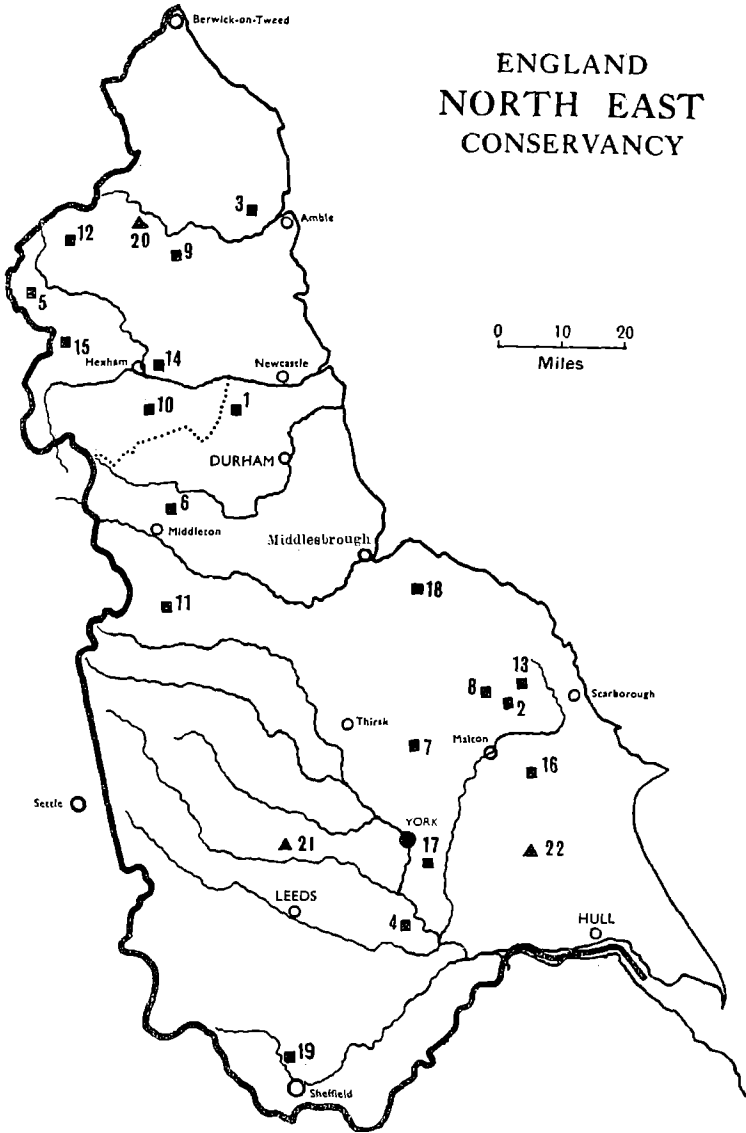
*Conservator's Office : Upton Grange, Upton-by-Chester (Chester 24006)*

- |  |                           |
|--|---------------------------|
| 1. Delamere, Cheshire*                 | 16. Dalton, Westmorland   |
| 2. Thornthwaite, Cumberland            | 17. Kinver, Staffs.       |
| 3. Cannock Chase, Staffs.              | 18. Gisburn, Yorks.       |
| 4. Mortimer, Hereford and Salop        | 19. Long Mynd, Salop      |
| 5. Walcot, Salop                       | 20. Swynnerton, Staffs.   |
| 6. Clipstone, Derby, Notts. and Yorks. | 21. Bagot, Staffs.        |
| 7. Ennerdale, Cumberland               | 22. Longtown, Cumberland  |
| 8. Hope, Derby                         | 23. Spadeadam, Cumberland |
| 9. Bawtry, Notts.                      |                           |
| 10. Sherwood, Notts.                   |                           |
| 11. Kershope, Cumberland               |                           |
| 12. Hardknott, Cumberland and Lancs.   |                           |
| 13. Grizedale, Lancs.                  |                           |
| 14. Greystoke, Cumberland              |                           |
| 15. Cotgrave, Notts.                   |                           |

*New Units, 1951*

- |                          |
|--------------------------|
| 24. Charnwood, Leicester |
| 25. Habberley, Salop     |
| 26. Oakamoor, Staffs.    |
| 27. Packington, Warwick  |

# ENGLAND NORTH EAST CONSERVANCY



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

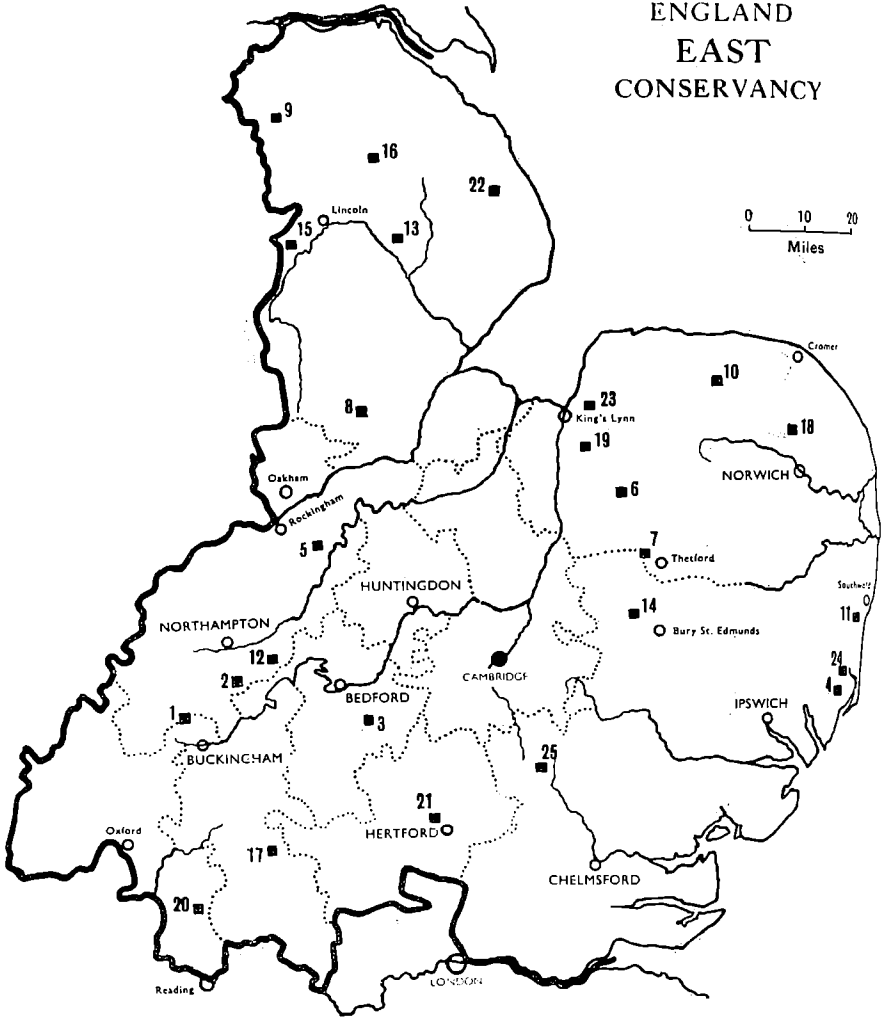
1. Chopwell, Durham\*
2. Allerston, Yorks.
3. Rothbury, Northumberland
4. Selby, Yorks.
5. Kielder, Northumberland
6. Hamsterley, Durham
7. Ampleforth, Yorks
8. Rosedale, Yorks.
9. Harwood, Northumberland
10. Slaley, Northumberland
11. Arkengarthdale, Yorks.
12. Redesdale, Northumberland

13. Langdale, Yorks.
14. Widehaugh, Northumberland
15. Wark, Northumberland
16. Scardale, Yorks.
17. York, Yorks.
18. Cleveland, Yorks.
19. Wharnccliffe, Yorks.

*New Units, 1951*

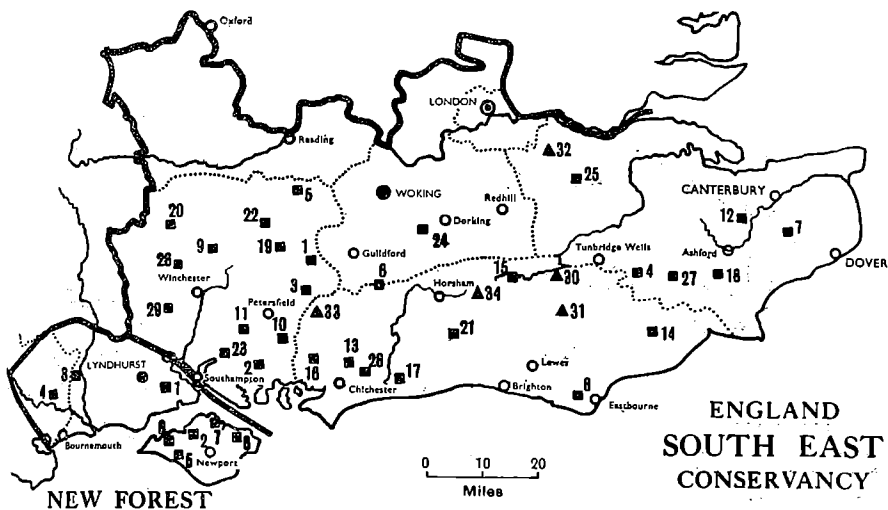
20. Coquetdale, Northumberland
21. Knaresborough, Yorks.
22. Londesborough, Yorks.

# ENGLAND EAST CONSERVANCY



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

- |  |                                     |
|--|-------------------------------------|
| 1. Hazelborough, Bucks. and Northants*                       | 13. Bardney, Lincoln                |
| 2. Salcey, Bucks. and Northants*                             | 14. The King's Forest, Suffolk      |
| 3. Ampthill, Beds.   | 15. Wigsley, Lincoln and Nottingham |
| 4. Rendlesham, Suffolk                                       | 16. Willingham, Lincoln             |
| 5. Rockingham, Northampton                                   | 17. Wendover, Bucks.                |
| 6. Swaffham, Norfolk   | 18. Hevingham, Norfolk              |
| 7. Thetford Chase, Norfolk and Suffolk                       | 19. Shouldham, Norfolk              |
| 8. Kesteven, Lincoln and Rutland, (formerly known as Bourne) | 20. Watlington, Oxford              |
| 9. Laughton, Lincoln   | 21. Bramfield, Herts.               |
| 10. Swanton, Norfolk   | 22. Burwell, Lincs.                 |
| 11. Dunwich, Suffolk   | 23. Gaywood, Norfolk                |
| 12. Yardley Chase, Bedford and Northampton                   | 24. Tunstall, Suffolk               |
|  | 25. Walden, Essex                   |



### SOUTH-EAST CONSERVANCY

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

- |                                    |                         |
|------------------------------------|-------------------------|
| 1. Alice Holt, Hants.*             | 19. Alton, Hants.       |
| 2. Bere, Hants.*                   | 20. Andover, Hants.     |
| 3. Woolmer, Hants.*                | 21. Southwater, Sussex  |
| 4. Bedgebury, Kent and Sussex*     | 22. Basing, Hants.      |
| 5. Bramshill, Berks. and Hants.    | 23. Bishopstoke, Hants. |
| 6. Chiddingfold, Surrey and Sussex | 24. Abinger, Surrey     |
| 7. Lyminge, Kent                   | 25. Shipbourne, Kent    |
| 8. Friston, Sussex                 | 26. Crawley, Hants      |
| 9. Micheldever, Hants.             | 27. Hemsted, Kent       |
| 10. Buriton, Hants. and Sussex     | 28. Slindon, Sussex     |
| 11. Westbury, Hants.               | 29. Hursley, Hants.     |
| 12. Challock, Kent                 |                         |
| 13. Charlton, Sussex               |                         |
| 14. Vinehall, Sussex               |                         |
| 15. Gravetye, Sussex               |                         |
| 16. Marden, Sussex                 |                         |
| 17. Arundel, Sussex                |                         |
| 18. Orlestone, Kent                |                         |

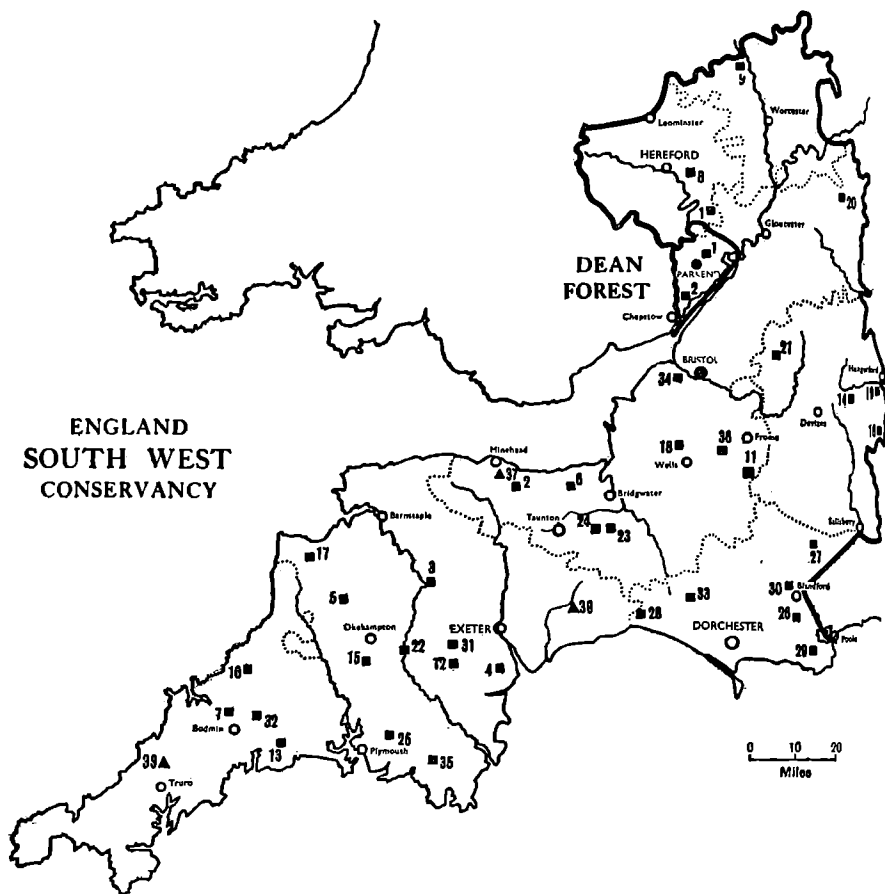
#### *New Units, 1951*

- |                          |
|--------------------------|
| 30. Groombridge, Sussex  |
| 31. Maresfield, Sussex   |
| 32. Mildmay, Kent        |
| 33. Rogate, Sussex       |
| 34. St. Leonards, Sussex |

### NEW FOREST

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

- |                                |                              |
|--------------------------------|------------------------------|
| 1. New Forest, Hants.*         | 5. Brighthelm, Isle of Wight |
| 2. Parkhurst, Isle of Wight*   | 6. Combley, Isle of Wight    |
| 3. Ringwood, Dorset and Hants. | 7. Osborne, Isle of Wight    |
| 4. Ferndown, Dorset            | 8. Shalfleet, Isle of Wight  |



### SOUTH-WEST CONSERVANCY

*Conservator's Office* : Flowers Hill, Brislington, Bristol 4 (Bristol 78041)

- |                                     |                                 |
|-------------------------------------|---------------------------------|
| 1. Dymock, Gloucester and Hereford* | 22. Okehampton, Devon           |
| 2. Brendon, Somerset                | 23. Neroche, Somerset           |
| 3. Eggesford, Devon                 | 24. Culmhead, Somerset          |
| 4. Haldon, Devon                    | 25. Plym, Devon                 |
| 5. Halwill, Devon                   | 26. Wareham, Dorset             |
| 6. Quantock, Somerset               | 27. Gardiner, Dorset and Wilts  |
| 7. Bodmin, Cornwall                 | 28. Charmouth, Devon and Dorset |
| 8. Haugh, Hereford                  | 29. Purbeck, Dorset             |
| 9. Wyre, Worcester                  | 30. Blandford, Dorset           |
| 10. Wilsey Down, Cornwall           | 31. Fernworthy, Devon           |
| 11. Bruton, Somerset and Wilts.     | 32. Glynn, Cornwall             |
| 12. Dartmoor, Devon                 | 33. Poorstock, Dorset           |
| 13. Herodsfoot, Cornwall            | 34. Stokeleigh, Somerset        |
| 14. West Woods, Wilts.              | 35. Erme, Devon                 |
| 15. Lydford, Devon                  | 36. Shepton, Somerset           |
| 16. Collingbourne, Wilts.           |                                 |
| 17. Hartland, Devon                 |                                 |
| 18. Mendip, Somerset                |                                 |
| 19. Savernake, Wilts.               |                                 |
| 20. Stanway, Gloucester             |                                 |
| 21. Braydon, Wilts.                 |                                 |

### *New Units, 1951*

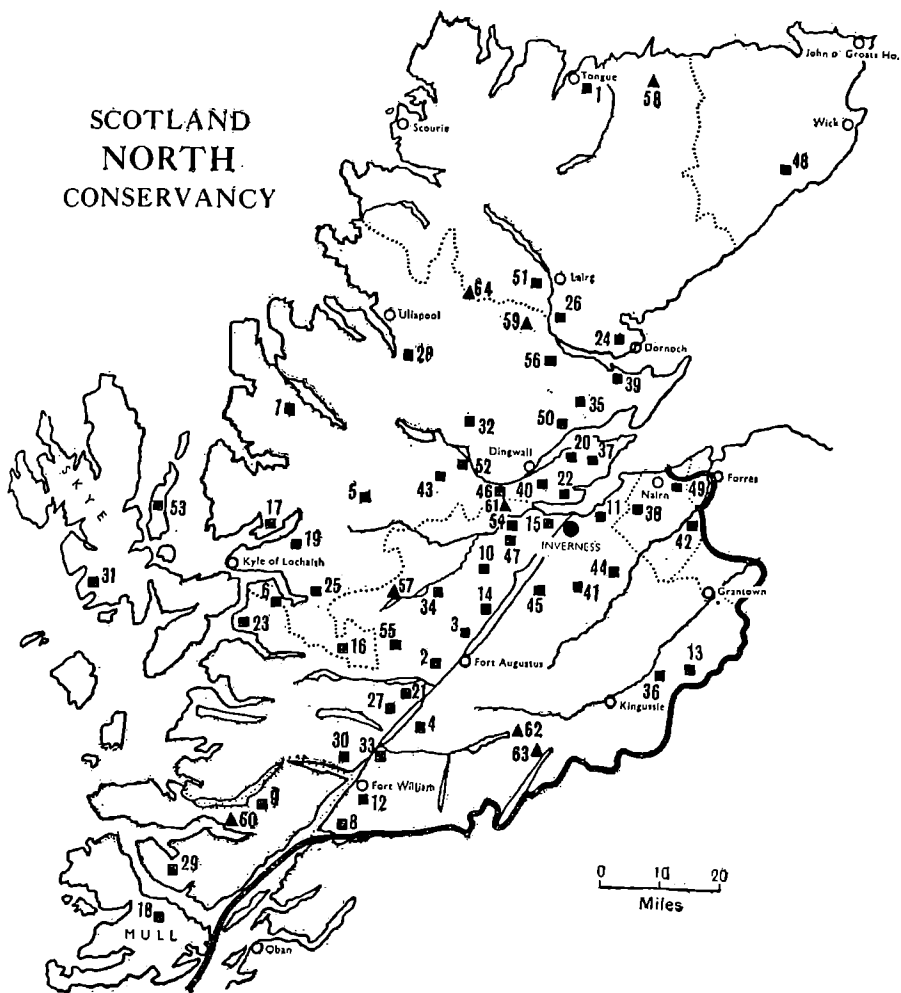
- |                           |
|---------------------------|
| 37. Dunster, Somerset     |
| 38. Honiton, Devon        |
| 39. St. Clement, Cornwall |

### DEAN FOREST

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

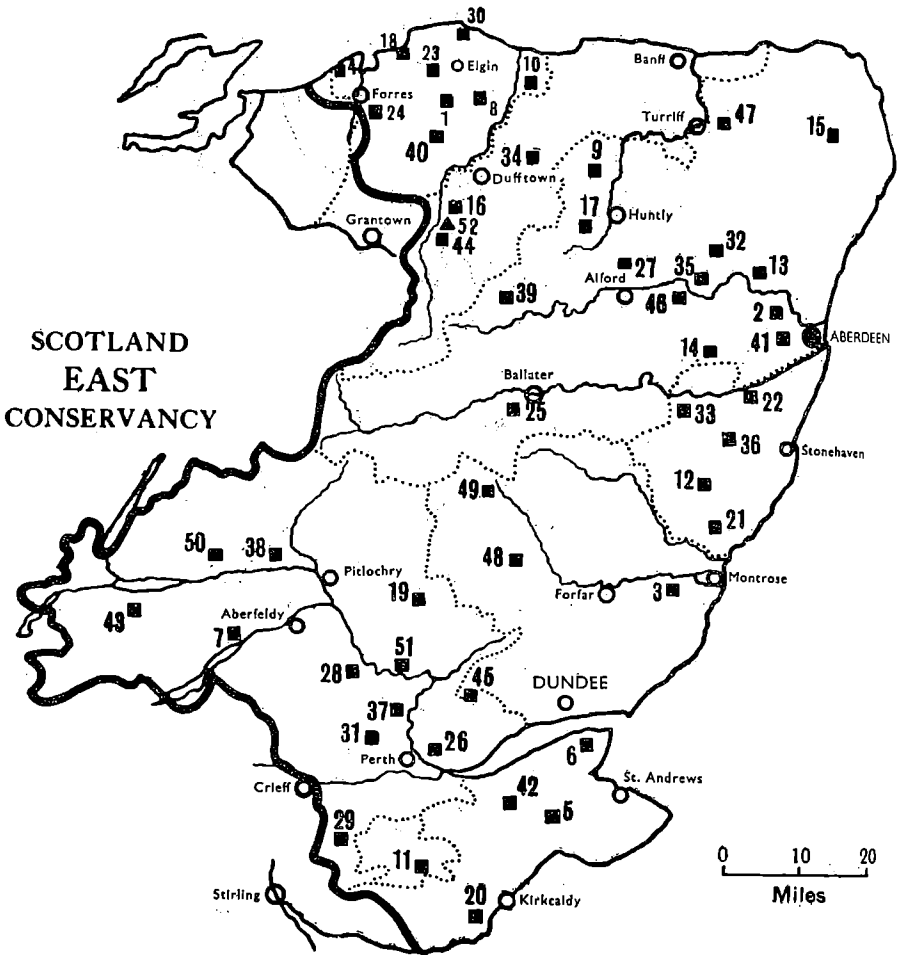
- |  |                               |
|--|-------------------------------|
| 1. Dean Forest, Gloucester, Hereford and Monmouth* | 2. Tidenham Chase, Gloucester |
|--|-------------------------------|

SCOTLAND  
NORTH  
CONSERVANCY



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

- |                                   |   |                                       |
|-----------------------------------|---|---------------------------------------|
| 1. Borgie, Sutherland             | 21. Glen Garry, Inverness                 | 43. Strath Conon, Ross                |
| 2. Inchnacardoch, Inverness       | 22. Kessock, Ross                         | 44. Strath Dearn, Inverness           |
| 3. Portclair, Inverness           | 23. Eilanreach, Inverness                 | 45. Farigaig, Inverness               |
| 4. South Laggan, Inverness        | 24. Dornoch, Sutherland                   | 46. Urray, Ross                       |
| 5. Achnashellach, Ross            | 25. Inverinate, Ross                      | 47. Battan, Inverness                 |
| 6. Ratagan, Inverness and Ross    | 26. Balblair, Sutherland and Ross         | 48. Rumster, Caithness                |
| 7. Slattadale, Ross               | 27. Clunes, Inverness                     | 49. Laiken, Nairn                     |
| 8. Glen Righ, Inverness           | 28. Lael, Ross                            | 50. Clach Liath, Ross                 |
| 9. Glen Hurich, Argyll            | 29. Fiunary, Argyll                       | 51. Shin, Sutherland                  |
| 10. Glen Urquhart, Inverness      | 30. Glen Loy, Inverness                   | 52. Torrachilty, Ross                 |
| 11. Culloden, Inverness           | 31. Glen Brittle, Isle of Skye, Inverness | 53. Raasay, Isle of Raasay, Inverness |
| 12. Nevis, Inverness              | 32. Longart, Ross                         | 54. Boblainy, Inverness               |
| 13. The Queen's Forest, Inverness | 33. Leanachan, Inverness                  | 55. Ceannacroc, Inverness             |
| 14. Craig nan Eun, Inverness      | 34. Guisachan, Inverness                  | 56. Struie, Ross                      |
| 15. Craig Phadrig, Inverness      | 35. Ardross, Ross                         | <i>New Units, 1951</i>                |
| 16. Glen Shiel, Ross              | 36. Inshriach, Inverness                  | 57. Glen Affric, Inverness            |
| 17. North Strome, Ross            | 37. Millbuie, Ross                        | 58. Strathy, Sutherland               |
| 18. Salen, Isle of Mull, Argyll   | 38. Assich, Nairn                         | 59. Craigs, Ross                      |
| 19. South Strome, Ross            | 39. Morangie, Ross                        | 60. Sunart, Argyll                    |
| 20. Findon, Ross                  | 40. Kilcoy, Ross                          | 61. Aigas, Inverness                  |
|                                   | 41. Strath Nairn, Inverness               | 62. Strath Mashie, Inverness          |
|                                   | 42. Ferness, Nairn                        | 63. Loch Ericht, Inverness            |
|                                   |   | 64. Oykeil, Ross and Suth.            |



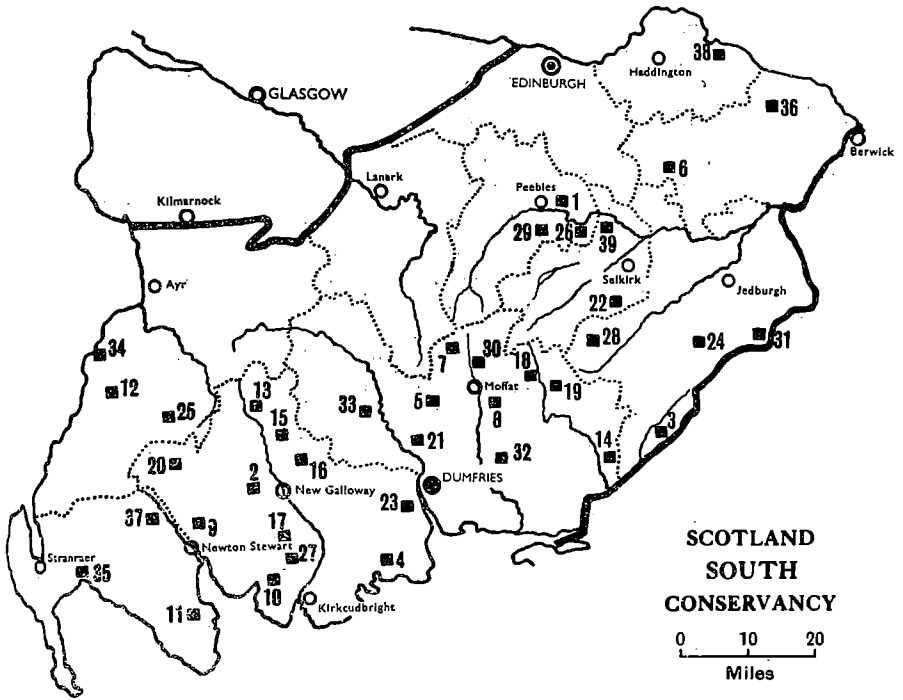
Conservator's Office : 6, Queen's Gate, Aberdeen (Aberdeen 33361)

- |                                 |   |
|---------------------------------|---|
| 1. Monaughty, Moray             | 29. Glen Devon, Perth and Kinross                     |
| 2. Kirkhill, Aberdeen           | 30. Lossie, Moray                                     |
| 3. Montreathmont, Angus         | 31. Keillour, Perth                                   |
| 4. Culbin, Moray and Nairn      | 32. Tilliefoure, Aberdeen                             |
| 5. Edensmuir, Fife              | 33. Blackhall, Kincardine                             |
| 6. Tentsmuir, Fife              | 34. Rosarie, Banff                                    |
| 7. Drummond Hill, Perth         | 35. Pittfichie, Aberdeen                              |
| 8. Teindland, Moray             | 36. Fetteresso, Kincardine                            |
| 9. The Bin, Aberdeen            | 37. Strathord, Perth                                  |
| 10. Speymouth, Moray            | 38. Allean, Perth                                     |
| 11. Blairadam, Fife and Kinross | 39. Tornashean, Aberdeen (formerly called Auchernach) |
| 12. Drumtochty, Kincardine      | 40. Dallas, Moray                                     |
| 13. Kemnay, Aberdeen            | 41. Countesswells, Aberdeen                           |
| 14. Midmar, Aberdeen            | 42. Pitmedden, Fife and Perth                         |
| 15. Deer, Aberdeen              | 43. Rannoch, Perth                                    |
| 16. Scootmore, Banff and Moray  | 44. Tomintoul, Banff                                  |
| 17. Clashindarrach, Aberdeen    | 45. Hallyburton, Angus and Perth                      |
| 18. Roseisle, Moray             | 46. Corrennie, Aberdeen                               |
| 19. Blackcraig, Perth           | 47. Delgaty, Aberdeen                                 |
| 20. Carden, Fife                | 48. Glen Isla, Angus                                  |
| 21. Inglismaldie, Kincardine    | 49. Glen Doll, Angus                                  |
| 22. Durriss, Kincardine         | 50. Glen Errochty, Perth                              |
| 23. Newton, Moray               | 51. Ledmore, Perth                                    |
| 24. Newtyle, Moray              |   |
| 25. Alltcailleach, Aberdeen     |   |
| 26. Kinfauns, Perth             |   |
| 27. Whitehaugh, Aberdeen        |   |
| 28. Craig Vinean, Perth         |   |

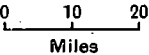
*New Unit, 1951*

52. Glen Livet, Banff





**SCOTLAND  
SOUTH  
CONSERVANCY**

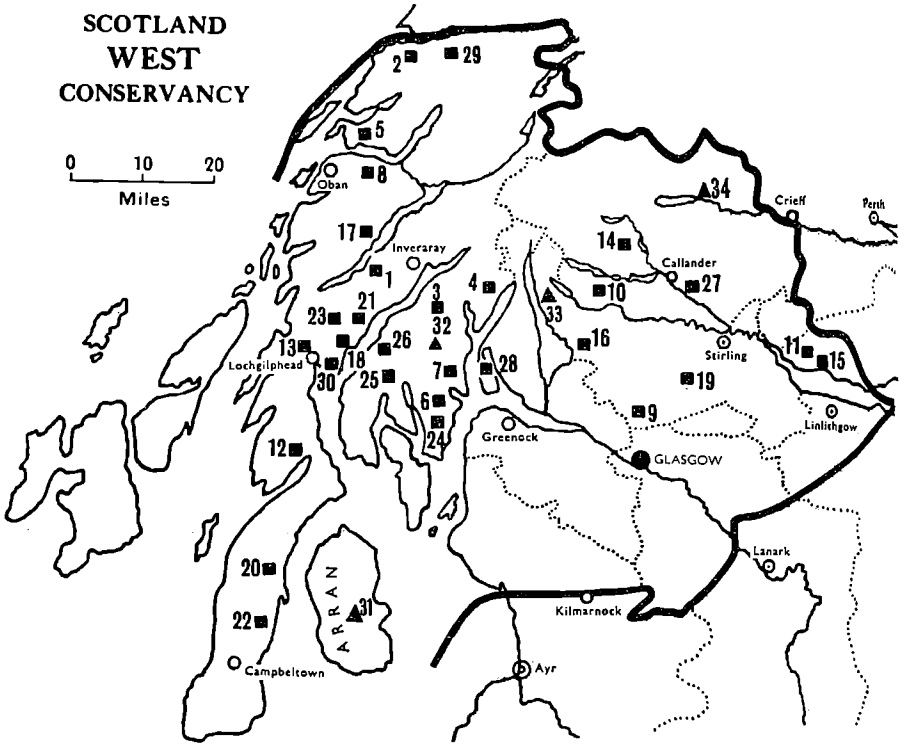


*Conservator's Office* : Greystone Park, Moffat Road, Dumfries (Dumfries 1156)

- |                                       |                                  |
|---------------------------------------|----------------------------------|
| 1. Glentress, Peebles                 | 21. Clauchrie, Dumfries          |
| 2. Cairn Edward, Kirkcudbright        | 22. Shielswood, Selkirk          |
| 3. Newcastleton, Roxburgh             | 23. Mabie, Kirkcudbright         |
| 4. Dalbeattie, Kirkcudbright          | 24. Wauchope, Roxburgh           |
| 5. Forest of Ae, Dumfries             | 25. Carrick, Ayr                 |
| 6. Edgarhope, Berwick                 | 26. Elibank, Peebles and Selkirk |
| 7. Greskine, Dumfries                 | 27. Glengap, Kirkcudbright       |
| 8. Auchenroddan, Dumfries             | 28. Craik, Roxburgh              |
| 9. Kirroughtree, Kirkcudbright        | 29. Cardrona, Peebles            |
| 10. Fleet, Kirkcudbright              | 30. Craigieburn, Dumfries        |
| 11. Kilsture, Wigtown                 | 31. Leithope, Roxburgh           |
| 12. Changue, Ayr                      | 32. Brownmoor, Dumfries          |
| 13. Dundough, Kirkcudbright           | 33. Dalmacallan, Dumfries        |
| 14. Tinnisburn, Dumfries and Roxburgh | 34. Kilgrammie, Ayr              |
| 15. Corriedoo, Kirkcudbright          | 35. Bareagle, Wigtown            |
| 16. Garcogo, Kirkcudbright            | 36. Duns, Berwick                |
| 18. Twiglees, Dumfries                | 37. Penninghame, Wigtown         |
| 19. Castle O'er, Dumfries             | 38. Stenton, East Lothian        |
| 20. Glen Trool, Kirkcudbright         | 39. Yair Hill, Selkirk           |

SCOTLAND  
WEST  
CONSERVANCY

0 10 20  
Miles



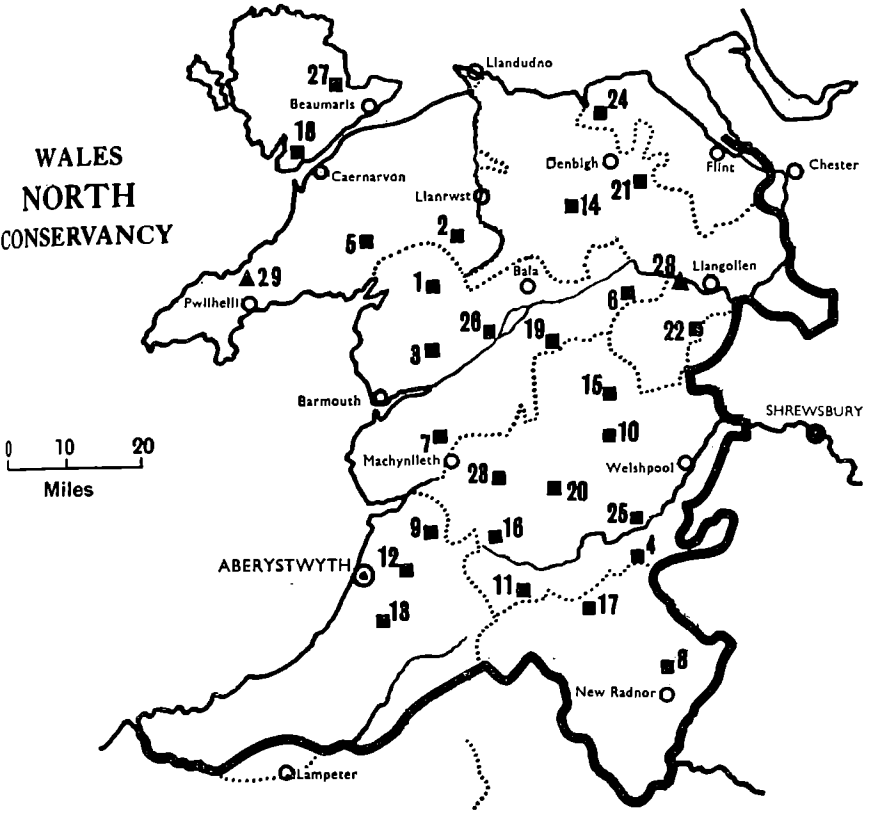
Conservator's Office : 53, Bothwell Street, Glasgow, C.2 (Central 6994)

- |                                   |                             |
|-----------------------------------|-----------------------------|
| 1. Inverliever, Argyll*           | 20. Carradale, Argyll       |
| 2. Glen Duror, Argyll             | 21. Minard, Argyll          |
| 3. Glen Branter, Argyll           | 22. Saddell, Argyll         |
| 4. Ardgartan, Argyll              | 23. Kilmichael, Argyll      |
| 5. Barcaldine, Argyll             | 24. Corlarach, Argyll       |
| 6. Benmore, Argyll                | 25. Glendaruel, Argyll      |
| 7. Glen Finart, Argyll            | 26. Strath Lachlan, Argyll  |
| 8. Fearnoch, Argyll               | 27. Torrie, Perth           |
| 9. Lennox, Stirling               | 28. Garelochhead, Dunbarton |
| 10. Loch Ard, Perth and Stirling  | 29. Glen Coe, Argyll        |
| 11. Devilla, Fife and Clackmannan | 30. Kilmory, Argyll         |
| 12. Achaglachgach, Argyll         |                             |
| 13. Knapdale, Argyll              |                             |
| 14. Strathyre, Perth              |                             |
| 15. Tulliallan, Fife              |                             |
| 16. Garadhban, Stirling           |                             |
| 17. Inverinan, Argyll             |                             |
| 18. Asknish, Argyll               |                             |
| 19. Carron Valley, Stirling       |                             |

*New Units, 1951*

- |   |
|---|
| 31. Glen Rickard, Isle of Arran,<br>Buteshire                       |
| 32. Loch Eck, Argyll (formerly part of<br>Glen Branter and Benmore) |
| 33. Rowardennan, Stirling   |
| 34. St. Fillans, Perth  |

WALES  
NORTH  
CONSERVANCY



Conservator's Office : 15, Belmont, Shrewsbury (Shrewsbury 4071)

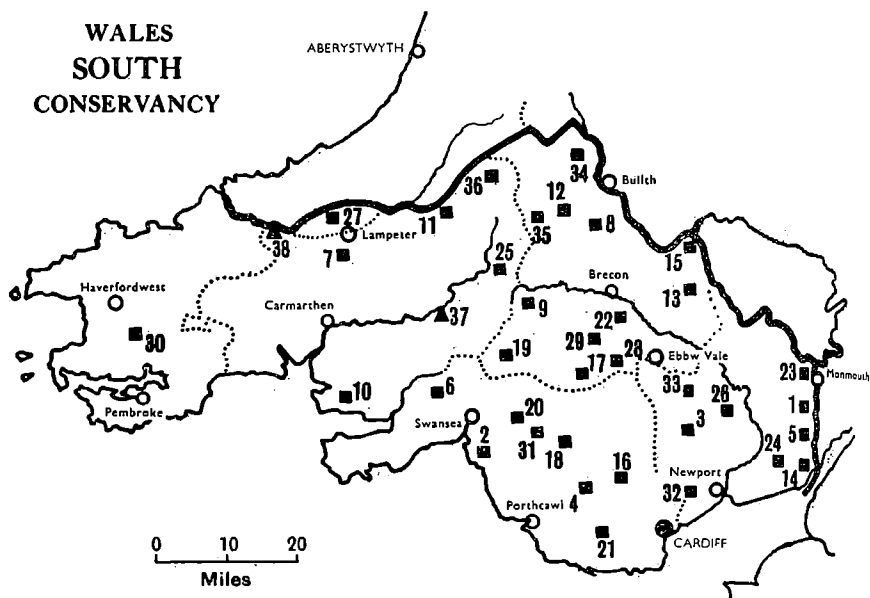
- 1. Hafod Fawr, Merioneth\*
- 2. Gwydyr, Caernarvon and Denbigh
- 3. Coed y Brenin, Merioneth
- 4. Kerry, Montgomery and Salop
- 5. Beddgelert, Caernarvon
- 6. Cynwyd, Merioneth
- 7. Dovey, Merioneth and Montgomery
- 8. Radnor, Radnor
- 9. Cwmeinion, Cardigan
- 10. Mathrafal, Montgomery
- 11. Tareng, Cardigan and Montgomery
- 12. Bryn Mawr, Cardigan
- 13. Myherin, Cardigan
- 14. Clocaenog, Denbigh and Merioneth
- 15. Dyfnant, Montgomery
- 16. Hafren, Montgomery

- 17. Coed Sarnau, Radnor
- 18. Newborough, Anglesey
- 19. Aberhiraant, Merioneth
- 20. Carno, Montgomery
- 21. Coed Clwyd, Denbigh
- 22. Coed y Goror, Denbigh and Salop
- 23. Commins Coch, Montgomery
- 24. St. Asaph, Denbigh and Flint
- 25. Bechan, Montgomery
- 26. Coed Penllyn, Merioneth
- 27. Pentraeth, Anglesey

*New Units, 1951*

- 28. Glyn y Groes, Denbigh
- 29. Lley, Caernarvon

WALES  
SOUTH  
CONSERVANCY



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

- |                                     |   |
|-------------------------------------|---|
| 1. Tintern, Monmouth*               | 22. Talybont, Brecon (formerly Usk)                   |
| 2. Margam, Glamorgan                | 23. Monmouth, Monmouth                                |
| 3. Llanover, Monmouth               | 24. Wentwood, Monmouth                                |
| 4. Llantrisant, Glamorgan           | 25. Cilgwyn, Carmarthen                               |
| 5. Chepstow, Monmouth               | 26. Goytre, Monmouth                                  |
| 6. Rheola, Glamorgan                | 27. Derry Ormond, Cardigan                            |
| 7. Brechfa, Carmarthen              | 28. Taf Fechan, Brecon                                |
| 8. Brecon, Brecon                   | 29. Coed Taf Fawr, Brecon (formerly<br>Coed Caerdydd) |
| 9. Glasfynydd, Brecon               | 30. Slebech, Pembroke                                 |
| 10. Pembrey, Carmarthen             | 31. Dunraven, Glamorgan                               |
| 11. Caio, Carmarthen                | 32. Draethen, Glamorgan                               |
| 12. Crychan, Brecon and Carmarthen  | 33. Ebbw, Monmouth                                    |
| 13. Mynydd Ddu, Brecon and Monmouth | 34. Gamrhiw, Brecon                                   |
| 14. Itton, Monmouth                 | 35. Irfon, Brecon                                     |
| 15. Hay, Brecon and Hereford        | 36. Towy, Cardigan and Brecon                         |
| 16. St. Gwynno, Glamorgan           |   |
| 17. Coed y Rhaiadr, Brecon          |   |
| 18. Cwmogwr, Glamorgan              |   |
| 19. Giedd, Brecon                   |   |
| 20. Michaelston, Glamorgan          |   |
| 21. Tair Onen, Glamorgan            |   |

*New Units, 1951*

37. Llandeilo, Carmarthen  
38. Teifi, Carmarthen