

Proof *Chief*
FORESTRY COMMISSION

FOURTEENTH ANNUAL REPORT
OF THE
Forestry Commissioners
FOR THE
YEAR ENDING SEPTEMBER 30th, 1933

(Presented pursuant to Act 9 & 10 Geo. V., c. 58, s. 8 (4).)

Ordered, by The House of Commons, to be printed,

LONDON

PRINTED AND PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE

To be purchased directly from H.M. STATIONERY OFFICE at the following addresses
Astrakhan House, Kingsway, London, W.C.2 ; 120, George Street, Edinburgh 2
York Street, Manchester 1 ; 1, St. Andrew's Crescent, Cardiff
80, Chichester Street, Belfast
or through any Bookseller

1934

Price net



CONTENTS

	PAGE
Forest Policy	3
Finance	3
Land Acquisition	3
Planting Programme	4
<i>State Forests</i>	4
<i>Assistance to Local Authorities and Private Owners</i>	5
Education and Research	5
The Drought of 1933	5
The Utilisation of home-grown Timber	8
<i>Home-grown Timber Committee's Interim Report</i>	9
Census of Woodlands	9
Ministry of Labour Training Camps	10
Operations, Forest Year 1931-32	11
The Forestry Fund	11
General Organisation	15
Forestry Operations	15
<i>Supervision</i>	15
<i>Acquisition of Land, Buildings and Standing Timber</i>	17
<i>Maps showing Acquisition of Land</i>	facing 18
<i>Cultural Operations</i>	21
<i>Plantations</i>	21
<i>Cost of Planting</i>	30
<i>Forest Fires</i>	30
<i>Nurseries</i>	30
<i>Seed Supply</i>	31
Advances for Afforestation Purposes	31
Education	32
<i>Apprentices' Schools</i>	32
<i>Grants to Universities and Colleges</i>	32
<i>Imperial Forestry Institute</i>	32
Research and Experiment	33
Agency and Advisory Services	35
Special Services	35
<i>Publications</i>	35
<i>Exhibits at Agricultural Shows</i>	36
<i>Consultative Committees</i>	36
Forest Workers' Holdings	36
Income	38
Employment in the Commission's Forests	39
Appendix—Imports of Timber, Wood Manufactures and Pulp of Wood ...	40

FOURTEENTH ANNUAL REPORT

of the

FORESTRY COMMISSIONERS

for the

Year ending September 30th, 1933

FOREST POLICY.

There have been no changes in general forest policy during the year.

FINANCE.

The balance in the Forestry Fund at the commencement of the forest year was £235,678. Receipts from Parliamentary Votes (£450,000) and Forestry Operations (£146,629) amounted to £596,629. Payments amounted to £582,259, so that the balance in the Fund at September 30th, 1933, was £250,048.

The progress of payments and receipts is indicated in the table below. The year under review is the first to show the full effect of the extensive changes in the programme to which reference was made in the Twelfth Annual Report.

Forestry Fund: Payments and Receipts.

Year ending 30th September.	Payments.			Receipts.			Net Payments.		
	Proposed.	Actual.	Excess (+) Deficit (-)	Proposed.	Actual.	Excess (+) Deficit (-)	Proposed.	Actual.	Excess (+) Deficit (-)
	£	£	£	£	£	£	£	£	£
decade, 0-29 (10½ financial years) of decade:	—	4,502,018	—	—	851,484	—	3,892,000	3,650,534	-241,466
0... ..	958,000	808,237	-149,763	145,000	148,337	+ 3,337	813,000	659,900	-153,100
1... ..	1,019,000	842,490	-176,510	158,000	171,556	+13,556	801,000	670,934	-190,066
2... ..	798,000	761,220	- 36,780	159,000	151,466	- 7,534	639,000	609,754	- 29,246
3... ..	602,000	582,259	- 19,741	153,000	146,629	- 6,371	449,000	435,630	- 13,370
Total	£ 254,000	6,026,752	602,916						

LAND ACQUISITION.

Acquisitions during the year amounted to 17,591 acres net, of which 15,335 acres were classified as plantable. The intention is that the area of plantable land required each year should be approximately the same as the area planted so that the area in hand should remain as nearly as possible intact. In 1933 the acreage acquired was 5,045 acres short of the area of new planting.

ac/

Acquisition of Plantable Land.

Year ending 30th September.	By Lease or Feu.			By Purchase.			Total.		
	Proposed.	Actual.	Excess(+) Deficit (-)	Proposed.	Actual.	Excess (+) Deficit (-)	Proposed.	Actual.	Excess Deficit
First decade, 1920-29 ...	Acres. 160,000	Acres. 156,759	Acres. - 3,241	Acres. 222,000	Acres. 153,471	Acres. - 68,529	Acres. 382,000	Acres. 310,230	Acres. - 71,770
Second decade:									
1930... ..	10,000	8,409	- 1,591	50,000	25,951	- 24,049	60,000	34,360	- 25,640
1931... ..	10,000	4,851	- 5,149	50,000	44,007	- 5,993	60,000	48,868	- 11,132
1932... ..	—	4,970	—	—	41,487	—	20,000*	46,437	+ 26,437
1933... ..	—	2,885	—	—	12,450	—	20,000*	15,335	- 4,665
Total	—	177,874	—	—	277,346	—	—	455,220	—

* Minimum area.

Note.—In addition, 4,866 acres were acquired in Ireland to March 31st, 1922.

PLANTING PROGRAMME.

State Forests.

The area planted during the year was 21,037 acres.

Area Planted.

Year ending 30th September.	Proposed to be Planted.	Actually Planted.			Excess (+) Deficit (-) on Decade or Annual Programme.
		New Planting.	Replac- ements.	Total.	
First decade, 1920-29 :	Acres.	Acres.	Acres.	Acres.	Acres.
Conifers	150,000	125,799	4,969	130,768	-19,232
Hardwoods	unspecified	5,774	1,737	7,511	
				138,279	
Second decade :					
1930	25,000	21,426	3,662	25,088	+ 88
1931	25,000	24,248	1,396	25,644	+ 644
1932	20,000*	21,959	704	22,663	+ 2,663
1933	20,000*	20,380	657	21,037	+ 1,037
Total	—	219,586	13,125	232,711	—

* Minimum area.

Note.—In addition, 1,697 acres were planted in Ireland to March 31st, 1922.

The total area planted to September 30th, 1933, was 232,711 acres, of which 217,919 acres consisted of conifers and 14,792 acres of hardwoods. New planting accounted for 219,586 acres and replacements 13,125 acres. Details are given below.

	Conifers. Acres.	Hardwoods. Acres.	Total. Acres.
New planting ...	207,923	11,663	219,586
Replacements ...	9,996	3,129	13,125
Total	217,919	14,792	232,711

Assistance to Local Authorities and Private Owners.

Financial provision has been continued for State assistance to local authorities and private owners for the planting of approximately 6,000 acres per annum. The area planted during the year was 4,580 acres, details of which are given on page L.

First decade :	<i>Acres.</i>
1920-29 (<i>revised figure</i>)	72,840
Second decade :	
1930	6,702
1931	5,917
1932	5,189
1933	4,580
	<hr/>
Total ...	95,228
	<hr/>

EDUCATION AND RESEARCH.

Education.—The School of Forestry at Cambridge University as a separate Department has come to an end but teaching in estate forestry is now provided in the Department of Agriculture where courses will be available for those who are studying forestry as a branch of estate management. The Commissioners are of opinion that there is scope for extending instruction in British forestry as distinguished from forestry in the tropics and abroad, and it may well be that the new work at Cambridge will be of considerable assistance in developing private enterprise in tree-planting at home.

Research.—This has continued on the same general lines as in previous years. Work has been kept under review by the Advisory Committee which also paid a visit to the Forest of Dean with the object of inspecting experimental plantations and sample plots.

THE DROUGHT OF 1933.

The year 1933 was remarkable for prolonged summer drought accompanied by unusually high temperatures. The deficiency in the rainfall was widespread, Scotland as well as England and Wales suffering from want of rain. Many parts of the country received less than 70 per cent. of the normal precipitation and the general average was not more than 81 per cent. The first three months of the year were wet and up to the end of July rainfall was of average amount but drought conditions then began which, in August and September, continued with increasing intensity. The table below shows the monthly rainfall in 1933 expressed as a percentage of the average; the data are as recorded by the British Rainfall Organization.

<i>Month.</i>	<i>England and Wales. Per cent. of average.</i>	<i>Scotland. Per cent. of average.</i>
January	93	103
February	160	123
March	119	64
April	70	95
May ...	97	69
June	92	85
July	82	108
August	38	75
September ...	94	41
October	103	107
November ...	59	67
December	29	32

As in the previous drought year of 1921 new plantations on clay soils in the south-east of England suffered more than others owing to the drying and cracking of the soil. Small plants particularly had difficulty in establishing themselves and seedlings again proved less resistant to dry conditions than transplants of moderate size. The planting on mounds or turfs, a method which has been pursued with good effect in recent years, was not so successful under drought conditions and on some areas there was heavy loss among spruce seedlings planted in this way. On the other hand, planting after preparation of the land by ploughing was satisfactory and the direct sowing of acorns was attended with good results.

Established plantations naturally suffered less than newly planted areas; in fact trees planted in the earlier years of the Commission's operations showed an improvement in growth in most cases. This was particularly noticeable in the northern and western districts where the accession of summer heat proved actually beneficial to the older plantations. In these parts, growth above the average took place in European larch, Douglas fir, Norway spruce and Sitka spruce. In the south and east some damage was done even in established woods but losses were practically limited to Japanese and European larches and were not numerous.

Most of the Commission's nurseries felt the effects of the drought severely. The germination of seed was not unsatisfactory but seedlings in the drier districts had difficulty in establishing themselves especially in sandy soil. Lined-out plants, however, with few exceptions withstood the adverse conditions successfully although generally speaking growth was somewhat below the

normal. Nursery weeds were more easily dealt with than in average seasons and damping-off and leaf-cast diseases which attack seedlings were less harmful than usual.

It is satisfactory to note that the mortality among plants both in plantations and nurseries was very much less than in the dry summer of 1921.

As a result of the drought the fire hazard was very great and considerable damage was done to the Commission's plantations in England and Wales. The only season comparable to that under review is 1929 when an exceptionally dry spring following a dry, cold winter led to much loss by fire. In that year, however, drought conditions did not persist as in 1933 when evaporation was in excess of the normal almost throughout the year and particularly from June to December.

In the table given below the monthly distribution of fire losses in 1932-33 is shown along with the corresponding figures for 1928-29. Since the latter year the whole system of fire prevention and fire fighting has been overhauled by the Commissioners and some considerable measure of success may be claimed as, proportionately to the area under plantations, there has been a marked reduction both in the number of fires and in the acreage burnt.

Month.	Number of fires.		Planted area burnt.		Estimated damage (including cost of extinguishing).	
	1932-33	1928-29.	1932-33.	1928-29.	1932-33.	1928-29.
			Acres.	Acres.	£	£
October ...	1	2	—	2	4	22
November ...	—	—	—	—	—	—
December ...	2	—	—	—	—	—
January ...	16	3	17	12	85	108
February ...	24	18	8	154	41	1,614
March ...	116	152	314	2,379	3,571	26,987
April ...	98	120	54	1,395	543	10,466
May ...	27	47	217	164	3,396	2,132
June ...	51	9	192	3	2,568	22
July ...	58	36	10	366	170	4,085
August ...	104	6	17	—	285	4
September ...	126	16	484	99	12,007	521
Total ...	623	409	1,313	4,574	22,670	45,961

The following table gives the causes of fires in 1933 and it will be seen that 316 (50 per cent.) originated in sparks from railway engines and 119 (19 per cent.) were caused by the general public. In all cases, except incendiarism, carelessness is the factor against which it is most difficult to take effective precautions.

<i>Origin.</i>	<i>Number of fires.</i>	<i>Percentage of total number.</i>
Railway... ..	316	50
General public :		
From public roads, etc.	87	14
Other... ..	32	5
Adjoining land	84	13
Road engines	16	3
Commission's employees	9	2
Incendiarism	5	1
Other	6	1
Unknown	68	11
	<hr/>	<hr/>
Totals ...	623	100
	<hr/>	<hr/>

THE UTILISATION OF HOME-GROWN TIMBER.

The Commissioners have given considerable attention to improving the utilisation of home-grown timber. This is inherently a difficult question if only for the reason that home production is but a small proportion of the total consumption. Nevertheless it is felt that some advance might be possible if the owners of standing timber and the merchants who convert and manufacture it could be brought to realise their community of interest and to organise accordingly their respective activities. The Commissioners appointed an Inter-Departmental Home-grown Timber Committee in 1931, and while that Committee have been at work have endeavoured to promote action on the above lines. They have been in communication with the various organisations interested in the subject and in the case of Scotland, with the Mines Department, in October, 1933, they called a special conference which was attended also by representatives of the principal railway companies, coal-owners' associations, pitwood merchants and the Land-owners' Co-operative Forestry Society. The object of the conference was to further the utilisation of Scottish-grown pitwood; it would in fact appear that a large proportion of the annual consumption of this commodity by the Scottish pits might be supplied from home sources. Undoubtedly there are difficulties in the way, but, on the assumption that all parties desire to use British materials, these difficulties should not, in the opinion of the Commissioners, prove to be insuperable.

It is encouraging to note that owners of standing timber and timber merchants, acting for the most part independently, have taken part in the movement but it is too early to expect any definite improvement in organisation. The attitude of the Commissioners towards such developments may be stated quite simply: they are desirous of helping in any way which is likely to prove effective, but on the condition that the organisation concerned displays a corresponding measure of self-help.

*Home-grown Timber Committee's Interim Report.**

The interim report presented by the Inter-Departmental Home-grown Timber Committee in September last reviews the position in regard to the utilisation of home-grown timber and indicates measures which may be taken to improve matters. The Committee took evidence from all Government Departments concerned in the use of timber and from representatives of landowners, timber merchants, mining associations, forestry societies and others interested in the production and use of home-grown timber.

In discussing the question of transport the Committee point out the disadvantages of intermittent supply and the difficulty of disposing of timber profitably when offered in fluctuating quantities and without due regard to seasoning and grading. Uncertainty of supplies, it is stated, is one of the most serious factors militating against the obtaining of favourable railway rates—a reduction in which would probably do more than anything else to stimulate the market; it would especially promote the sale of small-sized and low-quality timber.

One of the more important recommendations contained in the report is that the requirements of certain timber-using industries should be studied in detail. Action has already been taken in this direction and the Commissioners have already put in hand the work of investigating the timber needs of the box-making and coal-mining trades.

The Committee come to the conclusion that many articles hitherto imported from abroad can be supplied from home-grown timber and they express the belief that it is mainly by the introduction of new marketing methods and the dissemination of information that improvement may be brought about.

CENSUS OF WOODLANDS.

The Census of Woodlands of 1924 was due for revision in 1934, and the Commissioners had to decide whether the work should be undertaken at an estimated cost of £7,000 or postponed until 1944. In practice the information supplied by the census is used for two main purposes, namely, the formulation of forest policy and, in conjunction with additional data, the periodical census of production of home-grown timber. As regards policy the position can be defined with sufficient accuracy from the information provided by the 1924 census and year to year estimates of planting and felling. As regards estimates of production and similar uses, it is felt that equally good figures can be obtained by other means and in particular by making use of the organisations which, it is contemplated, will be set up for improving the marketing of home-grown timber. On careful consideration of the whole question, and after taking the advice of the Consultative Committees, the Commissioners finally decided to postpone the census until 1944.

* *Interim Report of the Inter-Departmental Home-grown Timber Committee, 1933*
H.M. Stationery Office.

MINISTRY OF LABOUR TRAINING CAMPS.

As explained in the last Annual Report the Commissioners co-operate with the Ministry of Labour in providing training camps for unemployed. Five additional camps have been established during the year bringing the total number up to twelve. The new camps are situated at Mortimer, Hereford and Radnor (two); Bourne, Lincoln; Rockingham, Northants, and Thetford Chase, Norfolk.

OPERATIONS—FOREST YEAR 1932-1933.

The Forestry Fund.

The position of the Forestry Fund at September 30th, 1933, and at the same date in previous years is shown in Table I.

Table I.—Forestry Fund Account.

Year ending 30th September.	Balance from pre- ceding Year.	Receipts.			Payments. (Table II, Heads A to L).	Balance in Forestry Fund, 30th Sept- ember.
		Parlia- mentary Votes.	From Forestry Opera- tions, etc. (Table II, Head Z).	Total.		
	(1)	(2)	(3)	(4)	(5)	(6)
First decade:	£	£	£	£	£	£
Five years, 1920-24	—	1,734,000	192,600	1,926,600	1,428,420	498,180
1925	498,180	300,000	121,933	421,933	517,452	402,661
1926	402,661	335,000	122,341	457,341	608,066	251,936
1927	251,936	645,400	127,764	773,164	618,997	406,103
1928	406,103	485,600	141,492	627,092	648,936	384,259
1929	384,259	500,000	145,354	645,354	680,147	349,466
Total, 1925-29	—	2,266,000	658,884	2,924,884	3,073,598	—
Total, First decade	—	4,000,000	851,484	4,851,484	4,502,018	—
Second decade:						
1930	349,466	937,800	148,337	1,086,137	808,237	627,366
1931	627,366	490,000	171,556	661,556	842,490	446,432
1932	446,432	399,000	151,466	550,466	761,220	235,678
1933	235,678	450,000	146,629	596,629	582,259	250,048
Total, 1930-33	—	2,276,800	617,988	2,894,788	2,994,206	—
Grand Total	—	6,276,800	1,469,472	7,746,272	7,496,224	—

An analysis of payments and receipts by Parliamentary Heads of Account is given in Table II. Compared with the previous year, total payments decreased from £761,220 to £582,259, a reduction of £178,961, mainly under the heads of forestry operations and forest workers' holdings. Receipts were lower by £4,837, and net payments were therefore £174,124 less than in 1932.

Table II.—Payments and Receipts by Parliamentary Heads of Account.

Year ending 30th September.	PAYMENTS.											RECEIPTS. Z.	NET PAYMENTS. (14)		
	A. Salaries, Wages and Allow- ances. (1)	B. Head- quarters' Charges. (2)	C. Assistant Commis- sioners' Charges. (3)	D. Divisional Officers' Charges. (4)	E. Forestry Operations. (5)	F. Advances for Affresta- tion Purposes. (6)	G. Education. (7)	H. Research and Experi- ment. (8)	J. Agency and Advisory Services. (9)	K. Special Services. (10)	L. Forest Workers' Holdings. (11)			Total. (12)	
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
First decade: Five years, 1920-24...	284,275	10,271	14,898	32,659	887,722	127,439	37,702	12,682	91,776	13,960	5,036	1,428,420	192,600	1,235,820	
1925 ...	49,191	2,315	2,770	7,643	369,291	31,166	7,460	2,601	—	2,850	42,175	517,452	121,933	395,519	
1926 ...	51,769	2,097	2,864	8,685	451,124	19,012	8,192	3,981	—	3,403	63,939	608,066	122,341	485,725	
1927 ...	53,836	2,934	3,108	8,455	450,854	14,024	7,525	4,424	—	483	73,354	618,997	127,764	491,233	
1928 ...	56,190	2,266	3,500	8,107	488,639	10,776	7,594	5,872	—	1,276	64,728	648,936	141,492	507,444	
1929 ...	58,896	2,803	3,446	8,885	501,217	13,407	7,531	7,307	—	1,370	76,225	680,147	145,354	534,793	
Total, 1925-29	289,682	12,405	15,639	41,775	2,261,115	80,365	38,302	24,245	—	9,382	320,419	3,073,598	658,684	2,414,714	
Total, First decade	494,157	22,076	30,586	74,434	3,113,637	207,824	76,004	36,927	91,776	23,342	325,455	4,502,018	851,484	3,650,534	
Second decade: 1930 ...	63,202	2,571	7,658	9,418	598,119	14,102	9,855	6,901	—	493	96,418	808,237	148,337	659,900	
1931 ...	65,347	5,207	4,704	9,787	629,461	14,087	9,628	7,577	—	337	96,315	842,490	171,556	670,934	
1932 ...	63,313	5,851	3,414	10,007	608,735	13,649	6,925	6,653	—	674	46,989	761,220	151,466	609,754	
1933 ...	62,119	4,219	3,416	9,401	465,637	12,103	6,002	7,291	—	568	11,503	582,259	146,629	435,630	
Total, 1930-33	253,981	17,908	19,192	36,613	2,286,952	53,921	31,910	28,422	—	2,072	251,235	2,994,206	617,988	2,376,218	
Grand Total	748,138	40,684	49,778	113,047	5,415,789	261,745	107,914	65,349	91,776	25,414	576,690	7,496,234	1,469,472	6,026,762	

Table II is limited to sums actually expended or received, recorded by the Parliamentary Heads of Account under which they occurred. In subsequent tables, which are based on commercial practice, outstanding receipts and payments are brought to account, salaries and overhead charges (Heads A to D) are allocated to appropriate objects of expenditure, and adjustments are made between various heads of account in respect of produce used for forest purposes and transfers of land and buildings between the forests and forest workers' holdings. In addition, payments and receipts in respect of forestry operations conducted by the Commissioners in Ireland during the period 1919 to 1923, which are necessarily included in Tables I and II, are omitted from the succeeding tables. (Expenditure in Ireland amounted to £90,514 and income £26,041.)

Expenditure and income adjusted on the basis stated above are shown in Table IIa.

Table IIa.—Expenditure and Income.

Year ending 30th September.	EXPENDITURE (including Allocation of Column 1).										INCOME.					NET EXPENDITURE.
	A to D. Superior Supervision and Overhead Charges.	E.	F. Advances for Afforestation Purposes.	G. Education.	H. Research and Experiment.	J. Agency and Advisory Services.	K. Special Services.	L. Forest Workers' Holdings.	TOTAL.	Z1. Forestry Operations.	Z5. Forest Workers' Holdings.	Miscellaneous.	TOTAL.			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)			
First decade:	£	£	£	£	£	£	£	£	£	£	£	£	£	£		
Five years, 1920-24...	245,980	994,533	146,698	52,510	34,482	90,763	36,142	5,906	1,361,034	192,641	8	4,601	197,250	1,163,784		
1925	60,206	405,972	34,387	9,915	6,404	1,954	8,178	56,522	523,332	134,244	1,257	850	136,351	386,961		
1926	65,091	493,464	14,960	10,600	7,437	2,007	4,409	75,537	608,714	122,184	3,374	727	126,265	482,429		
1927	67,776	503,918	16,822	9,470	8,337	1,538	3,151	82,524	625,760	135,386	6,074	379	141,839	483,921		
1928	70,606	536,554	13,491	9,426	10,769	1,643	5,756	95,880	673,821	153,721	8,216	185	162,122	511,699		
1929	72,570	577,836	15,336	9,392	12,221	1,328	3,661	73,214	692,988	143,932	8,586	194	152,712	540,276		
Total, 1925-29	326,248	2,518,044	94,996	48,803	45,168	8,470	25,157	383,977	3,124,615	689,467	27,507	2,335	719,309	2,405,306		
Total, First decade	562,178	3,512,577	241,694	101,313	79,650	99,233	61,299	389,883	4,485,649	882,108	27,515	6,986	916,559	3,569,090		
Second decade:	83,414	675,631	16,944	10,208	12,338	1,177	2,097	108,575	826,970	147,994	12,206	406	160,606	668,364		
1930	85,803	701,434	16,573	11,411	12,598	1,167	1,891	109,020	854,094	165,068	13,583	386	179,037	675,057		
1931	80,972	681,180	16,341	8,884	12,326	1,135	2,357	66,367	758,560	144,216	16,811	77	161,104	597,476		
1932	79,132	527,218	14,353	8,226	12,182	944	2,099	19,437	584,459	137,941	17,228	170	155,330	429,120		
Total, 1930-33	329,371	2,565,463	64,211	38,729	49,444	4,423	8,444	293,389	3,024,103	595,219	59,828	1,039	656,086	2,368,017		
Grand Total	911,549	6,078,040	305,905	140,042	129,094	103,656	69,743	683,272	7,509,752	1,477,327	87,343	7,975	1,572,645	5,937,107		
Percentage		81	4.1	1.8	1.7	1.4	0.9	9.1	100	93.9	5.6	0.5	100			

Note.—The above and subsequent tables do not include the amount of the valuation (£1,738,075) placed on the Crown properties transferred to the Commission under the Forestry (Transfer of Woods) Orders in Council dated March 21st, 1924 and June 1st, 1926.

**Subheads A to D—General Organisation. Expenditure,
£79,182.**

Compared with 1932, expenditure decreased by £1,790. No change occurred in the numbers of Divisional and District Officers during the year.

**Subhead E—Forestry Operations. Expenditure, £527,218 ;
Income, £137,941.**

Details of expenditure and income are given in Table E. Gross expenditure was £133,962 less than in 1932, mainly due to decreases of £124,158 on acquisition of land, £6,075 on roads and buildings and £14,796 on miscellaneous items. Local supervision increased by £2,834, and expenditure on preparation and sale of produce by £6,421. Income from forestry operations fell by £6,275.

Overhead Charges, £29,609; *Superior Supervision*, £29,752 and *Local Supervision*, £43,467.—Overhead charges are in respect of salaries, allowances and other expenses in the offices of the Commissioners and Assistant Commissioners. Superior supervision represents similar expenditure in respect of the Deputy Surveyors, Divisional Officers and District Officers; and local supervision includes the salaries, housing allowances and miscellaneous expenses of foresters and foremen. During the year the number of foresters and foremen was increased by eight from 251 to 259.

Table E.—Forestry Operations.

Year ending 30th September.	EXPENDITURE (Table IIa, Column 2).										INCOME (Table IIa, Column 10).					NET EXPENDITURE. (15)
	Over-head Charges. (1)	Superior Supervision. (2)	Local Supervision. (3)	Acquisition of Land, etc. (4)	Cultural Operations. (5)	Preparation and Sale of Produce. (6)	Roads and Buildings. (7)	Stores and Miscellaneous. (8)	Total. (9)	Sales of Land, Buildings, etc. (10)	Rents and Royalties. (11)	Forest Produce. (12)	Other. (13)	Total. (14)		
£	£	£	£	£	£	£	£	£	£	£	£	£	£	£		
First decade: Five years, 1920-24	84,224	76,249	41,049	220,573	431,378	19,459	26,804	94,997	994,533	12,579	42,902	96,753	40,407	192,641	801,892	
1925 ..	18,702	23,943	18,433	101,471	164,125	15,684	18,485	45,129	405,972	23,626	39,367	54,662	16,389	134,244	271,728	
1926 ..	20,841	24,522	24,224	118,607	200,889	16,576	17,954	69,851	493,464	16,395	42,086	44,005	19,698	122,184	371,280	
1927 ..	22,970	24,041	27,430	99,867	230,543	23,543	20,813	54,711	503,918	3,417	45,483	72,111	14,375	135,386	365,532	
1928 ..	22,595	24,519	29,407	97,210	247,231	22,649	14,817	78,426	536,854	15,551	49,116	72,552	16,502	153,721	389,132	
1929 ..	23,665	27,848	33,587	149,781	236,635	20,942	16,815	68,563	577,836	7,216	55,137	66,311	15,268	143,932	433,904	
Total, 1925-29	108,773	124,873	133,081	566,936	1,079,423	99,394	88,684	315,680	2,518,044	66,205	231,189	309,841	82,232	689,467	1,628,577	
Total, First decade	192,997	201,122	174,130	787,509	1,510,801	118,853	115,438	411,677	3,512,577	78,784	274,091	406,594	122,639	862,108	2,630,469	
Second decade:																
1930 ..	29,413	29,957	36,874	186,040	280,356	22,871	26,586	63,154	675,631	2,942	65,184	63,949	16,219	147,994	527,637	
1931 ..	31,974	30,929	39,413	193,444	285,558	20,972	27,483	71,661	701,434	15,568	71,930	56,708	20,802	165,008	536,366	
1932 ..	29,352	30,004	40,633	200,552	259,556	20,345	24,376	63,362	661,180	7,869	70,249	49,477	16,621	144,216	516,984	
1933 ..	29,009	29,752	43,467	76,394	254,363	26,766	18,301	48,566	527,218	4,463	75,127	47,321	11,030	137,941	369,277	
Total, 1930-33	120,348	120,642	160,187	657,030	1,072,833	90,954	96,726	246,743	2,565,463	30,542	282,490	217,515	64,672	595,219	1,970,244	
Grand Total	313,345	321,764	334,317	1,444,539	2,589,634	209,807	212,214	658,420	6,078,040	109,328	556,581	624,109	187,311	1,477,327	4,800,713	
Percentage	5.2	5.3	5.5	23.8	42.5	8.4	8.5	10.8	100	7.4	37.7	42.2	12.7	100		

Acquisition of Land, Buildings and Standing Timber.—Expenditure amounted to £76,394, of which £52,688 was in respect of purchases of land including standing timber and buildings, and £23,706 in respect of land held on long lease or feu.

The average rent or feu duty for land acquired for forestry operations during the year by lease or feu was approximately 2s. 9d. per acre and the average price for such land purchased, approximately £2 19s. 6d. per acre. If the whole outlay in respect of land, buildings, timber, etc., were charged against plantable land the figures would be 2s. 10d. and £3 12s. respectively. Land and buildings for forest workers' holdings are excluded.

The total area of land acquired during the forest year 1932-33 amounted to 19,377 acres, of which 16,673 acres were classified as plantable. On the other hand disposals and adjustments amounted to 1,786 acres (1,338 acres plantable).

The net total area in Great Britain in respect of which the legal formalities of acquisition by the Department had been completed by September 30th, 1933, was 723,543 acres, the corresponding figures in the two previous annual reports being 705,952 and 603,224 acres. In addition to these completed acquisitions, entry had been secured to a number of other properties. Details are given in the table below, which also shows the area of "plantable" and "other land," i.e., land which is either too poor to plant or is required for other purposes.

Land acquired from November 29th, 1919, to September 30th, 1933.

	By Lease and Feu.			By Purchase.			Total by Lease, Feu and Purchase.
	Plantable (including planted).	Other Land.	Total.	Plantable (including planted).	Other Land.	Total.	
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
<i>England and Wales—</i>							
Finally completed ...	100,655	13,890	114,545	170,675	54,357	225,032	339,577
Entry secured ...	2,836	220	3,056	—	—	—	3,056
Total ...	103,491	14,110	117,601	170,675	54,357	225,032	342,633
<i>Scotland—</i>							
Finally completed ...	74,383	74,555	148,938	106,671	128,357	235,028	383,966
Entry secured ...	—	—	—	—	—	—	—
Total ...	74,383	74,555	148,938	106,671	128,357	235,028	383,966
Great Britain ...	177,874	88,665	266,539	277,346	182,714	460,060	726,599

Note.—In addition to the above-mentioned area, 120,696 acres of Crown woodlands have been transferred to the Forestry Commissioners. Of this area, 62,554 acres carry timber or are under forestal treatment.

The net total area acquired in Great Britain to September 30th, 1933, was 726,599 acres, of which 455,220 acres were classified at the time of acquisition as plantable. Of the plantable area 274,166 acres (60 per cent.) are situated in England and Wales and 181,054 acres (40 per cent.) in Scotland.

ENGLAND AND WALES.

FORESTRY COMMISSION AREAS.

- | | |
|---|---|
| 1. Chopwell, Durham.* | 49. Radnor, Radnor. |
| 2. Delamere, Cheshire.* | 50. Lyminge, Kent. |
| 3. Hafod Fawr, Merioneth.* | 51. Kielder, Northumberland.§ |
| 4. Dean Forest, Glos., Hereford and Monmouth.*† | 52. Haugh, Hereford. |
| 5. Tintern, Monmouth.* | 53. Wyre, Worcester. |
| 6. Dymock, Glos. and Hereford.* | 54. Brecon, Brecknock. |
| 7. Salcey, Bucks and Northants.* | 55. Brechfa, Carmarthen.\|\| |
| 8. Hazelborough, Bucks and Northants.*† | 56. Ringwood, Dorset and Hants. |
| 9. Alice Holt, Hants.* | 57. Bourne, Lincoln and Rutland. |
| 10. Woolmer, Hants.* | 58. Hamsterley, Durham. |
| 11. Bere, Hants.* | 59. Hope, Derby. |
| 12. New Forest, Hants.* | 60. Laughton, Lincoln. |
| 13. Parkhurst, Isle of Wight.* | 61. Friston, Sussex. |
| 14. Bedgebury, Kent and Sussex.* | 62. Micheldever, Hants. |
| 15. Rothbury, Northumberland. | 63. Ferndown, Dorset. |
| 16. Thornthwaite, Cumberland. | 64. Wilsey Down, Cornwall. |
| 17. Allerston, Yorks. | 65. Glasfynydd, Brecknock. |
| 18. Selby, Yorks. | 66. Rosedale, Yorks. |
| 19. Gwydyr, Caernarvon and Denbigh. | 67. Ampleforth, Yorks. |
| 20. Vaughan, Merioneth. | 68. Cwmceinon, Cardigan. |
| 21. Cannock Chase, Stafford. | 69. Tarenig, Cardigan and Montgomery. |
| 22. Rockingham, Northants. | 70. Mathrafal, Montgomery. |
| 23. Swaffham, Norfolk. | 71. Pembrey, Carmarthen. |
| 24. Thetford Chase, Norfolk and Suffolk. | 72. Westbury, Hants. |
| 25. Rendlesham, Suffolk. | 73. Buriton, Hants and Sussex. |
| 26. Ampthill, Bedford. | 74. Bawtry, Notts. |
| 27. Mortimer, Hereford, Radnor and Salop. | 75. Sherwood, Notts. |
| 28. Walcot, Salop. | 76. Swanton, Norfolk. |
| 29. Kerry, Montgomery and Salop. | 77. Dunwich, Suffolk. |
| 30. Rheola, Glamorgan. | 78. Brynmawr, Cardigan. |
| 31. Margam, Glamorgan. | 79. Bruton, Somerset and Wilts. |
| 32. Llantrisant, Glamorgan. | 80. Myherin, Cardigan. |
| 33. Llanover, Monmouth. | 81. Harwood, Northumberland. |
| 34. Chepstow, Glos. and Monmouth. | 82. Kershope, Cumberland. |
| 35. Bodmin, Cornwall. | 83. Combley, Isle of Wight. |
| 36. Halwill, Devon. | 84. Brighstone, Isle of Wight. |
| 37. Haldon, Devon. | 85. Slaley, Northumberland. |
| 38. Eggesford, Devon. | 86. Clocaenog, Denbigh and Merioneth. |
| 39. Exmoor, Somerset. | 87. Dyfnant, Montgomery. |
| 40. Quantocks, Somerset. | 88. Crychan, Carmarthen. |
| 41. Wareham, Dorset. | 89. Caio, Carmarthen. |
| 42. Bramshill, Berks and Hants. | 90. Dartmoor, Devon. |
| 43. Chiddingfold, Surrey and Sussex. | 91. Yardley Chase, Northants. |
| 44. Ennerdale, Cumberland. | 92. Arkengarthdale, Yorks. |
| 45. Clipstone, Derby and Notts. | 93. Mynydd Ddu, Brecknock and Monmouth. |
| 46. Beddgelert, Caernarvon. | 94. Herodsfoot, Cornwall. |
| 47. Cynwyd, Merioneth. | 95. West Woods, Wilts. |
| 48. Dovey, Merioneth and Montgomery. | 96. Bardney Woods, Lincoln. |
| | 97. Redesdale, Northumberland. |

* Former Crown woods.

† Includes area previously known as Chase.

‡ Includes area previously known as Brackley.

§ Formerly known as North Tyne Valley.

|| Formerly known as Glangwili.

SCOTLAND.

FORESTRY COMMISSION AREAS.

- | | |
|---------------------------------|----------------------------------|
| 1. Inverliver, Argyll.* | 44. Drumtochty, Kincardine. |
| 2. Borgie, Sutherland. | 45. Midmar, Aberdeen. |
| 3. Slattadale, Ross. | 46. Kennay, Aberdeen. |
| 4. Achnashellach, Ross. | 47. Glengarry, Inverness. |
| 5. Ratagan, Inverness and Ross. | 48. Blairadam, Fife and Kinross. |
| 6. Inchnacardoch, Inverness. | 49. Deer, Aberdeen. |
| 7. South Laggan, Inverness. | 50. Forest of Ae, Dumfries.† |
| 8. Port Clair, Inverness. | 51. Eilanreach, Inverness. |
| 9. Culbin, Moray and Nairn. | 52. Greskine, Dumfries. |
| 10. Monaghty, Moray. | 53. Edgarhope, Berwick. |
| 11. Kirkhill, Aberdeen. | 54. Fearnoch, Argyll. |
| 12. Montreathmont, Angus. | 55. Dornoch, Sutherland. |
| 13. Glen Righ, Inverness. | 56. Inverinate, Ross. |
| 14. Glenduror, Argyll. | 57. Lennox Castle, Stirling. |
| 15. Glenbranter, Argyll. | 58. Loch Ard, Perth. |
| 16. Tentsmuir, Fife. | 59. Scootmore, Moray. |
| 17. Edensmuir, Fife. | 60. Clunes, Inverness. |
| 18. Glentress, Peebles. | 61. Devilla, Fife. |
| 19. Bennan, Kirkcudbright. | 62. Balblair, Sutherland. |
| 20. Dalbeattie, Kirkcudbright. | 63. Lael, Ross. |
| 21. Newcastleton, Roxburgh. | 64. Clashindarroch, Aberdeen. |
| 22. Teindland, Moray. | 65. Roseisle, Moray. |
| 23. Glenurquhart, Inverness. | 66. Inglismaldie, Kincardine. |
| 24. Glenhurich, Argyll. | 67. Blackcraig, Perth. |
| 25. Drummond Hill, Perth. | 68. Achaglachgach, Argyll. |
| 26. Glenmore, Inverness. | 69. Tulloch, Perth. |
| 27. Culloden, Inverness. | 70. Knapdale, Argyll. |
| 28. Nevis, Inverness. | 71. Fiunary, Argyll. |
| 29. Craig-nan-Eun, Inverness. | 72. Carden, Fife. |
| 30. Altonside, Moray. | 73. Glenloy, Inverness. |
| 31. Ardgartan, Argyll. | 74. Auchenroddan, Dumfries. |
| 32. Barcaldine, Argyll. | 75. Tulliallan, Fife. |
| 33. Benmore, Argyll. | 76. Kirroughtree, Kirkcudbright. |
| 34. The Bin, Aberdeen. | 77. Newtyle, Moray. |
| 35. Craig Phadrig, Inverness. | 78. Newton, Moray. |
| 36. Ordiequish, Moray. | 79. Durris, Kincardine. |
| 37. Salen, Argyll. | 80. Longart, Ross. |
| 38. Nortli Strome, Ross. | 81. Garadhbhan, Stirling. |
| 39. South Strome, Ross. | 82. Inverinan, Argyll. |
| 40. Glenshiel, Ross. | 83. Glenbrittle, Isle of Skye. |
| 41. Glenfinart, Argyll. | 84. Alltcaileach, Aberdeen. |
| 42. Findon, Ross. | 85. Fleet, Kirkcudbright. |
| 43. Kessock, Ross. | 86. Kinfauns, Perth. |

* Former Crown wood.

† Formerly known as Closeburn.

Table E.5.—Cultural Operations (Table E, Column 5).

Year ending 30th September.	PLANTATIONS.							NURSERIES.	GRAND TOTAL.	
	Prepara- tion of Ground.	Drain- age.	Fencing.	Plant- ing.	Weed- ing and Clean- ing.	Beating- up.	Forest Pro- tection.			Total.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	£	£	£	£	£	£	£	£	£	£
First decade :										
Five years, 1920-24	56,251	15,415	53,085	81,531	27,147	12,464	15,113	261,006	170,372	431,378
1925	16,920	10,515	20,311	22,615	22,020	9,526	9,152	111,659	52,466	164,125
1926	18,052	9,125	26,684	28,621	28,262	13,071	13,527	137,342	63,547	200,889
1927	19,522	12,496	36,554	35,928	34,528	9,310	17,744	165,882	64,661	230,543
1928	20,864	15,033	35,403	38,442	37,935	13,867	16,934	178,478	68,753	247,231
1929	20,341	18,563	32,686	36,076	33,007	11,134	23,354	175,161	61,474	236,635
Total, 1925-29 ...	95,699	65,732	151,438	161,682	156,352	56,908	80,711	768,522	310,901	1,079,423
Total, First decade ...	151,950	81,147	204,523	243,213	183,499	69,372	95,824	1,029,528	481,273	1,510,801
Second decade :										
1930	19,541	25,042	34,554	43,364	36,070	22,047	26,169	206,787	73,569	280,356
1931	17,522	29,463	38,449	43,096	35,803	19,040	27,134	210,507	75,051	285,558
1932	13,241	37,228	31,425	34,078	39,439	16,032	26,139	197,582	54,974	252,556
1933	10,307	36,563	29,748	29,105	44,113	18,729	32,187	200,752	53,611	254,363
Total, 1930-33 ...	60,611	128,296	134,176	149,643	155,425	75,848	111,629	815,628	257,205	1,072,833
Grand Total ...	212,561	209,443	333,699	392,856	338,924	145,220	207,453	1,845,156	738,478	2,583,634
Percentage ...	8.2	8.1	13.1	15.2	13.1	5.6	8.1	71.4	28.6	100

Cultural Operations.—Expenditure amounted to £254,363, details of which are given in Table E5. Plantations accounted for £200,752 and nurseries £53,611.

Plantations.—The total area planted or sown during the year was 21,037 acres, of which 19,160 acres were placed under conifers and 1,877 acres under broadleaved species. Included in the above are 429 acres reafforested in the former Crown woods and 228 acres replanted after damage by fire.

The total addition to the woodland area of Great Britain as a result of the Commission's operations, was 16,459 acres. In forming plantations and beating-up previous years' plantations 51,810,000 trees were used, of which 45 per cent. were Norway and Sitka spruces; 29 per cent. Scots and Corsican pines; 12 per cent. European and Japanese larches; 3 per cent. Douglas fir, and 8 per cent. broadleaved species.

An area of 115 acres of existing woods was underplanted, necessitating the use of 79,000 plants.

Plantations. Year ended 30th

Forest.	Area planted (acres).					
	Afforested.		Re-afforested.		Total.	
	Coni- fers.	Broad- leaved.	Coni- fers.	Broad- leaved.	Coni- fers.	Broad- leaved.
Alice Holt, Hants*	—	—	15	—	15	—
Allerston, Yorks	167	2	—	—	167	2
Ampleforth, Yorks	51	—	53	1	104	1
Amptill, Bedford	—	—	—	—	—	—
Arkengarthdale, Yorks ...	101	—	—	—	101	—
Bawtry, Notts	48	11	—	—	48	11
Beddgelert, Caernarvon ...	69	—	—	—	69	—
Bedgebury, Kent and Sussex*...	—	—	37	5	37	5
Bere, Hants*	—	—	—	—	—	—
Bodmin, Cornwall	25	—	67	1	92	1
Bourne, Lincoln and Rutland	—	—	7	74	7	74
Bramhill, Berks and Hants...	—	—	—	—	—	—
Brecha, Carmarthen†	246	10	67	3	313	13
Brecon, Brecknock	198	2	—	—	198	2
Brightstone, Isle of Wight ...	3	52	—	—	3	52
Bruton, Somerset and Wilts ...	27	—	26	—	53	—
Burton, Hants and Sussex ...	—	42	—	8	—	50
Caio, Carmarthen	163	6	3	5	166	11
Cannock Chase, Stafford ...	161	—	—	—	161	—
Chepstow, Glos. and Mou- mouth.	—	—	5	—	5	—
Chiddingfold, Surrey and Sussex.	—	—	—	34	—	34
Chopwell, Durham*	—	—	3	—	3	—
Clipstone, Derby and Notts ...	66	35	45	105	111	140
Clocaeog, Denbigh and Merioneth.	377	—	—	—	377	—
Combley, Isle of Wight	—	—	51	7	51	7
Crychan, Carmarthen	86	—	24	—	110	—
Cwmeion, Cardigan	88	—	—	—	88	—
Cynwyd, Merioneth	28	—	—	—	28	—
Dartmoor, Devon	148	—	14	3	162	3
Dean Forest, Glos., Here- ford and Monmouth.*†	—	33	87	66	87	99
Delamere, Cheshire*	—	—	25	1	25	1
Dovey, Merioneth and Mont- gomery.	288	2	15	—	303	2
Dunwich, Suffolk	115	—	—	11	115	11
Dyfnant, Montgomery	44	—	18	—	62	—
Dymock, Gloucester and Hereford.*	52	—	—	—	52	—
Eggesford, Devon	—	—	9	5	9	5
Ennerdale, Cumberland	151	3	—	—	151	3
Exmoor, Somerset	33	—	43	—	76	—
Ferndown, Dorset	36	—	—	—	36	—
Friston, Sussex	—	25	—	—	—	25
Glasfynydd, Brecknock	83	—	—	—	83	—
Gwydyr, Caernarvon and Denbigh.	452	—	26	—	478	—

* Former Crown woods.

† Formerly known as Glangwili.

September, 1933—England and Wales.

Species planted, including beating-up (thousands).									Forest.
Scots and Corsican Pines.	Eur. and Jap. Larches.	Douglas Fir.	Norway and Sitka Spruces.	Oak.	Ash.	Beech.	Others.	Total.	
34	71	5	27	18	—	4	3	162	Alice Holt.*
166	168	5	287	—	1	—	70	697	Allerston.
9	69	3	124	—	—	4	4	213	Ampleforth.
6	1	—	—	—	—	—	2	9	Amphill.
—	—	—	182	—	—	—	—	182	Arkengarthdale.
79	6	—	63	1	—	—	11	160	Bawtry.
2	—	—	196	—	—	—	5	203	Beddgelert.
28	73	4	12	—	—	—	8	125	Bedgebury.*
1	7	—	—	29	—	4	—	41	Bere.*
66	58	9	55	—	5	5	11	209	Bodmin.
—	75	—	14	—	82	—	1	172	Bourne.
121	—	5	4	—	—	—	—	130	Bramshill.
64	94	96	352	—	—	7	3	616	Brechfa.†
15	60	2	401	—	—	3	4	485	Brecon.
10	—	—	3	—	11	11	96	131	Brightstone.
—	16	33	22	—	1	—	13	85	Bruton.
—	—	—	—	—	5	105	110	220	Buriton.
15	9	26	256	—	—	14	4	324	Caio.
502	10	—	145	—	—	57	38	752	Cannock Chase.
10	12	9	18	—	—	3	—	52	Chepstow.
1	—	—	7	73	17	—	—	98	Chiddingfold.
3	10	1	23	—	—	—	—	37	Chopwell.*
577	46	—	3	—	55	11	116	808	Clipstone.
12	263	—	612	—	—	—	18	905	Clocaenog.
—	78	—	1	7	—	—	5	91	Combley.
13	39	32	125	—	—	—	—	209	Crychan.
—	—	—	151	—	—	—	—	151	Cwmeion.
34	48	—	53	—	—	—	13	148	Cynwyd.
—	2	—	259	—	—	2	2	265	Dartmoor.
23	103	1	125	67	16	98	33	466	Dean Forest.*‡
71	13	—	6	—	—	2	1	93	Delamere.*
—	126	184	380	—	4	—	34	728	Dovey.
274	—	—	—	1	—	8	4	287	Dunwich.
—	11	14	89	—	—	—	2	116	Dyfnant.
—	71	—	12	—	—	4	7	94	Dymock.*
—	7	18	7	—	—	1	2	35	Eggesford.
—	79	8	299	—	—	—	9	395	Ennerdale.
60	28	40	76	—	—	9	21	234	Exmoor.
117	—	—	23	—	—	—	—	140	Ferndown.
9	13	—	—	—	5	102	1	130	Friston.
—	—	—	148	—	—	—	—	148	Glasfynydd.
175	81	54	756	—	—	46	53	1,165	Gwydyr.

‡ Includes forest previously known as Chase.

Plantations. Year ended 30th

Forest.	Area planted (acres).					
	Afforested.		Re-afforested.		Total.	
	Conifers.	Broad-leaved.	Conifers.	Broad-leaved.	Conifers.	Broad-leaved.
Hafod Fawr, Merioneth* ...	20	—	—	—	20	—
Haldon, Devon ...	52	1	43	—	95	1
Halwill, Devon ...	133	—	—	—	133	—
Hamsterley, Durham ...	53	2	—	—	53	2
Harwood, Northumberland ...	153	2	—	—	153	2
Haugh, Hereford ...	—	—	15	—	15	—
Hazelborough, Bucks and Northants.*†	—	—	39	6	39	6
Herodsfoot, Cornwall... ..	—	—	11	3	11	3
Hope, Derby ...	60	—	—	—	60	—
Kerry, Montgomery and Salop	24	—	—	—	24	—
Kershope, Cumberland ...	426	—	—	—	426	—
Kielder, Northumberland‡ ...	435	—	—	—	435	—
Laughton, Lincoln ...	90	—	63	—	153	—
Llanover, Monmouth ...	71	—	—	—	71	—
Llantrisant, Glamorgan ...	14	—	—	—	14	—
Lyminge, Kent ...	—	—	27	9	27	9
Margam, Glamorgan ...	—	—	—	—	—	—
Mathrafal, Montgomery ...	—	—	12	3	12	3
Micheldever, Hants ...	—	57	—	27	—	84
Mortimer, Hereford, Radnor and Salop.	141	—	123	2	269	2
Myherin, Cardigan ...	293	—	3	—	296	—
New Forest, Hants* ...	—	—	21	69	21	69
Parkhurst, Isle of Wight* ...	—	—	8	12	8	12
Pembrey, Carmarthen ...	148	16	—	—	148	16
Quantocks, Somerset ...	—	—	—	—	—	—
Radnor, Radnor ...	69	—	—	—	69	—
Rendlesham, Suffolk ...	187	67	16	23	203	90
Rheola, Glamorgan ...	72	9	99	10	171	19
Ringwood, Dorset and Hants	275	—	—	—	275	—
Rockingham, Northants ...	—	105	—	97	—	202
Rosedale, Yorks ...	147	3	—	—	147	3
Rothbury, Northumberland ...	—	—	15	—	15	—
Salcey, Bucks and Northants*	—	—	—	14	—	14
Selby, Yorks ...	—	—	—	—	—	—
Sherwood, Notts ...	—	—	—	—	—	—
Slaley, Northumberland ...	93	—	—	—	93	—
Swaffham, Norfolk ...	20	—	—	—	20	—
Swanton, Norfolk ...	106	—	3	—	109	—
Tarenig, Cardigan and Montgomery.	40	—	—	—	40	—
Thetford Chase, Norfolk and Suffolk.	1,135	305	51	123	1,186	428
Thornthwaite, Cumberland ...	34	—	—	—	34	—
Tintern, Monmouth* ...	—	—	53	7	53	7
Vaughan, Merioneth ...	347	—	26	30	373	30

* Former Crown woods. † Includes forest previously known as Brackley.
‡ Formerly known as North Tyne Valley.

September, 1933—England and Wales—contd.

Species planted, including beating-up (thousands).									Forest.
Scots and Corsican Pines.	Eur. and Jap. Larches.	Douglas Fir.	Norway and Sitka Spruces.	Oak.	Ash.	Beech.	Others.	Total.	
—	—	—	43	—	—	—	3	46	Hafod Fawr.*
171	15	35	20	—	—	3	15	259	Haldon.
—	—	5	291	—	—	—	2	298	Halwill.
26	61	35	207	—	—	3	4	336	Hamsterley.
4	—	—	269	—	—	—	5	278	Harwood.
—	35	—	1	—	—	—	—	36	Haugh.
—	56	—	21	16	—	—	—	93	Hazel-
—	6	5	2	—	3	—	—	16	borough.*†
—	—	—	256	—	—	—	31	287	Herodsfoot.
—	—	—	87	—	—	—	1	88	Kerry.
—	2	—	816	—	—	1	14	833	Kershope.
9	1	—	748	—	—	—	8	766	Kielder. ‡
373	—	—	72	—	—	—	19	464	Laughton.
101	7	—	207	—	—	28	12	355	Llanover.
13	25	—	96	—	—	10	12	156	Llantrisant.
—	48	13	—	—	—	3	10	74	Lyminge.
14	40	—	297	—	—	6	61	418	Margam.
—	56	1	24	—	—	4	—	85	Mathrafal.
—	152	—	1	1	—	147	2	303	Micheldever.
38	370	—	90	—	1	21	4	524	Mortimer.
—	231	20	368	—	—	—	13	632	Myherin.
75	7	—	41	81	—	49	44	297	New Forest.*
12	—	—	4	18	—	4	8	46	Parkhurst.*
455	5	—	24	—	—	—	67	551	Pembrey.
8	1	6	5	—	—	3	—	23	Quantocks.
15	85	15	83	—	—	6	9	213	Radnor.
515	43	—	—	100	31	31	2	722	Rendlesham.
49	15	—	470	—	4	18	57	613	Rheola.
495	2	1	61	—	—	—	—	559	Ringwood.
19	129	—	144	102	152	4	6	556	Rockingham.
62	20	—	235	—	—	4	2	323	Rosedale.
20	17	—	10	—	—	—	—	47	Rotbury.
—	—	—	—	21	6	5	—	32	Salcey.*
26	—	—	—	—	—	—	1	27	Selby.
225	6	—	51	—	—	6	25	313	Sherwood.
235	2	—	19	—	—	—	7	263	Slaley.
139	—	—	—	—	—	50	1	190	Swaffham.
52	42	27	83	1	5	—	2	212	Swanton.
—	—	—	69	—	—	—	—	69	Tarenig.
3,806	220	208	—	166	41	745	62	5,248	Thetford Chase.
11	71	27	129	—	3	5	18	264	Thornthwaite.
24	52	19	112	3	2	12	3	227	Tintern.*
1	89	112	578	—	—	7	24	811	Vaughan.

Plantations. Year ended 30th

Forest.	Area planted (acres).					
	Afforested.		Re-afforested.		Total.	
	Coni- fers.	Broad- leaved.	Coni- fers.	Broad- leaved.	Coni- fers.	Broad- leaved.
Walcot, Salop	10	—	67	—	77	—
Wareham, Dorset	183	—	—	—	183	—
Westbury, Hants	—	18	—	7	—	25
West Woods, Wilts	11	41	32	62	43	103
Wilsey Down, Cornwall	81	1	—	—	81	1
Wyre, Worcester	—	—	53	—	53	—
Yardley Chase, Northants	—	—	21	101	21	101
Total	8,229	850	1,446	934	9,675	1,784
By direct sowing (included above).	5	79	—	41	5	120

Plantations. Year ended

Achaglachgach, Argyll	79	—	—	—	79	—
Achnashellach, Ross	—	—	—	—	—	—
Alltcaillach, Aberdeen	—	—	3	—	3	—
Ardgartan, Argyll	218	—	—	—	218	—
Ancheuroddan, Dumfries	195	3	—	—	195	3
Balblair, Sutherland	—	—	97	—	97	—
Barcaldine, Argyll	170	—	—	—	170	—
Benmore, Argyll	131	1	—	—	131	1
Bennan, Kirkcudbright	102	—	—	—	102	—
Bin (The), Aberdeen	—	—	239	17	239	17
Blackcraig, Perth	170	—	—	—	170	—
Blairadam, Fife and Kinross	—	—	60	—	60	—
Borgie, Sutherland	—	—	—	—	—	—
Carden, Fife	—	—	13	—	13	—
Clashindarroch, Aberdeen	449	2	—	—	449	2
Clunes, Inverness	155	—	—	—	155	—
Craig-nan-Eun, Inverness	133	—	—	—	133	—
Craig Phadrig, Inverness	—	—	—	—	—	—
Culbin, Moray and Nairn	—	—	149	1	149	1
Culloden, Inverness	—	—	—	—	—	—
Dalbeattie, Kirkcudbright	161	1	1	—	162	1
Deer, Aberdeen	90	5	70	4	160	9
Devilla, Fife	2	—	50	—	52	—
Dornoch, Sutherland	—	—	—	—	—	—
Drummond Hill, Perth	20	—	75	12	95	12
Drumtochty, Kincardine	182	—	25	6	207	6
Durris, Kincardine	89	1	10	—	99	1
Edensmuir, Fife	7	—	22	—	29	—
Edgarhope, Berwick	—	—	50	—	50	—
Eilanreath, Inverness	150	—	—	—	150	—
Fearnoch, Argyll	100	—	—	—	100	—
Findon, Ross	46	—	42	—	88	—
Fiunary, Argyll	220	—	—	—	220	—
Forest of Ae, Dumfriess†	171	—	—	—	171	—
Garadhban, Stirling	59	—	47	—	106	—
Glenbranter, Argyll	106	—	—	—	106	—
Glenbrittle, Isle of Skye	62	—	—	—	62	—
Glenduror, Argyll	109	1	—	—	109	1

September, 1933—England and Wales—contd.

Species planted, including beating-up (thousands).									Forest.
Scots and Corsican Pines.	Eur. and Jap. Larches.	Douglas Fir.	Norway and Sitka Spruces.	Oak.	Ash.	Beech.	Others.	Total.	
—	112	—	3	—	—	—	—	115	Walcot.
252	5	4	149	—	—	7	17	434	Wareham.
2	29	—	—	—	5	52	—	88	Westbury.
—	60	—	—	—	57	36	57	210	West Woods.
—	6	—	139	—	—	—	3	148	Wilsey Down.
—	66	—	3	—	1	—	2	72	Wyre.
—	97	—	25	95	41	—	3	261	Yardley Chase.
9,744	4,033	1,082	11,669	800	554	1,770	1,340	30,992	Total.

30th September, 1933—Scotland.

62	—	—	73	—	—	—	7	142	Achaglachgach.
23	22	—	25	—	—	—	5	75	Achnashellach.
6	—	—	—	—	—	—	—	6	Alltcaileach.
28	48	17	453	—	—	—	50	696	Ardgartan.
1	14	—	375	—	—	10	—	400	Auchenroddan.
143	46	2	25	—	—	4	19	239	Balblair.
7	27	3	255	—	—	—	34	326	Barcaldine.
18	37	24	401	—	—	1	62	543	Benmore.
24	—	—	165	—	—	—	—	189	Benoan.
137	109	2	261	—	—	7	6	522	Bin (The).
—	118	—	108	—	—	—	11	237	Blackcraig.
9	—	—	138	—	—	—	—	147	Blairadam.
8	1	—	32	—	—	—	19	60	Borgie.
9	—	—	25	—	—	—	1	35	Carden.
168	353	—	267	—	—	3	41	832	Clashinlarroch.
—	30	—	267	—	—	—	10	307	Clunes.
32	12	76	147	—	—	—	12	279	Craig-nan-Eun.
3	—	1	—	—	—	1	4	9	Craig Phadrig.
182	36	19	59	—	—	1	8	305	Culbin.
9	6	2	24	—	—	—	—	41	Culloden.
38	35	2	180	—	1	—	11	267	Dalbeattie.
33	36	—	198	—	—	8	47	322	Deer.
121	1	—	17	—	—	—	—	139	Devilla.
10	3	—	8	—	—	1	8	30	Dornoch.
55	89	—	20	8	—	1	32	205	Drummond Hill.
7	137	6	135	4	—	6	51	346	Drumtochty.
—	2	—	147	—	—	1	—	150	Durris.
97	—	—	11	—	—	1	9	118	Edensmuir.
36	61	—	4	—	—	—	—	101	Edgarhope.
31	96	—	153	—	—	—	9	289	Eilanreach.
8	2	—	146	—	—	—	4	160	Fearnoch.
193	17	—	18	—	—	6	6	240	Findon.
198	35	—	195	—	—	—	34	462	Fiunary.
5	2	—	306	—	—	2	—	315	Forest of Ae.†
58	8	—	125	—	—	2	1	194	Garadhban.
30	24	4	365	—	—	—	28	451	Glenbranter.
31	20	—	62	—	—	—	—	113	Glenbrittle.
71	—	—	163	—	—	—	11	245	Glenduror.

Plantations. Year ended

Forest.	Area planted (acres).					
	Afforested.		Re-afforested.		Total.	
	Coni- fers.	Broad- leaved.	Coni- fers.	Broad- leaved.	Coni- fers.	Broad- leaved.
Glenfinart, Argyll	163	—	—	—	163	—
Glengarry, Inverness	183	—	—	—	183	—
Glenhurich, Argyll	327	—	—	—	327	—
Glenloy, Inverness	212	—	—	—	212	—
Glenmore, Inverness	—	—	72	—	72	—
Glen Righ, Inverness	17	—	—	—	17	—
Glenshiel, Ross... ..	75	—	—	—	75	—
Glentress, Peebles	96	—	16	—	112	—
Glenurquhart, Inverness	126	—	—	—	126	—
Greskine, Dumfries	45	3	—	—	45	3
Inchnacardoch, Inverness	72	2	—	—	72	2
Inglismaldie, Kincardine	—	—	48	2	48	2
Inverinan, Argyll	98	1	—	—	98	1
Inverinate, Ross	129	—	2	—	131	—
Inverliever, Argyll*	33	—	—	—	33	—
Kemnay, Aberdeen	—	—	—	—	—	—
Kessock, Ross	1	—	—	—	1	—
Kirkhill, Aberdeen	—	—	—	—	—	—
Kirroughtree, Kirkcudbright... ..	112	5	—	—	112	5
Knapdale, Argyll	119	1	236	3	355	4
Lael, Ross	13	—	148	—	161	—
Lennox Castle, Stirling	55	—	—	—	55	—
Loch Ard, Perth	405	—	—	—	405	—
Longart, Ross	90	—	—	—	90	—
Midmar, Aberdeen	—	—	53	7	53	7
Monaughty, Moray	—	—	44	—	44	—
Montreathmont, Angus	—	—	73	—	73	—
Nevis, Inverness	292	—	—	—	292	—
Newcastleton, Roxburgh	145	—	—	—	145	—
Newtyle, Moray	—	—	84	—	84	—
North Strome, Ross	60	—	—	—	60	—
Ordiequish, Moray	30	—	—	—	30	—
Port Clair, Inverness	120	—	—	—	120	—
Ratagan, Inverness and Ross... ..	119	—	—	—	119	—
Roseisle, Moray	131	—	63	—	194	—
Salen, Argyll	209	—	—	—	209	—
Scootmore, Moray	101	2	55	—	156	2
Slattadale, Ross	—	—	—	—	—	—
South Laggan, Inverness	—	—	71	—	71	—
South Strome, Ross	100	—	—	—	100	—
Teindland, Moray	80	—	—	—	80	—
Tentsmuir, Fife	121	—	—	—	121	—
Tulloch, Perth	97	—	—	—	97	—
Total	7,352	28	1,918	52	9,270	80
By direct sowing (included above).	7	—	—	4	7	4

Plantations. Year ended

England and Wales	8,229	850	1,446	934	9,675	1,784
Scotland... ..	7,352	28	1,918	52	9,270	80
Total	15,581	878	3,364	986	18,945	1,864

* Former Crown wood.

† Formerly known as Closeburn.

30th September, 1933—Scotland—contd.

Species planted, including beating-up (thousands).									Forest.
Scots and Corsican Pines.	Eur. and Jap. Larches.	Douglas Fir.	Norway and Sitka Spruces.	Oak.	Ash.	Beech.	Others.	Total.	
92	7	—	254	—	—	—	22	375	Glenfinart.
28	17	—	354	—	—	—	10	409	Glengarry.
108	7	—	469	—	—	—	—	584	Glenburgh.
57	49	24	280	—	—	1	—	411	Glenloy.
294	—	—	278	—	—	—	—	572	Glenmore.
7	5	—	43	—	—	1	2	58	Glen Righ.
—	5	—	134	—	—	—	35	174	Glenshiel.
58	95	3	62	—	—	6	3	227	Glentress.
77	33	36	87	—	—	7	72	314	Gleaurquhart.
33	6	—	50	—	—	4	3	96	Greskine.
175	12	3	95	—	5	1	9	300	Inchnacardoch.
88	7	—	21	—	—	5	—	121	Inglismaldie.
5	2	—	143	—	—	1	25	176	Inverinan.
23	93	1	173	—	—	14	—	304	Inverinate.
4	6	—	51	—	—	—	—	61	Inverliever.*
62	25	1	43	—	—	2	—	133	Kemnay.
20	8	20	9	—	—	1	—	58	Kessock.
—	6	—	46	—	—	1	1	54	Kirkhill.
84	49	—	89	—	—	10	2	234	Kirroughtree.
57	105	42	458	—	3	15	31	711	Knapdale.
46	105	10	112	—	1	9	18	301	Lael.
11	3	—	30	—	—	3	7	104	Lennox Castle.
288	55	9	491	—	—	5	11	859	Loch Ard.
44	20	—	80	—	—	—	31	175	Longart.
57	6	1	54	—	2	2	9	131	Midmar.
109	12	—	8	—	—	—	10	139	Mouaughby.
87	24	—	64	—	—	4	27	206	Montreathmont.
120	45	—	370	—	—	—	32	567	Nevis.
20	—	—	266	—	—	—	—	286	Newcastleton.
151	—	—	40	—	—	1	—	192	Newyle.
16	4	—	99	—	—	—	—	119	North Strome.
53	2	—	20	—	—	—	13	88	Ordiequish.
79	9	9	172	—	—	—	15	284	Port Clair.
7	58	—	299	—	2	3	26	395	Ratagan.
398	—	—	5	—	—	4	13	420	Rossisle.
91	7	—	196	—	—	—	42	336	Salen.
79	39	—	185	—	—	—	5	308	Scotmore.
3	3	1	29	—	—	1	—	37	Slattadale.
15	14	—	114	—	—	—	7	150	South Laggan.
21	7	—	150	—	—	—	5	183	South Strome.
55	1	—	73	—	—	—	78	207	Teindland.
259	—	—	36	—	—	6	34	335	Tentsmuir.
4	13	—	170	—	—	—	—	187	Tulloch.
5,176	2,391	320	11,605	12	14	162	1,138	20,818	Total.

30th September, 1933—Summary.

9,744	4,033	1,082	11,669	800	554	1,770	1,340	30,992	England & Wales.
5,176	2,391	320	11,605	12	14	162	1,138	20,818	Scotland.
14,920	6,424	1,402	23,274	812	568	1,932	2,478	51,810	Total.

Cost of Planting.—The outlay per acre on labour and material on the areas planted between 1919 and 1933 was as follows:—

	£	s.	d.
England and Wales	9	5	6
Scotland ...	9	15	2
Great Britain	9	8	11

These figures cover the cost of preparation of ground, drainage, fencing, plants, planting, replacement of failures and weeding, but do not include expenditure on forest protection, supervision and overhead charges.

Forest Fires.—Forest fires were of more frequent occurrence and more destructive than in the previous year. Comparative figures for the five years 1929 to 1933 are as follows:—

	1929.	1930.	1931.	1932.	1933
Number of fires ...	409	165	213	315	623
Area burnt (acres) ...	4,574	258	171	262	1,313
Damage valued at ...	£45,961	£2,080	£2,143	£2,813	£22,670

Claims amounting to £1,730 have been lodged by the Commissioners in respect of the damage done during the year.

Nurseries.—The total area under nurseries at September 30th, 1933, was 829 acres stocked with 140 million seedlings and 78 million transplants. Comparative figures for the three years 1931-33 are given in the following table:—

Nurseries.

Year ending 30th Sept.	Country.	Seed Sown (lb.).			Stock of Plants at 30th September (thousands).						Area (Acres)
					Transplants.			Seedlings.			
		Coniferous.	Broad-leaved.	Total.	Coniferous.	Broad-leaved.	Total.	Coniferous.	Broad-leaved.	Total.	
1933...	England and Wales.	4,321	79,244	83,565	40,149	4,510	44,659	76,069	5,572	81,641	512
	Scotland ...	1,949	508	2,457	32,417	962	33,379	57,306	607	57,913	317
	Total ...	6,270	79,752	86,022	72,566	5,472	78,038	133,375	6,179	139,554	829
1932...	England and Wales.	2,426	22,598	24,964	42,885	4,190	47,375	122,342	7,305	129,647	601
	Scotland ...	2,126	1,056	3,182	34,637	799	35,436	85,497	1,214	86,711	313
	Total ...	4,552	23,594	28,146	77,522	5,289	82,811	207,839	8,519	216,358	914
1931...	England and Wales.	8,366	14,844	23,210	48,609	7,039	55,648	189,833	4,365	194,198	637
	Scotland ...	3,086	1,812	4,898	42,125	529	42,654	100,934	2,451	103,385	317
	Total ...	11,452	16,656	28,108	90,734	7,568	98,302	290,767	6,816	297,583	954

Seed Supply.—Sitka spruce seed was received from the Queen Charlotte Islands but supplies did not quite meet requirements. On the other hand, sufficient Japanese larch was obtained from Japan. Crops of Norway spruce and European larch seed were only moderate but Corsican pine was in abundant supply. As regards seed collected in Great Britain, Scots pine was plentiful but there was a shortage of European larch; the seeds of hardwoods, with the exception of ash and beech, were obtained without difficulty.

The quantity of seed sold during the year amounted to 410 lb.

The Commissioners have to express their thanks for gifts of seed from the forest authorities of France, Hungary, Italy, Portugal and Spain.

Subhead F—Advances for Afforestation Purposes.

Expenditure £14,353.

Grants to private individuals and local authorities for planting and scrub-clearing amounted to £9,987, advances in respect of a proceeds-sharing scheme to £1,552 and overhead and supervisory charges to £2,814.

The basis on which grants are made has been revised and is now as follows :—

(1) *Conifers.*—Up to £2 per acre planted and thereafter maintained as a forest crop.

(2) *Hardwoods.*—For every acre planted with approved species and thereafter maintained as an area for the production of hardwoods :—up to £4 per acre for oak or ash; £3 per acre for beech, sycamore or chestnut, and £2 per acre for other approved species.

The grant for clearance of scrub has been discontinued.

The number of schemes in respect of which grants were paid during the year and the areas dealt with are stated below :—

—	England & Wales.	Scotland.	Total.
Number of Schemes ...	217	88	305
	Acres.	Acres.	Acres.
Planting conifers ...	2,236	1,232	3,468
Planting hardwoods ...	890	37	927
Scrub clearing ...	168	81	249

The area planted under the proceeds-sharing scheme was 185 acres.

**Subhead G—Education. Expenditure: Gross £8,226;
Net £8,188.**

Details of expenditure are given in Table G.

Table G.—Education.

Year ending 30th September.	EXPENDITURE (Table IIa, Column 4).							INCOME.	NET EXPEN- DITURE.
	Superior Super- vision and Over- head Charges.	Apprentices' Schools.				Grants to Insti- tutions.	Total.		
		Salaries and Expenses of In- structors.	Purchase and Rent of Land and Build- ings.	Allow- ances to Appren- tices.	Stores, Fuel, Light, etc.				
£	£	£	£	£	£	£	£	£	
First decade : Five years, 1920-24	7,238	10,690	5,371	11,144	8,910	9,157	52,510	1,889	50,621
1925	1,240	1,150	166	1,685	931	4,743	9,915	435	9,480
1926	1,361	1,138	235	2,347	1,280	4,239	10,600	17	10,583
1927	1,231	769	185	2,028	1,122	4,135	9,470	68	9,402
1928	1,005	803	109	2,303	971	4,235	9,426	9	9,417
1929	1,050	851	129	2,202	978	4,182	9,392	9	9,383
Total, 1925-29	5,887	4,711	824	10,565	5,282	21,534	48,803	538	48,265
Total, First decade	13,125	15,401	6,195	21,709	14,192	30,691	101,313	2,427	98,886
Second decade :									
1930	900	820	838	2,203	1,215	4,232	10,208	263	9,945
1931	880	759	1,949	2,143	1,450	4,230	11,411	64	11,347
1932	739	882	259	1,982	968	4,004	8,884	5	8,879
1933	1,010	950	188	1,473	719	3,856	8,226	38	8,188
Total, 1930-33	3,579	3,441	3,234	7,801	4,352	16,322	38,729	370	38,359
Grand Total ...	10,704	18,842	9,429	29,510	18,544	47,013	140,042	2,797	137,245
Percentage ...	11·9	13·5	6·7	21·1	13·2	33·6	100		

Apprentices' Schools: Expenditure, £3,360.—Forty-three forest apprentices underwent courses of instruction at Parkend (Forest of Dean) and Benmore (Argyllshire). Of those who completed the two years' course 29 were granted certificates of proficiency.

Grants to Universities and Colleges: Expenditure, £1,956.—The following Universities and Colleges received grants during the year:—Oxford University; Cambridge University; University College of North Wales, Bangor; Aberdeen University; Edinburgh and East of Scotland College of Agriculture. The number of students studying forestry was 151 and 47 degrees were awarded.

Imperial Forestry Institute: Expenditure, £1,900.—The annual grant to the Imperial Forestry Institute from the Forestry Fund was continued. Ten students attended for the whole or part of the year, including 2 post-graduate probationers from the Colonial Services, 7 forest officers on leave (India 3, Dominion Services 3, Colonial Services 1) and 1 private student.

Subhead H.—Research and Experiment.

Expenditure: Gross, £12,182; Net, £12,104.

Details of expenditure are given in Table H.

Table H.—Research and Experiment.

Year ending 30th September.	EXPENDITURE (Table IIa, Column 5).					INCOME.	NET EXPENDI- TURE.
	Superior Super- vision and Overhead Charges.	Salaries and Expenses.	Labour, Stores, etc.	Grants to Insti- tutions.	Total.		
	£	£	£	£	£	£	£
First decade : Five years, 1920-24	6,450	20,486	4,453	3,093	34,482	586	33,896
1925	1,662	3,030	1,112	600	6,404	43	6,361
1926	1,492	3,336	1,946	663	7,437	110	7,327
1927	1,376	3,492	2,712	757	8,337	93	8,244
1928	1,584	3,082	4,758	745	10,769	93	10,676
1929	1,135	4,432	5,249	1,405	12,221	133	12,088
Total, 1925-29 ...	7,249	17,972	15,777	4,170	45,168	472	44,696
Total, First decade ...	13,699	38,458	20,230	7,263	79,650	1,058	78,592
Second decade :							
1930	1,316	5,079	4,529	1,414	12,338	105	12,233
1931	1,292	5,323	4,588	1,395	12,598	278	12,320
1932	1,149	5,329	4,452	1,396	12,326	42	12,284
1933	1,233	5,294	4,009	1,646	12,182	78	12,104
Total, 1930-33 ...	4,990	21,025	17,578	5,851	49,444	503	48,941
Grand Total	18,689	59,483	37,808	13,114	129,094	1,661	127,533
Percentage	14·5	46·1	29·3	10·1	100		

Production.—Fourteen new sample plots were established during the year, 7 in England and Wales and 7 in Scotland. In addition to these 35 plots were remeasured. At the end of the year the number of permanent sample plots established was 201, of which 114 were in England and Wales and 87 in Scotland. One Norway spruce plot was abandoned owing to windblow.

Nursery and Plantation Experiments.—Nursery experiments were largely concerned with the following up of the previous year's work on stratification of seed with sand, the control of weeds in seedbeds and methods of covering small-seeded species. The stratification of Douglas fir seed confirmed the previous result that it is advantageous to mix seed of this species with sand in January, sowing being carried out in the usual way in the following April. The germination of the stratified seed was double that of seed stored in air-tight containers until the spring.

The use of dilute sulphuric acid as a means of weed control in seedbeds was tried on an experimental scale in ten different nurseries with satisfactory results; the hot summer provided a somewhat severe test of the method but the germination of the tree seeds was good except on the most sandy soils. A preliminary trial with sodium chlorate appeared promising.

Sand of varying degrees of fineness was used for covering seed of European larch and Sitka spruce, with ordinary nursery soil as control. Fine sand free from silt particles gave better results than either nursery soil, coarse sand, or fine gravel.

The chief features of note in the plantation experiments have been the initial success of direct sowings of different pine species on the sandy heaths near Wareham in Dorset and the remarkable growth of ash in the Forest of Dean as a result of keeping the ground hoed between the plants. The direct sowing at Wareham was carried out on ploughed ground and there was a good germination of all species in spite of the dry summer. It was found that a satisfactory seedbed could be obtained by running a tractor along the furrow lines the seed then being sown with an ordinary one-man seed-drilling machine. The ash hoeing experiments in the Forest of Dean showed that by keeping the ground between the ash plants worked during the summer improved growth can be obtained in the second or third year after planting.

Entomology and Mycology.—An investigation into the pine shoot beetle was started in the New Forest in conjunction with the Imperial Institute of Entomology. Much information regarding the status of the pine shoot moth has been obtained from a survey of the pine plantations in Thetford, Swaffham and Rendlesham Forests and the work on this pest is now being concluded. Outbreaks of the oak-leaf roller moth occurred in several parts of southern England; the progress of the attack is being kept under observation in the Forest of Dean. Some work has been done on chafer larvae. A grant was given to the Bureau of Animal Population, Oxford University, for the study of the natural diseases of voles.

A slight recrudescence of the elm disease was apparent during the summer, probably the result of the prolonged drought; in most parts of the country the disease remains of minor importance. An investigation has been started on the cause of heart-rot in conifer plantations. The study of factors affecting frost damage is being continued at the Imperial Forestry Institute.

Botany and Soils.—Research on the mycorrhiza of pines is being further pursued at Bedford College, London, and a new series of field plots has been laid down at Wareham Forest. At Aberdeen University an investigation has been started on the early root and shoot development of European larch with special reference to planting and the effects of spring drought. Soil studies in the Deeside district of Aberdeenshire are being continued.

Advisory Committee on Forest Research.—The Committee held its sixth meeting in May, 1933. Later in the year the Forest of Dean was visited and the experimental work inspected.

Utilisation.—Close contact has been maintained with the work of the Forest Products Research Laboratory especially in connection with the utilisation of home-grown poles for transmission lines and the development of new uses for small thinnings.

Subhead J—Agency and Advisory Services. Expenditure :
Gross, £944 ; Net, £890.

No direct expenditure was incurred under this head. The sum of £944 is an apportionment of overhead and supervisory charges in respect of the time of various officers of the Commission who have been engaged in answering enquiries and advising woodland owners as to the treatment of their woods.

Subhead K—Special Services. Expenditure : Net, £2,099.

Details of expenditure are given in Table K.

Table K.—Special Services.

Year ending 30th September.	EXPENDITURE (Table IIa, Column 7).						IN- COME.	NET EXPEN- DITURE
	Superior Supervision and Overhead Charges.	Consulta- tive Com- mittees' Expenses.	Publi- cations.	Special Enquir- ies.	Relief of Un- employ- ment.	Total.		
First decade :	£	£	£	£	£	£	£	£
Five years.	10,760	349	1,634	3,571	19,828	36,142	278	35,864
1920-24								
1925	3,226	50	78	4,824	—	8,178	36	8,142
1926	3,052	32	74	1,251	—	4,409	—	4,409
1927	2,740	13	43	355	—	3,151	—	3,151
1928	4,503	33	45	1,177	—	5,758	19	5,739
1929	2,304	46	121	1,190	—	3,661	14	3,647
Total, 1925-29	15,825	174	361	8,797	—	25,157	69	25,088
Total, First decade	26,585	523	1,995	12,363	19,828	61,299	347	60,952
Second decade :								
1930	1,822	60	68	147	—	2,097	—	2,097
1931	1,478	32	126	255	—	1,891	8	1,883
1932	1,684	25	87	561	—	2,357	2	2,355
1933	1,598	7	28	466	—	2,099	—	2,099
Total, 1930-33	6,582	124	309	1,429	—	8,444	10	8,434
Grand Total ...	33,167	647	2,304	13,797	19,828	69,743	357	69,386
Percentage ...	47.6	0.9	3.3	19.8	28.4	100		

Publications.—During the year the following publications were issued:—Bulletin No. 14 (*Forestry Practice*); Bulletin No. 15 (*Studies of Scottish Moorlands in relation to Tree-Growth*); *Thirteenth Annual Report of the Forestry Commissioners* (being the report for the year ending 30th September, 1932); *Report on Census of Production of Home-grown Timber, 1930*; *Interim Report of the Inter-Departmental Home-grown Timber Committee, 1933*, and Leaflet No. 21 (*Leaf Cast of Larch*). The following leaflets were revised and reprinted:—No. 4 (*The Black Pine Beetle*); No. 5 (*Conifer Heart-rot*); No. 6 (*Honey Fungus*) and No. 9 (*Forest Fires*).

Exhibits at Agricultural Shows.—Forestry exhibits were sent by the Commissioners to the Shows of the Royal Agricultural Society at Derby, the Bath and West Society at Wimbledon and the Highland and Agricultural Society at Dundee.

Consultative Committees.—Each of the three Consultative Committees held one meeting during the year. A formal reference was submitted by the Commissioners to the Committees for their views on the revision of the census of woodlands; the Committees also discussed other matters.

The Commissioners regret to report the deaths of Viscount Cowdray of the English Committee and Mr. Donald Munro of the Scottish Committee. During the year Col. L. Ropner, M.C., M.P., was appointed a member of the English Committee; Sir George B. Bowen resigned from the Welsh Committee.

**Subhead L—Forest Workers' Holdings. Expenditure, £19,437;
Income, £17,228.**

Owing to the reduction in the planting programme expenditure shows a drop of £36,920 compared with 1932. It will be noted that expenditure exceeds income by £2,209 only. The main part of the outlay was in respect of new buildings and adaptation and repair of existing buildings, which together accounted for £10,965. Details are given in Table L.

Forty-two holdings were completed during the year making the total number at September 30th, 1,198. The average cost of establishing holdings is £500, of which land accounts for £71, and cost of buildings, drainage, water supply, etc., £429.

The further information contained in the following statement may be of interest as showing the way in which the holdings have been utilised, the estimated value of live stock, etc.

Number of forest workers resident on the holdings	1,165
Total number of residents on the holdings ...	4,874
Average annual rent of house, outbuildings and land	£14 9s.
Average area (including outrun) ...	11 acres
Head of live stock :—	
Horses	422
Cows	933
Other cattle (including calves)	1,031
Sheep	4,709
Pigs	1,929
Poultry	62,000
Miscellaneous (including goats)	1,199
Estimated value of the live stock	£41,338

Table L.—Forest Workers' Holdings.

Year ending 30th September.	EXPENDITURE (Table Ia, Column 8).										INCOME (Table Ia, Column 11).			NET EXPENDITURE. (12)
	Superior Supervision and Overhead Charges. (1)	Purchase and Rent of Land and Buildings. (2)	Buildings.			Fencing, Drainage, etc. (6)	Miscellaneous. (7)	Total. (8)	Rents. (9)	Other. (10)	Total. (11)			
			New. (3)	Adaptations. (4)	Repairs. (5)									
£	£	£	£	£	£	£	£	£	£	£	£	£		
First decade: Five years, 1920-24	831	5,000	—	75	—	—	5,906	—	8	8	£	5,898		
1925	3,668	27,356	16,089	7,415	23	620	1,371	56,522	381	1,257	£	55,265		
1926	5,372	23,363	37,519	7,130	441	2,136	—114	75,837	108	3,374	£	72,463		
1927	8,221	9,058	54,632	4,959	744	3,942	968	82,524	185	6,074	£	76,450		
1928	8,779	31,394	41,188	7,480	1,167	4,571	1,301	95,880	500	8,216	£	87,664		
1929	9,023	7,779	42,776	5,243	1,507	6,292	594	73,214	72	8,586	£	64,628		
Total, 1925-29	36,063	98,940	192,184	32,227	3,882	17,561	4,120	383,377	1,246	27,507	£	356,470		
Total, First decade	35,894	103,040	192,184	32,302	3,882	17,561	4,120	389,883	1,254	27,515	£	362,368		
Second decade: 1930	11,196	34,410	43,126	10,932	2,536	5,902	473	108,575	87	12,206	£	96,369		
1931	11,054	17,437	54,095	15,435	3,528	6,713	758	109,020	15	13,583	£	95,437		
1932	9,157	3,974	26,635	4,352	6,696	4,511	1,032	56,357	30	16,811	£	39,546		
1933	7,632	(ex.) 1,101*	4,375	3,166	3,424	1,004	937	19,437	83	17,223	£	2,209		
Total, 1930-33	39,039	54,720	128,231	33,885	16,184	18,130	3,200	293,389	215	59,823	£	233,561		
Grand Total	74,933	158,660	320,415	66,187	20,066	35,691	7,320	683,272	1,469	87,343	£	695,929		
Percentage	11	23.2	46.9	9.7	2.9	5.2	1.1	100	1.7	100	£	100		

* Credit entry due to transfer to forestry operations of land and buildings not required for holdings.

Subhead Z—Income, £155,339.

Total income was £5,765 less than in the previous year. Sales of land and buildings decreased by £3,406, forest produce by £2,156 and "other" income from forestry operations by £5,591. Rents and royalties, however, increased by £4,578. Details are given in Table Z.

Table Z.—Income.

Year ending 30th September.	Forestry Operations.					Forest Workers' Holdings (Rents, etc.).	Miscel- laneous.	Grand Total.
	Sales of Land, Buildings, etc.	Rents and Royalties.	Forest Produce.	Other.	Total.			
	£	£	£	£	£	£	£	£
First decade : Five years, 1920-24	12,579	42,902	96,753	40,407	192,641	8	4,601	197,250
1925	23,626	39,367	54,862	16,389	134,244	1,257	850	136,351
1926	16,395	42,086	44,005	19,698	122,184	3,374	727	126,285
1927	3,417	45,483	72,111	14,375	135,386	6,074	379	141,539
1928	15,551	49,116	72,552	16,502	153,721	8,216	185	162,122
1929	7,216	55,137	66,311	15,263	143,932	8,586	194	152,712
Total, 1925-29	66,205	231,189	309,841	82,232	689,467	27,507	2,335	719,309
Total, First decade	78,784	274,091	406,594	122,639	882,108	27,515	6,936	916,559
Second decade :								
1930	2,642	65,184	63,949	16,219	147,994	12,206	406	160,606
1931	15,568	71,930	56,768	20,802	165,068	13,583	386	179,037
1932	7,869	70,249	49,477	16,621	144,216	10,811	77	161,101
1933	4,463	75,127	47,321	11,030	137,941	17,228	170	155,339
Total, 1930-33	30,542	282,400	217,515	64,672	595,219	59,228	1,039	656,086
Grand Total	109,326	556,581	624,109	187,311	1,477,327	87,343	7,975	1,572,845
Percentage	6.9	35.4	39.7	11.9	93.9	5.6	0.5	100

Rents and royalties include £16,460 from the Forest of Dean mines ; "other" income includes sales of live stock £3,680 (£1,881 less than in 1932) and miscellaneous estate, farm and forest receipts £5,382.

Employment in the Commission's Forests.

The number of manual workers employed in the Commission's forests is stated in the table below :—

Summer (Minimum).				Winter (Maximum).			
1920	...	...	210	1920-21	...	...	935
1921	...	...	495	1921-22	...	...	1,780
1922	...	...	525	1922-23	...	...	1,775
1923	...	...	880	1923-24	...	...	2,220
1924	...	...	1,620	1924-25	...	...	2,650
1925	...	...	1,980	1925-26	...	...	2,960
1926	...	...	2,335	1926-27	...	...	3,185
1927	...	...	2,735	1927-28	...	...	3,495
1928	...	...	2,740	1928-29	...	...	3,565
1929	...	...	2,640	1929-30	...	...	3,835
1930	...	...	3,130	1930-31	...	...	3,850
1931	...	...	2,830	1931-32	...	...	3,505
1932	...	...	2,720	1932-33	...	...	3,985
1933	...	...	2,845	1933-34	...	...	2

3,735/

(Signed) R. L. ROBINSON (*Chairman*).
 F. D. ACLAND.
 G. L. COURTHOPE.
 D. R. GRENFELL.
 HUGH MURRAY.
 A. RODGER.
 W. R. SMITH.
 S. STRANG STEEL.
 W. STEUART-FOTHRINGHAM.

A. G. HERBERT,
Secretary,
 9, Savile Row,
 London, W.

APPENDIX.

Imports of Timber, Wood Manufactures and Pulp of Wood.

Statistics relating to these imports are given in the table below, the figures in each case being for the calendar year.

The quantity of unmanufactured timber imported during 1933 showed, at 9,584,000 loads, an increase of 1,602,000 loads (20·1 per cent.) over the previous year. The value, £29,871,000, was £4,260,000 (16·6 per cent.) more than in 1932. Sawn softwoods rose by 1,381,000 loads (32·7 per cent.) and planed or dressed softwoods by 254,000 loads (44 per cent.). Sawn hardwoods showed a slight increase of 14,000 loads (2·7 per cent.) but the value was less by £506,000 (10·8 per cent.). There was no appreciable difference in the quantity (1,944,000 loads) of pitprops imported and there was a decrease in value of only £150,000 (5·1 per cent.).

Imports of wood manufactures, valued at £5,131,000, were 5·7 per cent. lower than in 1932.

The quantity of pulp of wood imported was slightly more than in the previous year, being 1,939,000 tons as compared with 1,841,000 tons, an increase of 5·3 per cent. The value, £7,941,000, was, however, less by £485,000 or 5·8 per cent.

Imports of Timber, Wood Manufactures and Pulp of Wood.

Description.	Quantities (thousands).				Value (thousands).			
	Average 1909-13.	Average 1914-18.	1932.	1933.	Average 1909-13.	Average 1914-18.	1932.	1933.
TIMBER.								
Hewn-hard—	Loads.*	Loads.*	Loads.*	Loads.*	£	£	£	£
Mahogany ...	—	—	20	14	—	—	195	126
Walnut ...	—	—	2	} 40 {	—	—	18	} 310
Oak ...	—	—	7		—	—	65	
Teak ...	—	—	1		—	—	17	
Other sorts ...	—	—	36		—	—	290	
Hewn-soft (fir, pine, spruce, etc.).	542	129	425	336	1,353	583	926	608
Sawn-hard—								
Mahogany ...	—	—	10	13	—	—	148	168
Walnut ...	—	—	4	} 520 {	—	—	93	} 4,022
Oak ...	—	—	219		—	—	2,135	
Teak ...	—	—	16		—	—	306	
Other sorts ...	—	—	270		—	—	2,014	
Sawn-soft, other than planed or dressed.	—	—	4,222	5,603	—	—	13,057	17,162
Planed or dressed.	—	—	577	831	—	—	2,315	3,413
Other descriptions—								
Pitprops ...	2,944	1,673	1,917	1,944	3,510	4,425	2,928	2,778
Staves ...	161	71	26	43	795	648	196	228
Sleepers ...	—	130	224	231	—	602	570	601
Veneers and panel wood.	—	—	6	9	—	—	338	455
Not elsewhere specified.	6,557†	3,550†	—	—	21,903†	24,362†	—	—
Total unmanu- factured timber.	10,204	5,553	7,982	9,584	27,561	30,620	25,611	29,871
WOOD MANUFACTURES.								
Furniture and cabinet ware.	—	—	—	—	416	115	306	302
Builders' wood- work (window frames, doors, etc.).	—	—	—	—	180	62	716	985
Plywood ...	—	—	—	—	—	—	2,118	1,848
Tool handles ...	—	—	—	—	—	—	98	} 1,996
Domestic wood- work (bread platters, trays, etc.).	—	—	—	—	—	—	143	
Not elsewhere specified.	—	—	—	—	2,099	1,821	2,063	
Total manufac- tured timber.	—	—	—	—	2,695	1,998	5,444	5,131
PULP OF WOOD.								
Pulp of wood ...	Tons. 859	Tons. 682	Tons. 1,841	Tons. 1,939	4,058	7,915	8,426	7,941

* Load = 50 cu. ft.

† These figures apply mainly to sawn softwoods. It is not possible to differentiate according to the various categories enumerated above owing to a change in the Board of Trade classification from 1920 onwards.

(almanac) eniaY

(of number) aH

60

380

400 2/4

20

3

A



1881	1881						
1882	1882						
1883	1883						
1884	1884						
1885	1885						
1886	1886						
1887	1887						
1888	1888						
1889	1889						
1890	1890						
1891	1891						
1892	1892						
1893	1893						
1894	1894						
1895	1895						
1896	1896						
1897	1897						
1898	1898						
1899	1899						
1900	1900						

WOOD MANUFACTURING



A



B



C

Rendlesham Forest, Suffolk, showing (A) derelict condition of the area prior to planting, (B) Corsican pine four years after planting, and (C) the progress of the trees after 15 years' growth. The photograph shows the edge of a fire ride and the outer trees have been pruned to lessen risk from fire.

[*Frontispiece.*