

No ELT (047.1)/410

# TWENTY-SIXTH ANNUAL REPORT OF THE FORESTRY COMMISSIONERS FOR THE YEAR ENDING SEPTEMBER 30TH 1945

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

Ordered by The House of Commons to be printed 17th December 1946



Forestry Commission, 25, Savile Row, London, W.1.

29th July, 1946.

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 26th Annual Report of the Forestry Commissioners covering the Forest Year ended September 30th, 1945.

I am,

Gentlemen, Your obedient Servant,

> (Sd.) R. L. ROBINSON, Chairman.

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# TWENTY-SIXTH ANNUAL REPORT

#### OF THE

## FORESTRY COMMISSIONERS

### FOR THE YEAR ENDING SEPTEMBER 30th 1945

#### FOREST POLICY

This, the 26th Annual Report of the Forestry Commissioners covers the Forest Year ending September 30th, 1945. It was a period of transition in the affairs of the Nation from war to peace, and also of transition in the affairs of the Commission itself.

#### THE CONSTITUTIONAL STATUS OF THE COMMISSION.

The Forestry Act, 1945, which received Royal Assent on June 15th of that year, changed the constitutional status of the Commission in several important respects. The Commission had been established under the Forestry Act, 1919, which defined (*inter alia*) its constitution, powers and duties, which were sufficient for carrying out Forest Policy on the scale sanctioned during the inter-war period.

The necessity for new legislation arose primarily out of the extremely heavy fellings which have been taking place in the home woods since September 1939. This was the second occasion since 1914 on which the Nation has had to rely in great measure on home supplies of standing timber for its essential needs. Clearly speedy and large-scale action would be necessary on the one hand for replacing the growing stock in the woods and for increasing the area under woodlands, and, on the other hand, adequate measures would have to be taken for the conservation and systematic management of British woodlands in general.

It was considered that in such circumstances Forest Policy was of sufficient importance to be made the subject of direct Ministerial responsibility, and further that in view of the anticipated extension of the forest area and possible competition for land an adjustment should be made of relations between the Agricultural Departments and the Commission.

The broad position established by the Forestry Act, 1945, is stated below.

Ministerial Responsibility.—The Ministers concerned are the Minister of Agriculture and Fisheries, and the Secretary of State for Scotland. The Commissioners in exercising their functions must comply with such directions as may be given them by the Ministers acting jointly, except that as regards transactions affecting England and Wales only or affecting Scotland only directions may by arrangement be given by the appropriate Minister, that is by the Minister of Agriculture and Fisheries in respect of England and Wales or the Secretary of State for Scotland.

The Membership of the Commission.—The outstanding change is that Members of the House of Commons become ineligible for appointment as Commissioners. The number of paid Commissioners is no longer limited to three within a total sum of  $\pounds 4.500$  per annum for salaries, but may be determined by the Ministers with the approval of the Treasury. One Commissioner must possess scientific attainments and a technical knowledge of forestry, and at least three of the Commissioners must have a special knowledge and experience of forestry. The term of office of a Commissioner is not expressly 5 years as formerly but is fixed in the instrument of appointment. The total membership (ten) appointed by Royal Warrant, and designation of a Chairman, remain as hitherto.

National Committees.—The Commissioners are required to appoint Committees for England, Scotland and Wales respectively consisting partly of Commissioners and their officers and partly of other persons (not exceeding three in number for each Committee) and the Commissioners may devolve on these National Committees such functions as they think fit.

The clauses of the Forestry Act, 1919, providing for the appointment and delegation of functions to Assistant Commissioners and the appointment of Consultative Committees for England, Scotland and Wales respectively cease to have effect.

The Forestry Fund.—The Fund is retained and is to be replenished annually by Parliamentary Votes.

Acquisition of Land.—The Commissioners' powers to acquire land are transferred to the appropriate Minister. Land acquired under the Forestry Act, 1919, and subsequently, is vested in the appropriate Minister. Ministers, are authorised to place at the disposal of the Commissioners land acquired through the Forestry Fund, and to manage, let or sell land not so placed.

Provision is made for the return of capital monies to the Fund in respect of land sold, and for the adjustment of revenues in respect of land not placed at the Commissioners' disposal.

The Act also confers managerial powers on the appropriate Minister in respect of land not placed at the disposal of the Commissioners.

The Commissioners' Powers under the Forestry Act, 1919.—The Commissioners' extensive powers under the Act of 1919 in respect of forestry operations, education, research and grants, remain unaffected by the Act of 1945.

#### RECONSTITUTION OF THE COMMISSION.

The Forestry Act, 1945, entailed immediate changes in the membership of the Commission. The Royal Warrant giving effect to the changes is dated 25th July 1945. Sir Roy Robinson (Chairman), Sir Samuel Strang Steel, Mr. W. L. Taylor, Lord Radnor and Mr. Bannerman remained as Commissioners, but Sir George Courthope, Col. Ropner and Messrs. D. J. K. Quibell and M. P. Price, being Members of the House of Commons, were excluded. Sir George Courthope, who had been raised to the Peerage, was re-appointed and the Rt. Hon. T. Johnston, Sir Richard Cotterell, Mr. Lloyd O. Owen and Lt.-Col. William J. Stirling were newly appointed.

The new Commission as fully constituted is as follows :

Sir Roy Robinson, O.B.E. (Chairman) Col. Rt. Hon. Lord Courthope, M.C. Major Sir Samuel Strang Steel, Bart, T.D. William Ling Taylor, Esq., C.B.E. Earl of Radnor, K.C.V.O. John MacDonald Bannerman, Esq. Rt. Hon. Thomas Johnston Major Sir Richard Charles Geers Cotterell, Bt., Arthur Lloyd Owen Owen, Esq. Lt.-Col. William Joseph Stirling of Keir. **Meetings.**—The new Commission first met on V.J. day (August 15th) and a second time on September 19th. In their two meetings which fell within the year under report they were concerned mainly with a review of the general position and future organisation.

	-			
Appointments.—	The fo	ollowing	g app	oointments were approved :—
Director-General	l.	•••	•••	The Chairman (Sir Roy Robinson)
Deputy Director	-Gener	ral		Mr. W. L. Taylor (Commissioner)
Directors of For	estry :			
England	•••		•••	Mr. O. J. Sangar
Scotland	•••	•••	•••	Mr. A. H. Gosling
Wales	•••	•••	•••	Mr. A. P. Long
Director of Res	search	and		
Education		•••	•••	Mr. W. H. Guillebaud.
Secretary	•••		•••	Mr. T. W. Cleland
Chairmen of Nat	ional (	Commit	tees	:
England			•••	Lord Radnor
Scotland			•••	Rt. Hon. T. Johnston
Wales	•••	•••	•••	Mr. Lloyd O. Owen.
Progress was mad	le wit	h the (	onet	itution and functions of the Nati

Progress was made with the constitution and functions of the National Committees and Regional Advisory Committees.

Schemes for training foresters, foremen and forest workers were initiated and housing requirements investigated.

#### SUMMARY OF OPERATIONS. FOREST YEAR ENDED SEPTEMBER 30TH, 1945

In sympathy with the shortage of man-power, silvicultural operations had to be reduced to essential needs. With large areas of young plantations entering the thinning stage, and in spite of considerable stocks of nursery plants which had been grown in anticipation of post-war planting, the current planting had to be cut to the lowest figure since 1921.

**Finance.**—The figures for the year under report and the preceding year were as follows :

				Year ended	September 30th
				<b>1</b> 945	<b>1</b> 944
				£	£
Gross Expenditure	•••			1 <b>,35</b> 6,937	1,446,980
Receipts	• • •	•••	• • •	631,380	921,454
Net Expenditure	•••		•••	725,557	525,526
	-		-	**	

The Vote in aid of the Forestry Fund was £850,000 in 1945 and £600,000 in 1944.

Land at the Disposal of the Commissioners.—The total area at the end of the forest year was 1,364,000 acres compared with 1,270,000 acres a year previously. The increase is accounted for by new acquisitions amounting to 93,632 acres, less disposals comprising 166 acres. Analysis of the 1945 total classifies 834,000 acres as "forest land" (that is to say land which is already planted, or should be planted) and 530,000 acres as "other". Of the Forest Land 475,000 acres are situated in England and Wales, and 359,000 acres in Scotland.

Acquisitions of Forest Land amounted to 43,202 acres (of which 10,038 acres are in England and Wales and 33,164 acres are in Scotland.) Acquisitions of Forest Land in the previous year, 1944, amounted to 11,179 acres.

**Planting.**—During the planting season 1944/45 6,510 acres were planted or sown, 14 acres were naturally regenerated and 97 acres under-planted. The corresponding figures for 1943/44 were : planted and sown 9,205 acres, naturally regenerated 320 acres, under-planted 227 acres.

Thinning.—During the year under report 8,220 acres of plantation were thinned (England and Wales 6,133 acres, Scotland 2,087 acres), compared with 8,353 acres (England and Wales 5,935, Scotland 2,418) in the previous year.

**Clear Fellings.**—In all, 2,568 acres were clear-felled (England and Wales 2,288 acres, Scotland 280 acres) compared with 3,001 acres (England and Wales 2,340, Scotland 661) in the previous year.

Forest Fires.—Fire osses were comparatively light; nevertheless 630 outbreaks occurred and had to receive attention. The area burned was 276 acres, causing damage valued at £7,000. In the previous year there were 811 fires, which burned 1,922 acres, valued at £36,500.

New Buildings and Repairs.—No new cottages were completed during the year. Owing to difficulty in obtaining labour and materials, building repairs fell further into arrears.

Grants for Private Planting.—The area planted under grant schemes was 2,769 acres, of which 2,329 acres were conifers and 440 acres hardwoods. Payments amounted to  $\pounds 6,542$ . In the previous year 4,038 acres were similarly planted, and payments were  $\pounds 7,913$ . **Frost Damage.**—Late spring frosts of unusually wide distribution and intensity occurred from 23rd April to 6th May. A good deal of damage was done and many young trees were killed outright. Owing to the forward state of vegetation for the time of the year, the damage was unusual in its incidence, species normally regarded as frost-hardy suffering more in some cases than the tenderer sorts. This was the most severe spring frost experienced by foresters since the "great frost" of May 1935.

Utilisation of Home Grown Timber.—The Commissioners' woods have contributed to the war effort a great variety of produce ranging from carefully selected material such as first-class poles and veneer logs of large dimensions to small underwood twigs; but the main demand has been for three classes of timber, namely, coniferous saw timber, round mining timber and hardwood saw timber.

The quantities and values of timber sold to the Home Timber Production Department of the Ministry of Supply during the year were as follows:— Saw timber 2,108,000 cu. ft. (Hardwoods 1,102,000 cu. ft., Softwoods 1,006,000 cu. ft.) valued at £120,000; Pitwood, etc. 1,586,000 cu. ft. valued at £59,000. These sales consisted largely of standing timber but included also a quantity of prepared, or partly-prepared, timber resulting from thinnings undertaken by the Commission. The total amount of timber sold to the Home Timber Production Department from September 1939 to September 1945 amounted to over  $49\frac{1}{2}$  million cu. ft., valued at £2,088,000.

<b>ULAR STATEMENTS</b>	Forestry Fund
<b>TABUL</b>	H

The balance in the Forestry Fund at the commencement of the Forest Year was  $\xi_{579,286}$ . Receipts from Parliamentary Votes ( $\xi^{850,000}$ ) and Forestry Operations ( $\xi_{631,380}$ ) amounted to  $\xi_{1,481,380}$ . Payments amounted to  $\xi_{1,356,937}$ , so that the balance in the Fund at 30th September, 1945, was  $\xi_{703,729}$ . The progress of payments and receipts is indicated in the Table below.

Year ending		Payments			Receipts			Net Payments	
30th September	Proposed	Actual	Excess (+) Deficit (-)	Proposed	Actual	Excess (+) Deficit (-)	Proposed	Actual	Excess (+) Deficit (-)
First Decade :	Ŷ	Ŧ	¥	Ŧ	Ŧ	Ŧ	£	Ę	f.
1920–29 (10 <del>}</del> financial years)	I	4,502,018	1	1	851,484	I	3,892,000	3,650,534	- 241,466
Second Decade : 1930-39	8,423,000	7,926,093	- 496,907	1,731,000	1,821,852	+ 90,852	6,692,000	6,104,241	- 587,759
Third Decade : 1940 1941 1942 1943 1945	1,012,000 955,200 1,143,000 1,346,000 1,591,000 1,719,500	822,217 988,290 1,120,544 1,192,366 1,446,980 1,356,937	- 189,783 + 33,090 - 22,456 - 153,634 - 144,020 - 362,563	349,000 461,700 651,000 651,000 738,500 717,000	363,198 569,771 618,990 679,245 921,454 631,380	3.198 + 14,198 9.771 + 108,071 8,990 + 62,990 9.245 + 28,245 1.454 + 182,954 1.380 - 85,620 Grann Total	663,000 663,000 587,000 695,000 852,500 I,002,500	459,019 418,519 501,554 513,121 525,557 725,557	
								-1~~~~	

**PAYMENTS AND RECEIPTS** 

The position at the end of 1945 was affected by a special receipt amounting to £103,731 in respect of compensation for coal rights under the Coal Act, 1938.

#### Commissioners' Estates.

The following statement presents a general view of the properties under the charge of the Commissioners at 30th September 1945, and a summary of the main silvicultural operations which have been undertaken :---

operations and a								
			Engl and W		Scotl	and.	To Great E	
Number of Forests .*							27707 2	
At beginning of ye	ar		<b>I</b> 42	2	12	22	2	64
At end of year	•••		I43	143 131		2	74	
Utilisation of Ground	(Acres	5):						
Forest Land :	•							
Acquired Planta	tions	÷•••	44,000		11,000		55,000	2
Planted by	Fore	stry	_					
Commission	•••	•••	278,000		165,000		443,000*	
To be planted	• • •	•••	153,000		183,000		336,000	
		-		475,000		359,000		834,000
Nurseries		•••		1,000		500		1,500
Agricultural				28,000		25,000		53,000
Forest Workers'	Hold	ings						
(including outru	•	•••		11,000		3,500		14,500
Unplantable and	l Mis	scel-						_
laneous	•••	•••		132,000		329,000		461,000
			-	617.000	-			T 26 4 202
			_	647,000	_	717,000		1,364,000

It will be observed that during the year the number of forest units has increased by 10, from 264 to 274; of the 10 new units I was in England and Wales and 9 were in Scotland.

Including transferred Crown woodlands the total area of land which had been acquired increased by nearly 94,000 acres from 1,270,000 to 1,364,000 acres and the plantable area by approximately 44,000 from 790,000 to 834,000 acres.

#### Silvicultural Operations during the Year (Acres):

		England and Wales.	Scotland.	Total Great Britain.
Planted or Sown		3,791	2,719	6,510
Naturally Regenerated		9	5	14
Underplanted		49	48	97
Thinned	•••	6,134	2,087	8,221
Felled		2,288	280	2,568

Compared with the previous year the changes in silvicultural operations are planting and sowing 6,510 against 9,205 acres, area thinned 8,221 against 8,353 acres, and area felled 2,568 against 3,001 acres.

` Holdir	igs and Estate	Management :	
Number of Forest Workers'	England	Scotland.	Total
Holdings Established :	and Wales.		Great Britain.
At beginning of year	1,116†	393	1,503
During year	—8‡		—8
At end of year	1,108	393	1,50 <b>1</b>

\* The total area planted, including replacements, was 468,906 (see page 13). † Adjusted figure.

1 cancelled and 7 withdrawn.

		England and Wales.	Scotland.	Total Great Britain.
Other Tenancies :		and manage.	Scottuna.	Great Drinam.
Agricultural Holdings:				
Under £20 per annum	•••	847	479	1,326
Over £20 per annum		446	301	747
Foresters' Houses	•••	124	84	• 208
Cottages		401	319	720
Residential and Sporting		359	258	617
Easements, Permissions,				
Minerals, etc		2,213	348	2,561
Site Rents and Feus			234	234
•	-			
		4,390	2,023	6,413

#### Land Acquisition

Acquisitions during the year amounted to 93,466 acres net, of which 43,321 were classified as plantable.

Year ending	By Lease	Ву	Total.				
30th September.	or Feu.	Purchase.	Actual.	Acland Proposals.	Excess (+) Deficit (-)		
	Acres	Acres	Acres	Acres	Acres		
First Decade : 1920–29	156,759	153,471	310,230	402,000	- 91,770		
Second Decade : 1930–39	60,057	284,700	344,757	343,000	+ 1,757		
Third Decade :           1940            1941            1942            1943            1945	24,396 2,526 1,190 5,082 - 18,055* 15,814	7,238 9,924 6,959 7,337 28,400 27,507	31,634 12,450 8,149 12,419 10,345 43,321	34,300 34,300 34,300 34,300 34,300 34,300 34,300	$\begin{array}{rrrr} - & 2,666\\ - & 21,850\\ - & 26,151\\ - & 21,881\\ - & 23,955\\ + & 9,021 \end{array}$		
Grand Total	247,769	525,536	773,305	950,800	— 177,495		

ACQUISITION OF PLANTABLE LAND

\* This negative figure is due to the fact that properties containing 19,754 plantable acres, acquired under the Crown Lands Act, 1936, and previously shown as leased have been transferred to the purchase column, the consideration money having been paid in full.

#### PLANTING PROGRAMME

#### State Forests

#### The area planted during the year was 6,510 acres.

#### AREA PLANTED

Year ending	Proposed	A	ctually Plante	ed	Excess (+) Deficit (-)
30th September	to be Planted	New Planting	Replace- ments	Total	on Decade or Annual Programme
First Decade :	Acres	Acres	Acres	Acres	Acres
1920–29 : Conifers Hardwoods	150,000 Unspecified	126,444 6,365	4,316 1,146	130,760 7,511	— 19,240 —
				138,271	-
Second Decade : 1930-39	*	218,064	12,543	230,607	
Third Decade :					
1940	—	26,411	877	27,288	_
1941	—	25,644	1,223	26,867	- 1
1942	—	16,045	701	16,746	_
1943	—	11,671	I,74I	13,412	-
1944	—	7,270 ·	1,935	9,205	-
1945		. 4,377	2,133	6,510	
Grand Total	_	442,291	26,615	468,906	_

\* The area proposed to be planted was 25,000 acres per annum for 1930 and 1931, and a minimum of 20,000 acres per annum for 1932 to 1936. From 1937 onwards the proposals embraced the Special Areas programme. The general object in view was to increase the rate of planting as quickly as possible to 30,000 acres per annum.

The total area planted by the Commission to 30th September, 1945, was 468,906 acres, of which 433,041 acres consisted of conifers and 35,865 acres of hardwoods. New planting accounted for 442,291 acres and replacements, which included 12,656 acres replanted after damage by fire, for 26,615 acres. Details are given below :—

	Conifers	Hardwoods	Total
	Acres	Acres	Acres
New Planting	411,237	31,054	442,291
Replacements	21,804	4,811	26,615
	433,041	35,865	468,906

#### Assistance to Local Authorities and Private Owners

The Commissioners have continued to assist planting by local authorities and private owners by means of grants and a proceeds-sharing scheme. The total area planted amounts to 149,339 acres of which 2,769 acres were planted during the year. Particulars of the grants are given on page 26.

		-	•	
First Decad				Acres
1920–29	•••			72,856
Second Dec	cade :			
1930–39	•••			53,006
Third Deca	ıde :			
1940	•••			4,318
1941				4,427
1942	•••			3,681
1943	•••			4,244
1944	•••			4,038
1945	•••			2,769
		Grand Total	•••	149,339

#### **Employment in the Commission's Forests**

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

Summ	ner (Mir	nimum)	Wi	nter (l	Maximum)
1920	•••	210	1920–21		935
1921	•••	495	1921–22	•••	1,780
1922		525	1922–23	•••	I,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	•••	3,735
1934	•••	3,015	1934–35		4,020
1935		3,280	1935–36		4, <b>1</b> 55
1936		3,720	1936–37	•••	4,565
1937	•••	4,065	1937–38	•••	5,110
1938	•••	4,555	1938–39	•••	5,395
1939	•••	4,320	1939–40	•••	5,155
1940	•••	4,740	1940–41	•••	5,625
1941	•••	4,900	1941–42	•••	5,630
1942	•••	5,420	1942–43	•••	5,550
1943	•••	5,205	1943–44	•••	5,220
1944	•••	5,060	1944-45	•••	5,070
1945	•••	5,181	1945–46	•••	6,255

#### **DETAILS OF OPERATIONS**

#### FOREST YEAR ENDED 30TH SEPTEMBER, 1945

#### The Forestry Fund

The position of the Forestry Fund at 30th September, 1945, and at the same date in previous years is shown in Table I.

			Receipts			Balance
Year ending 30th September	Balance from preceding Year	Parlia- mentary Votes	From Forestry Opera- tions, etc. (Table II, Head Z)	Total	Payments (Table II, Heads A to L)	in Forestry Fund, 30th Septem- ber
	(I)	(2)	(3)	(4)	(5)	(6)
First decade : 1920-29	£	£ 4,000,000	£ 851,484	£ 4,851,484	£ 4,502,018	£
Second decade: 1930–39	_	6,126,800	1,821,852	7,948,652	7,926,093	
Third decade :						
1940            1941            1942            1943            1944            1945            Grand         Total	372,025 363,006 344,4 <sup>8</sup> 7 467,933 504,812 579,286	450,000 400,000 625,000 600,000 850,000 . 13,601,800	363,198 569,771 618,990 679,245 921,454 631,380 6,457,374	813,198 969,771 1,243,990 1,229,245 1,521,454 1,481,380 20,059,174	822,217 988,290 I,120,544 I,192,366 I,446,980 I,356,937 I9,355,445	363,006 344,487 467,933 504,812 579,286 703,729

TABLE I.—FORESTRY FUND ACCOUNT

Balances remaining in the Fund at 30th September include provision for the succeeding six months of the Financial Year.

An analysis of payments and receipts by heads of account is given in Table II. Compared with the previous year, total payments fell from  $\pounds I,446,980$  to  $\pounds I,356,937$ , a decrease of  $\pounds 90,043$ , mainly under the head of forestry operations. Receipts were less by  $\pounds 290,074$ , and net payments were therefore  $\pounds 200,031$  more than in 1944. It may be noted that heads of account differ in some respects from those under which estimates are presented to Parliament.

Table II is limited to sums actually expended or received, recorded by the 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 such items as produce used for forest purposes and transfers of land and buildings between the forests and forest workers' holdings.

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

TABLE II.--PAYMENTS AND RECEIPTS BY HEADS OF ACCOUNT

				16	)						
		Net Payment	(I4)	£,	3,650,534	6,104,241	459,019	418,519 501,554	513,121	525,520 725,557	12,898,071
		Receipts Z.	(13)	Ĵ	851,484	1,821,852	363, I98	569,771 618.000	679,245	921,454 631,380	6,457,374 I2,898,07I
		Total	(12)	Ŧ	4,502,018	7,926,093	822,217	988,290 1.120.544	1,192,366	1,440,980 1,356,937	865,610 19,355,445
	ľ	Forest Workers' Holdings	(11)	÷	325,455	468,306	27,872	12.623	2,652	11,032 278	865,610
	К.	Services	(10)	પ્ર	23,342	13,681	762	174 170		(UI) 24	. 38,494
	J.	Agency and Advisory Services	(6)	¥	91,776	57	53		ŀ	11,	91,885
	H.	Research and Experi- ment	(8)	у.	36,927	84,916	9,433	7,819 0.380	9,658	I0,740 II,433	180,306
Payments	<del>ن</del>	Education	(2)	ŗ	76,004	73,53B	3,657	4,351 10.830	8,574	5,570	189,355
Рауг	н.	Advance for Affores- tation Purposes	(9)	¥	207,824	128,596	9,660	10,250 10.668	10,109	9,254 10,086	405,447
		Forestry Opera- tions	(5)	сş	3,118,837	6,232,917	681,491	844,949 054.173	1,040,806	1,271,009 1,183,551	273,244 I5,328,393
	D.	Divisional Officers' Charges	(4)	Ŧ	74,434	107,251	13,565	14,978 16.284	14,880	10,430 15,422	273,244
	ပံ	Assistant Commis- sioners' Charges	(3)	Ŧ	30,586	49,485	6,698	5,996	2,607	0,071 6,371	116,776
	'n	Head- quarters Charges	(2)	4	22,676	53,003	6,397	5,997	4,798	4,596	106,843
	A.	Salaries Wages and Allow-	ances (I)	ÿ	494,157	714,343	62,630	76,984 87.306	95,112	109,140 119,420	1,759,092
		ы			:	:	:	:	: :	::	:
		Year ending 30th September		Eint Danda	FILST Decade : 1920-29	Second Decade : 1930-39	Third Decade:	1941	1943	I944 I945	Grand Total

16 |

INCOME
AND
a.—Expenditure
Η
TABLE

32														
	A. to D.			Expenditur	e (including	Expenditure (including Allocation of Column 1)	of Column 1,				Inco	Income		
	Superior Super-	ਸ਼	Ъ.	Ċ	н.	Ŀ	K.	Ŀ		Z.1	Z.5			
Year ending 30th September	<u>}0</u> -	I Forestry Opera- tions	Advances for Afforesta- tion	Education	Research and Ex- periment	Agency & Advisory Services	Special Services	Forest Workers' Holdings	Total	Forestry Opera- tions	Forest Workers' Holdings	Miscell- aneous	Total	Net Ex- penditure
	(I)	(2)	rurposes (3)	(4)	(5)	(9)	(2)	(8)	(6)	(o1)	(11)	(12)	(I3)	(14)
First Decade : ##	<u></u>	÷	Ŧ	¥	ي ي	Ŷ	Ŧ	ÿ	ę	Ï	ÿ	ч,	¥	ÿ
i 1920–29 7	582,178	3,512,577	241,694	101,313	79,650	99,233	61,299	389,883	4,485,649	882,IO <b>8</b>	27,515	6,936	916,559	3,569,090
Second Decade :														
1930- <b>3</b> 9	925,404	1 7,056,580	154,855	866'26	140,245	11,912	42,694	565,871	8,070,155	1,770,014	168,856	4,673	I,943,543	6,126,612
Third Decade :											1			
1940	00,903	781,192	12,407	5,349	14,819	906	1,635	37,587	853,895	551,362	20,324	782	572,468	281,427
1941	82,117	922,624	12,673	5,879	12,480	117	926	24,479	979,838	555,129	20,905	647	576,681	403,I57
1942	IIO,I49	) I,061,763	24,058	12,545	14,598	1,046	1,225	23,424	r,138,659	698,040	21,545	1,624	721,209	417,450
I943	115,801	I,139,670	12,820	10,718	16,879	1,089	1,229	13,615	1,196,020	886,948	21,023	1,124	889,095	306,925
1944	I30,146	i 1,401,825	12,804	9,204	19,076	1,223	1,326	13,789	r,459,247	624,814	21,320	898	647,032	812,215
r945	142,831	I,373,593	15,423	8,158	21,226	1,331	I,547	2,700	1,423,978	543,415	22,450	585	566,450	857,528
Grand Total	2,179,529	2,179,529 17,249,824	486,734	251, 164	318,973	117,517	111,881	1,071,348	19,607,441	6,491,830	323,938	17,269	6,833,037	12,774,404
Percentage	1	88.0	2.5	I.3	9·1	9.	ų.	5.4	100	0.36	4.4	.3	100	1
Not	Note.—The above and subsequent Tables do not include the values of properties acquired by transfer to the Commission under various Orders in Council	and subseque	nt Tables do	) not include	the values	of properties	s acquired b	y transfer to	o the Comm	ission under	various Ord	ers in Coun	cil.	

*i*)

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A 7

#### Subheads A to D-General Organisation

#### Expenditure £142,831

Compared with 1944, expenditure rose by  $\pounds 12,685$ , due to increases in salaries and war bonus, normal increments and a small increase in numbers employed. At 30th September, 1945, there were 20 Divisional Officers (including 2 Deputy Surveyors), of whom 12 had territorial charges, one District Area Officer and 55 District Officers.

#### Subhead E—Forestry Operations

#### Expenditure £1,373,593 : Income £543,415

Details of expenditure and income are given in Table E. Gross expenditure was  $\pounds 28,232$  less than in 1944. Acquisition of land, etc., fell by  $\pounds 137,399$ , but expenditure in 1944 included redemption of tithes and repayment to the Commissioners of Crown Lands of the capital cost of properties purchased by them on behalf of the Forestry Commissioners in previous years. Stores and miscellaneous rose by  $\pounds 85,425$ , due mainly to the purchase of used motor vehicles and of farmstock on acquired areas.

Income from Forestry Operations fell by  $\pounds 81,399$  and is dealt with under Subhead Z.

TABLE E.—FORESTRY OPERATIONS

#### Overheads and Supervision

Overhead Charges, £58,306; Superior Supervision, £61,951 and Local Supervision, £137,184. 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 comprises the salaries, housing allowances and miscellaneous expenses of Foresters and Foremen. During the year the number of Foresters and Foremen employed in forestry operations was increased by 20. At 30th September the total numbers employed were : Foresters, 277, Foremen, 148.

Acquisition of Land, Buildings and Standing Timber.—Expenditure amounted to  $\pounds$ 148,436, comprising  $\pounds$ 114,033 for purchases of land, standing timber and buildings;  $\pounds$ 31,788 for land and buildings held on long lease or feu, and  $\pounds$ 2,615 for redemption of tithes in England and Wales. (This expenditure is not directly applicable to the areas acquired during the year, particulars of which follow).

The total area of land acquired during the Forest Year, 1944-45, amounted to 93,632 acres, of which 43,202 were classified as plantable. On the other hand disposals of 166 acres were made and adjustments of land from unplantable to plantable amounted to 261 acres.

The net total area in Great Britain in respect of which the legal formalities of acquisition by the Department had been completed by 30th September, 1945, was 1,236,252 acres, the corresponding figures in the two previous Annual Reports being 1,147,113 acres and 1,130,203 acres. In addition to these completed acquisitions, entry had been secured to other property. Details are given in the table below which also shows the area of "plantable" land and "other " land, i.e., land which is either too poor to plant or is required for other purposes.

	By	Lease or	Feu	в	у Ригсћа	se	
Country	Plant- able (inc. Planted)	Other Land	Total	Plant- able (inc. Planted)	Other Land	Total	Total Acquired
England and Walso	acres	acres	acres	acres	acres	acres	acres
England and Wales : Finally completed Entry secured	142,119 2,448	28,657 107	170,776 2,555	281,566 133	84,514	366,080 133	536,856 2,688
Total	144,567	28,764	173,331	281,699	84,514	366,213	539,544
Scotland : Finally completed Entry secured	98,563 4,639	106,861 454	205,424 5,093	243,837	250,135	493,972	699,396 5,093
Total	103,202	107,315	210,517	243,837	250,135	493,972	704,489
Great Britain	247,769	136,079	383,848	525,536	334,649	860,185	1,244,033

Land acquired by Lease, Feu or Purchase from 29th November, 1919 to 30th September, 1945

Of the net total area acquired by lease, feu and purchase in Great Britain to 30th September, 1945, 773,305 acres were classified at the time of acquisition as plantable and of this area 426,266 acres (55 per cent.) were in England and Wales, and 347,039 acres (45 per cent.) in Scotland. In addition to the above-mentioned areas, Crown Woodlands extending to about 120,000 acres (of which some 60,000 acres are plantable) have been transferred to the Forestry Commissioners.

The total area of land in the Commissioners' control is thus approximately 1,364,000 acres. In round figures the utilisation as at 30th September, 1945 is shown in the Table on page 11.

Cultural Operations.—Expenditure amounted to  $\pounds 567,183$ , details of which are given in Table E.5. Plantations accounted for  $\pounds 391,414$  and nurseries  $\pounds 175,769$ .

		Planta	ations			
Year ending 30th September	Prepara- tory work and Planting (1)	Establish- ment and Main- tenance (2)	Forest Protec- tion (3)	Total (4)	Nurseries (5)	Grand Total (6)
	£	£	£	£		£
First Decade	. <i>Б</i> .	25		5	z	ち
1920–29	638,503	295,201	95,824	1,029,528	481,273	1,510,801
Second Decade : 1930–39	1,053,327	916,427	377,133	2,346,887	724,132	3,071,019
Third Decade :           1940            1941            1942            1943            1945	139,854 149,570 115,723 84,558 70,090 65,425	128,221 159,020 198,762 206,287 224,132 222,931	63,079 89,341 103,490 98,583 104,841 103,058	331,154 397,931 417,975 389,428 399,063 391,414	100,599 135,396 132,406 178,052 174,069 175,769	431,753 533,327 550,381 567,480 573,132 567,183
Grand Total	2,317,050	2,350,981	1,035,349	5,703,380	2,101,696	7,805,076
Percentage of Column 4	40.6	41.2	18.2	100		_
Percentage of Column 6	29.7	· 30 · I	13.2	73.0	27.0	100

TABLE E.5—CULTURAL OPERATIONS (TABLE E. COLUMN 5)

It will be observed that during the war years the sums expended on the maintenance and protection of existing plantations (Columns 2 and 3) have tended to exceed those spent on new planting (Column 1). This is due to the increase in the *total* area planted, together with a decrease in the area planted *each year*. The expenditure on Nurseries (Column 5) has increased owing to the need to raise stocks of trees for post-war planting.

*Plantations.*—The total area planted or sown during the year was 6,510 acres, of which 6,055 acres were placed under conifers and 455 acres under broadleaved species. Included in the above are 417 acres re-afforested in the former Crown Woods and 1,452 acres replanted after damage by fire. Details by forests are given in Appendix I.

The total addition to the woodland area of Great Britain as a result of the Commission's operations was 3,025 acres. In forming plantations and beating-up previous years' plantations 22 million trees were used, of which 48 per cent. were Norway and Sitka spruces ; 25 per cent. Scots and Corsican pines ; 8 per cent. European and Japanese larches ; 2 per cent. Douglas fir and 12 per cent. broadleaved species. An area of 97 acres of existing woods was underplanted.

The quantities of work done by Divisions during the year are shown in the Table below.

Division	Planted and Sown	Naturally Regenerated	Under- planted	Thinned	Felled
England & Wales :	Acres	Acres	Acres	Acres .	Acres
N.E.(E)            N.(W)            S.W.(E)            S.E.(E)            E.(E)            New            Dean	1,249 544 107 3 <sup>8</sup> 9 215 335 158		$ \begin{array}{c}             4 \\                       $	354 1,391 469 244 1,543 524 1,265	28 312 83 998 230 502 78
N.W.(E) S.(W)	191 603		5	236 107	20 37
Total	3,791	9	49	6,133	2,288
Scotland : North South East West	341 543 1,016 819		  	696 475 559 357	88 51 139 2
Total	2,719	5	48	2,087	280
Total—Gt. Britain	6,510	14	97	8,220	2,568

SILVICULTURAL OPERATIONS

Cost of Planting.—The outlay on labour and material on the areas planted between 1919 and 1945 was £11 8s. od. per acre.

This figure covers the cost of preparation of ground, drainage, fencing, plants, planting, replacement of failures and weeding, but does not include expenditure on forest protection, supervision and overhead charges.

*Nurseries.*—The total area under nurseries at 30th September, 1945, was 1,573 acres stocked with 250 million seedlings and 80 million transplants. Comparative figures for the three years 1943-45 are given in the following table.

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		Area (Acres)		23 561 561	1,573	1,023 536	I,559	1,043 512	I,555
			Total	146,831 103,552	250,383	149,980 106,035	256,015	153,521 99,996	253,517
	nber	Seedlings	Broad- leaved	14,231 1,979	16,210	3,579 183	3,762	11,672 460	12,132
	. 3oth Septer sands)		Coni- ferous	132,600 101,573	234,173	146,401 105,852	252,253	141,849 99,536	241,385
	Stock of Plants at 30th September (Thousands)		Total	43,007 36,538	79,545	37,218 35,995	73,213	46,546 27,031	73,577
	Stock	Transplants	Broad- leaved	5,449 294	5,743	7,681 538	8,219	6,242 792	7,034
CHINDONON			Coni- ferous	37,558 36,244	73,802	29,537 35,457	64,994	40,304 26,239	66,543
NT .			Total	96,383 5,409	101,792	45,539 4,445	49,984	95,914 7,168	103,082
	Seed Sown	(lbs.)	Broad- leaved	92,199 1,754	93,953	39,653 74	39,727	90,802 2,104	92,906
			Coni- ferous	4,184 3,655	7,839	5,886 4,371	10,257	5,112 5,064	10,176
		Country		England & Wales Scotland	Total	England & Wales Scotland	Total	England & Wales Scotland	Total
	Vear	ending 3oth September	4	1945		1944		1943	

Details showing by Divisions the utilisation of Nursery Area are as follows :----

Division		Seedbeds	Transplant Lines	Fallow and Green Crops	Other	Total
England & Wal	es :	Acres	Acres	Acres	Acres	Acres
Ň.E.(E)		20·9 `	47.0	81.6	19.6	169 I
N.(W)		22.7	33.2	42.8	20.2	118.9
S.W.(E)	•••	8.9	9.4	5.3	6.8	30.4
S.E.(E)	•••	29.8	38.5	26.4	18.9	113.6
E.(E)	•••	46.3	30.6	63.7	23.8	164.4
New	•••	49.4	40.2	75.8	17.5	182.9
Dean	•••	8.8	13.8	14.4	5.7	42.7
N.W.(E)		4 · I 26 · 0	9.0	37.8	5.1	56.0
S.(W)		20.0	43.8	38.3	25 · 1	133.2
Total		216.9	265.5	386 · 1	142.7	1,011.2
Scotland :						
North		21.0	29.3	47.8	15.7	113.8
South		17.3	42.9	38.0	14.6	112.8
East		27.3	40.6	32.8	22.4	123.1
West		33.5	45.4	III.0	20.6	210.5
Total		99 · I	158.2	229.6	73.3	560.2
Cotal—Gt. Brit	ain	316.0	423.7	615.7	216.0	1,571.4

UTILISATION OF NURSERY AREA

#### SEED SUPPLY

#### Imported Seed.

Apart from war time difficulties, crops of the main species, except Douglas fir, were very scanty in Canada and the U.S.A. A quantity of Corsican pine seed was obtained from Corsica and some beech seed from France. The undermentioned quantities of seed were imported :---

Species	lbs.	Value (£)	Country of Origin
Douglas fir	2,117	2,803	U.S.A.
Sitka spruce (Queen Charlotte strain)	65	72	Canada
Sitka spruce (Queen Charlotte strain)	149	255	U.S.A.
Abies grandis (Grand Silver fir)	162 <u>1</u>	203	U.S.A.
Tsuga (Western Hemlock)	23 <u>1</u>	43	U.S.A.
Thuya (Western Red Cedar)	30	43	U.S.A.
Sequoia sempervirens (Redwood)	2	gratis	U.S.A.
Corsican pine	795	ī,664	Corsica
Beech	448	30	France

#### Home Collection.

England and Wales.—With the exception of Scots pine and Corsican pine the quantity of cones collected was negligible. 2,365 bushels of Scots pine and 434 bushels of Corsican pine were obtained, the resultant yield of seed being 1,167 lbs. and 316 lbs., respectively.

The crops of both acorns and beech were good. 54,070 lbs. of the former and 60,683 lbs. of the latter were collected. Sufficient of other hardwood species was obtained to meet requirements.

Species			<i>Quantities</i> (bushels)	Yield of Seed (lbs.)
Scots pine			1,147	496
European larch			74I	602
Japanese larch	•••		7	4
Douglas fir			118	44
Norway spruce			398	68
Miscellaneous Conifers		•••	75	112

Scotland.—The following are details of cones collected and the resultant yield of seed :--

Small quantities of hardwood seed were also obtained.

Seed Sold.

The quantity of seed sold to the Trade and private individuals was :---

		Private	
	Trade	Individuals	Total
	(lbs.)	(lbs.)	(lbs.)
Conifers	1,870	150	2,020
Hardwoods	9,532	155	9,687

#### Forest, Fires

Losses during the year were light although the number of outbreaks might be regarded as normal. The total reported during the year was 630, of which 82 per cent. were extinguished before causing damage to Commission property; these figures include fires on adjoining land where they threatened Commission property. The area of Commission plantations burnt was 276 acres, equivalent in terms of growth to 2,875 acre-years (excluding 25 acres of natural regeneration and coppice), and the damage was assessed at  $\pounds$ 7,000, including cost of extinguishing. Only one large fire occurred but this accounted for 46 per cent. of the total loss during the year.

Comparative figures for the five years 1941 to 1945 are given below :---

		1941	1942	1943	1944	1945
Number of fires	• • •	712	1,381	514	811	630
Area burnt (acres)	•••	3,025	6,507	949	1,922	276
Damage valued at	• • •	£49,500	£158,000	£19,500	£36,500	£7,000

Claims aggregating  $f_{1,050}$  were lodged by the Commissioners in respect of the damage done during the year.

The table below gives the causes of fires in 1945. Most of the fires originated in sparks from railway engines, but serious damage was also caused by fires which spread from adjoining land.

Origin			Number of Fires	Planted Area Burnt (acres)
Normal causes				
Railways Adjoining land General public Road engines Commission employees Miscellaneous Unknown Totals		···· ··· ··· ···	347 110 47 5 3 19 57	46 24 15 6 17 14 113
			588	235
War causes				
R.A.F. Troops		 	26 16	31 10
Totals	•••		42	41
Totals, a	ll caus	ses	бзо	276

ORIGIN, NUMBER AND EXTENT OF FOREST FIRES

#### Subhead F.-Advances for Afforestation Purposes

#### Expenditure £15,423

Grants to private individuals and local authorities for planting amounted to  $\pounds 6,542$ , advances in respect of a proceeds-sharing scheme to  $\pounds 3,554$ , and overhead and supervisory charges to  $\pounds 5,327$ .

The grants were as follows :----

(1) Conifers.—Up to  $\pounds 2$  per acre planted or sown and thereafter maintained as a forest crop.

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

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

Country :		England and Wales	Scotland	Total
Number of Schemes	 	164	51	215
Planting Conifers Planting Hardwoods	  	Acres 1,355 440	Acres 974	Acres 2,329 440
Total	 	1,795	974	2,769

#### Subhead G.—Education

#### Expenditure £8,158

Details of expenditure are given in Table G.

Apprentices' Schools : Expenditure £3,776.

The Parkend (Glos). School remained closed throughout the year.

Benmore (Argyll) School continued to function satisfactorily. The total number of apprentices at this school at the end of the year was 30. In order to enable apprentices to complete their period of training the Ministry of Labour and National Service agreed to grant them deferment until the end of the course. Of the 16 second-year students who completed their course, 7 were drafted to Forests in Scotland, 7 to England, and 2 returned to Northern Ireland.

A new class was recruited at the end of the year consisting of 16 students— 8 from England and Wales, 6 from Scotland and 2 from Northern Ireland. The method of final selection of candidates by a Selection Board, which was introduced last year, was continued, as examination results have shown that it has thoroughly justified itself.

Grants to Universities, Colleges, etc. : Expenditure £1,300.

Grants were made during the year to the following :—Cambridge University; University College of North Wales, Bangor; King's College, Newcastle-on-Tyne; Aberdeen University.

Imperial Forestry Institute : Expenditure £1,750.

The annual grant was continued.

			Expenditu	Expenditure (Table IIA, Column 4)	Column 4)				
Year Ending	Superior		Apprentices' Schools	s' Schools				ŀ	Net
30th September	Supervision Overhead Charges	Salaries and Expenses of Instructors	Purchase and Rent of Land and Buildings	Allowances to Apprentices	Stores, Fuel, Light, &c.	Grants to Institutions	Total	Income	Expenditure
First Decade .	Ŧ	Ŷ	Ŷ	Ŧ	Ę	Ł	ę	Ł	f
I920–29	13,125	15,401	6,195	21,709	14,192	30,691	101,313	2,427	98,886
Second Decade : 1930–39	12,184	го,848	5,329	17,682	9,309	42,646	966'26	443	97,555
Third Decade :	. 20	-						0	
941 941	004 777	400 665	29 145	1,104 591	459 651	2,425 3,050	5,349 5,870	0 42 0	5,341 5,837
1942	1,046	1,313	417	2,754	2,748	4,267	12.545	88	12,457
1943	1,089	I,443	205	3,225	1,706	3,050	10,718	86	10,632
1944	1,223	1,109	86	3,076	648	3,050	9,204	г	9,203
1945	I,332	1,304	55	1,875 I	539	3,050	8,158	1	8;158
Grand Total :	31,640	32,491	12,473	52,079	30,252	92,229	251,164	3,095	248,069
Percentage :	12.6	12.9	5.0	20.7	12 1	36.7	001	1	1

TABLE G.-EDUCATION

#### Subhead H.-Research and Experiment.

#### Expenditure : Gross £21,226. Net £21,200.

Details of expenditure are given in Table H (below).

TABLE H-RESEARCH AND EXPERIMENT.

		Expenditur	e (Table IIa,	Column 5)			
Year ending 30th September	Superior Supervision and Overhead Charges	Salaries and Expenses	Labour, Stores, etc.	Grants to Institu- tions.	Total	Income	Net Expend- iture
Einst Daarda i	£	£	£	£	£	£	£
First Decade : 1920–29	13,699	38,458	20,230	7,263	79,650	1,058	78,592
Second Decade : 1930–39	14,584	55,042	47,030	23,589	140,245	2,540	137,705
Third Decade :           1940            1941            1942            1943            1944            1945	864 777 1,046 1,089 1,222 1,331	5,501 5,452 6,587 8,440 9,646 11,430	4,768 4,122 5,296 6,024 6,604 6,954	3,686 2,129 1,669 1,326 1,604 1,511	14,819 12,480 14,598 16,879 19,076 21,226	532 435 422 174 202 26	14,287 12,045 14,176 16,705 18,874 21,200
Grand Total :	34,612	140,556	101,028	42,777	318,973	5,389	313,584
Percentage :	10.9	44·I	31.6	13.4	100		

#### Production.

Most of the year was spent in thinning and remeasuring permanent sample plots, the total number so treated being 47. Of these 34 were in England and 13 in Scotland.

Seven new plots were established during the year, 6 in Scotland and 1 in England.

#### Nursery and Plantation Work.

A Sub-Committee of the Advisory Committee on Forest Research was appointed in July 1944 to investigate and assess the problems underlying the nutrition of forest trees in nurseries, and to suggest any desirable extensions of the investigations already in progress. The Sub-Committee had the following membership: Professor F. T. Brooks, F.R.S. Botany School, Cambridge, Chairman; Dr. E. M. Crowther, F.I.C., Rothamsted Experimental Station; Mr. G. V. Jacks, Imperial Bureau of Soil Science; Dr. M. C. Rayner, Bedford College for Women, London; Dr. J. H. Quastel, F.R.S., Unit of Soil Metabolism, Agricultural Research Council; Sir Edward Salisbury, F.R.S., Royal Botanic Gardens, Kew; Mr. W. H. Guillebaud, Forestry Commission, Secretary.

A programme of experimental work was drawn up and a series of preliminary experiments carried out on Wareham Forest as well as at Kennington Nursery and Bagley Wood near Oxford. Apart from this new line of work investigations on the making of compost and on the raising of seedlings on woodland and heathland soils were continued. Preliminary experiments on the partial sterilisation of nursery soils resulted in a dramatic improvement in the size of conifer seedlings produced. Depth of ploughing, the comparison between complete ploughing and spaced out single furrow ploughing, and the use of seedlings on ploughed ground have been the chief subject of the plantation experimental work. Steps were taken to cope with the arrears of assessment work in existing experimental plots which have tended to accumulate during the war years.

The collection of data from war fellings was terminated and a start made with the collation and analysis of the large mass of information which has been assembled; the incidence of butt rot is one of the first matters under examination.

#### Entomology and Pathology.

The European larch die-back problem has led to the focussing of attention on the Adelges/Aphis group of insects; apart from the species which feed on the larch there are other members of the group attacking Sitka spruce, Douglas fir and the pines. During the summer a survey was carried out to determine the incidence of the various pests and their ladybird and other predators.

A preliminary investigation was begun in East Anglia on the causes of an outbreak of disease caused by root fungi attacking young pine plantations.

#### Botanical and Soil Research.

Progress has been made in the working out of the complex mycorrhizal structures in young forest trees. Some preliminary work has been done on the East Anglian soils where attacks by root fungi have occurred. Dr. E. V. Laing of Aberdeen University has continued his studies on the Hybrid Larch.

#### Utilisation.

Sample thinnings cut from 20-30 year old plantations were sent to the Forest Products Research Laboratory for conversion. After seasoning, the sawn material was planed up and its utility assessed. The Laboratory reported favourably on the quality of the boards and small scantlings cut from spruce thinnings.

#### Subhead J.—Agency and Advisory Services.

#### Expenditure : £1,331. Income : £554.

The expenditure 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 : £1,547.

#### Details of expenditure are given in Table K. (below).

#### TABLE K.—SPECIAL SERVICES.

		Expend	iture (Tab	le IIa, Colu	mn 7)			
Year ending 30th September	Superior Super- vision and Overhead Charges	Consult- ative Committee's Expenses	Publica- tions	Special Enquiries	Relief of Un- employ- ment	Total	Income	Net Expend- iture
	£	£	£	£	£	£	£	£
First Decade : 1920–29	26,585	523	1,995	12,368	19,828	61,299	347	60,952
Second Decade : 1930-39	28,698	145	1,279	12,572		42,694	33	42,661
Third Decade           1940            1941            1942            1943            1943            1945	864 777 1,046 1,089 1,222 1,331	9	2 — — —	760 149 179 140 104 216		I,635 926 I,225 I,229 I,326 I,547		1,634 926 1,225 1,229 1,326 1,542
Grand Total :	61,612	677	3,276	26,488	19,828	111,881	386	111,495
Percentage :	55.0	•6	2.9	23.7	17.8	100		

#### PUBLICATIONS.

The following publications were issued during the year: Report of the National Forest Park Committee (Glentrool) 1943, and Report of the National Forest Park Committee (Hardknott) 1944.

Work was begun on a new series of publications, styled the "Forest Operations" series, and also on guide books to National Forest Parks. In addition, the work of revising and re-issuing certain of the existing publications was put in hand, as in many cases stocks had become exhausted during the war years.

#### Subhead L.-Forest Workers' Holdings

#### Expenditure : £2,700. Income : £22,450.

Total expenditure was considerably less than in the previous year owing to transfer to forestry operations of land and buildings not required for holdings; otherwise expenditure and income show little change. Details are given in Table L.

The average pre-war cost of establishing a holding was  $\pounds 508$ , of which land accounted for  $\pounds 69$ , and cost of buildings, drainage, water supply, etc.  $\pounds 439$ . The total number of holdings for forest workers at the close of the year amounted to 1,501.

1	Ire		!	32			
	Net Expenditure	- (I2)	Ŧ	362,368	397,015	17,263 3,574 1,879 7,408(Cr.) 7,408(Cr.) 19,750(Cr.) 747,410	
olumn 11)		Total (r1)	ŗ	27,515	168,856	20,324 20,905 21,545 21,023 21,023 21,023 22,450 323,938 100	
able IIA, C		Other (ro)	r F	I,254	890	21 99 1 144 144 777 8	oldings.
Income (Table IIA, Column 11)		Rents (9)	F	26,261	167,966	20,303 20,306 21,506 21,506 21,022 21,022 22,306 321,461 99.2	uired for h
		Total (8)	Ŧ	389,883	565,871	37,587 24,479 23,424 13,615 13,789 2,700 1,071,348	igs not req
	Miscel.		Ţ	4,120	9,616	1,395 1,122 1,437 1,438 1,533 1,725 22,386 22,386	and buildir
n 8)	Fencing.	Drainage, etc. (6)	Ŷ	17,561	27,967	1,464 1,108 1,108 1,135 7,135 781 781 781 781	ns of land
IIA, Colum		Repairs (5)	F	3,882	46,341	5,667 6,246 6,246 7,669 7,669 9,264 92,317 8.6	ry operatio
Expenditure (Table IIA, Column 8)	Buildings	Adapta- tions (4)	Ŧ	32,302	43,830	317 5,128 467 260 1,234 83,638 83,638	er to forest
Expenditu		New (3)	Ŧ	192,184	234,824	16,417 448 1,480 36 35 35 445,451 41.6	e to transfe
	Purchase	Supervision and Rent & Overhead of Land and Charges Buildings (I) (2)	Ţ.	103,940	108,894	3,690 2,661 2,066 *6,327(Cr) 1,837 1,837 2,385 (Cr) 204,175 204,175	* Credit entry due to transfer to forestry operations of land and buildings not required for holdings.
	Superior	Supervision & Overhead Charges (I)	÷	35,894	94,399	8,637 7,766 10,464 10,894 2,125 2,247 172,426 172,426 172,426	Ū *
	Year ending 30th September		Einet Docedo	1920-29	Second Decade : 1930-39	Third Decade :         1940         1941         1942         1943         1943         1944         1945         1945         Total         Percentage	

TABLE L.-FOREST WORKERS' HOLDINGS

£566,450
ZIncome
Subhead

Total income was  $f_{80,582}$  less than in 1944, due mainly to the receipt in the previous year of compensation for the Commission's coal rights transferred to the Coal Commission under the Coal Act, 1938. Details are given in Table Z.

" Other " income includes sales of livestock  $f_{23,453}$ , and miscellaneous estate, farm and forest receipts  $f_{23,916}$ . Sales of forest produce amounted to  $f_{394,688}$ , forming 70 per cent. of the total income for the year.

TABLE Z.-INCOME

	Area Planted (acres)								
Forest	Afforested		Re-affo	prested	Total				
		Conifers	Broad- leaved	Conifers	Broad- leaved	Conifers	Broad- leaved		
England and Wales		1,304	60	2,044	383	3,348	443		
Scotland		1,650	11	1,057	I	· 2,707	12		
Total		2,954	71	3,101	384	6,055	455		

Scots. and Corsican Pines	Eur. and Jap. Larches	Douglas Fir	Norway and Sitka Spruces	Oak	Ash	Beech	Others	Total
3,730	1,227	376	6,216	1,138	53	1,247	504	14,491
1,929	640	96	4,369	4	14	56	351	7,459
5,659	1,867	472	10,585	1,142	67	1,303	855	21,950

Species planted, including beating-up (thousands)

(Signed) R. L. ROBINSON (Chairman)
J. M. BANNERMAN
R. C. G. COTTERELL
COURTHOPE
THOMAS JOHNSTON
LLOYD O. OWEN
RADNOR
S. STRANG STEEL
W. J. STIRLING
W. L. TAYLOR

T. W. CLELAND, Secretary,

25, Savile Row, London, W.1.

### PLANTATIONS-YEAR ENDED 30TH

		Area planted (Acres)							
	Affor	ested	Re-afforested		Total				
Forest	Coni- fers	Broad- leaved	Con- fers	Broad- leaved	Coni- fers	Broad- leaved			
*Alice Holt, Hants Allerston, Yorks Ampleforth, Yorks Arwengarthdale, Yorks Arundel, Sussex Bardney, Lincoln Bawtry, Notts Bedgelert, Caernarvon *Bere, Hants Bodmin, Cornwall Bourne, Lincoln and Rutland Bramshill, Berks and Hants Brechfa, Carmarthen Brechfa, Carmarthen Brendon, Somerset Brighstone, Isle of Wight Bruton, Somerset and Wilts Bruton, Somerset and Wilts Buriton, Hants and Sussex Caio, Carmarthen Buriton, Hants and Sussex Chepstow, Mon Chiddingfold, Surrey and Sussex Cligwyn, Carmarthen Cligwyn, Carmarthen Clocaenog, Denbigh and Merio- neth Coded Sarnau, Radnor Coded Sarnau, Radnor Combley, Isle of Wight Combley, Suffolk Duratmoor, Devon *Dean Forest, Glos, Mon, Here *Delamere, Cheshire Dovey, Merioneth and Mont Durwich, Suffolk Dyfnant, Montgomery Eggesford, Devon Friston, Sussex	$ \begin{array}{c} - 43 \\ - 33 \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ -$		$\begin{array}{c} 34\\ 46\\ 26\\ 1\\ 10\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\$	$ \begin{array}{c} 24 \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ -$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	24 $$			

\*Former Crown Woods.

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## dix I September,1945---England & Wales

		-						
Scots and Corsican Pine	Eur. and Jap. Larches	Douglas Fir	Norway and Sitka Spruces	Oak	Ash	Beech	Other	Total
57 $193$ $25$ $1$ $1$ $90$ $28$ $5$ $-$ $134$ $-$ $59$ $114$ $-$ $2$ $47$ $-$ $53$ $10$ $74$ $-$ $9$	$ \begin{array}{c} 4 \\ 16 \\ 33 \\ 2 \\ -14 \\ -1 \\ -14 \\ -1 \\ -14 \\ -1 \\ -14 \\ -1 \\ -14 \\ -1 \\ -14$	$ \begin{array}{c}     18 \\     3 \\     -$	$ \begin{array}{c} 2\\ 245\\ 28\\ -\\ 107\\ 3\\ -\\ 7\\ 5\\ -\\ 3\\ -\\ 47\\ 39\\ 53\\ -\\ 43\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\$	1115 		$ \begin{array}{c} -23 \\ -5 \\ 75 \\ 2 \\ -1 \\ -3 \\ -2 \\ -41 \\ -67 \\ -27 \\ 1 \end{array} $	$ \begin{array}{c} 11\\ 2\\ -2\\ -2\\ -2\\ -2\\ -2\\ -2\\ -2\\ -2\\ -2\\$	207 482 86 108 193 61 7 185 25 28 60 157 323 8 7 95 45 53 120 69 82 46 1
11 6 	4 27 —	$\begin{vmatrix} 3\\ - \\ - \end{vmatrix}$	27 5 —	16 — 			3 1 	64 39 166
45 17 8 20 - 4 28 10 - 19 21 163 - 26 - 19 44 - 19 44	$ \begin{array}{c} 3\\ 2I\\ I\\ 5\\ -\\ 1I\\ -\\ 4\\ -\\ 15I\\ 32\\ 26\\ -\\ -\\ 4\\ 39\\ I_3\\ -\\ 3\\ -\\ -\\ -\\ 4\\ -\\ -\\ -\\ 4\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\$		$ \begin{array}{c}             4^{0} \\             34 \\             38 \\             9 \\             -8 \\             38 \\             31 \\             -6 \\             164 \\             25 \\             137 \\             -3 \\             10 \\             74 \\             -2 \\             2         $	5 	2I	$ \begin{array}{c}                                     $	$ \begin{array}{c} \mathbf{x} \\ \mathbf$	100 67 42 82 10 99 63 85 23 164 28 869 220 164 28 88 78 98 22 86

	Area planted (Acres)								
	Affor	rested	Re-affo	prested	Total				
Forest	Coni- fers	Broad- leaved	Con- fers	Broad- leaved	Coni- fers	Broad- leaved			
Gardiner, Wilts	$ \begin{array}{c} 23 \\ - \\ 20 \\ 11 \\ - \\ - \\ 20 \\ 11 \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ -$		$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	4 23 	$\begin{array}{c} 4^{2} \\ 7^{4} \\ 5 \\ 2^{0} \\ 8 \\ 2^{5} \\ 9^{9} \\ 5 \\ - \\ 4^{2} \\ 1^{7} \\ 8 \\ - \\ 6^{5} \\ - \\ 1 \\ - \\ 5^{1} \\ 1^{31} \\ 4^{89} \\ - \\ 4^{6} \\ - \\ - \\ 9 \\ 3^{9} \\ 5^{4} \\ 2^{2} \\ 7^{3} \\ 9^{3} \\ 2^{7} \end{array}$	35 23 1 23 1 - - - - - - - - - - - - -			
Osborne, Isle of Wight *Parkhurst, Isle of Wight Pembrey, Carmarthen Quantocks, Somerset Radnor, Radnorshire Redesdale, Northumberland Rendlesham, Suffolk	   		     	2  		2 			

\* Former Crown Woods.

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### -continued

Scots and Corsican Pine	Eur. and Jap. Larches	Douglas Fir	Norway and Sitka Spruces	Oak	Ash	Beech	Other	Total
$ \begin{array}{c} 3^{I} \\ - \\ - \\ 1 \\ - \\ 47 \\ 6 \\ - \\ 3^{2} \\ 5 \\ 98 \\ 3 \\ 18 \\ - \\ 4 \\ 4 \\ 4 \end{array} $	75 I 7 I 8 20 49 I 33 2 3 - - - - - - - - - - - - -		23 128 33 1 66 81 149 6 200 18 175 84 38 13 106		19 	63  73 - - - - - - - - - - - - -	$ \begin{array}{c} 8 \\ -2 \\ 2 \\ 1 \\ -2 \\ 19 \\ -1 \\ 2 \\ 46 \\ 6 \\ 1 \\ 9 \\ -2 \\ 1 \end{array} $	220 128 36 82 5 66 94 238 12 250 35 69 318 91 68 13 112
$ \begin{array}{c}                                     $	$ \begin{array}{c} 3 \\ -2 \\ 78 \\ -8 \\ -7 \\ -7 \\ -7 \\ -7 \\ -7 \\ -7 \\ -7 \\ -7$	8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 I 89 251 I,020 - 72 - 24 7 - 19	100 	9 	- - - - - - - - - - - - - - - - - - -	$ \begin{array}{c}     1 \\                               $	112 5 1 95 258 1,206 31 36 14 128 38 29 53 76
2 10 58 18 18 15  94 1 4 17 56	I       8       7       90          90          20	$ \begin{array}{c} -7 \\ -7 \\ -1 \\ -1 \\ -3 \\ -2 \\ -2 \\ -2 \\ -2 \\ -2 \\ -2 \\ -2 \\ -2$	$ \begin{array}{c} 56\\ 103\\ 87\\ -34\\ 126\\ -56\\ 7\\ 5\\ -1\\ 26\\ 296\\ -1\\ -26\\ -296\\ -1\\ -26\\ -296\\ -1\\ -26\\ -296\\ -1\\ -26\\ -296\\ -1\\ -26\\ -296\\ -1\\ -26\\ -296\\ -1\\ -26\\ -296\\ -2$				15 	59 103 127 97 151 511 72 6 14 97 1 30 333 138

Species planted, including beating-up (thousands)

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		L	Area plan	ted (Acres	5)	
_	Affor	rested	Re-aff	Re-afforested		otal
Forest	Coni- fers	Broad- leaved	Coni- fers	Broad- leaved	Coni- fers	Broad- leaved
Rheola, Glamorgan Ringwood, Dorset and Hants Rockingham, Northants Rosedale, Yorks Rothbury, Northumberland St. Gwynno, Glamorgan *Salčey, Bucks and Northants Savernake, Wilts Savernake, Wilts Savernake, Wilts Savernake, Wilts Sherwood, Notts Sherwood, Notts Shouldham, Norfolk Shouldham, Norfolk Swaffnam, Norfolk Swaffnam, Norfolk Tarenig, Card and Montgomery Thetford, Norfolk and Suffolk Thornthwaite, Cumberland Tidenham Chase, Glos *Tintern, Monmouth Usk, Brecknock Wareham, Dorset Wareham, Dorset Warke, Northumberland Wentwood, Monmouth Westbury, Hants Wigsley, Lincoln and Notts Willingham, Lincoln Wyre, Worcester Yardley Chase, Bedford	$ \begin{array}{c}             2 \\             16 \\             - \\             - \\         $		$ \begin{array}{c}     15 \\     131 \\     - \\     47 \\     37 \\     - \\     - \\     7^{72} \\     - \\     - \\     7^{72} \\     - \\     - \\     - \\     7^{0} \\     - \\    $	$ \begin{array}{c} - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\$	$ \begin{array}{c}     15 \\     131 \\     2 \\     63 \\     37 \\     \\     \\     \\     7 \\     72 \\     \\     \\     7 \\     72 \\     \\     \\     7 \\     72 \\     \\     \\     7 \\     72 \\     \\     \\     7 \\     72 \\     \\     \\     \\     7 \\     7 \\     7 \\     \\     7 \\     7 \\     \\     7 \\     $	$ \begin{array}{c} - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\$
Total	1,304	60	2,044	383	3,348	443

\* Former Crown Woods.

-continued

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Scots and Corsican Pine	Eur. and Jap. Larches	Douglas Fir	Norway and Sitka Spruces	Oak	Ash	Beech	Other	Total
$ \begin{array}{c} 8\\ 331\\ 40\\ 48\\ 2\\ 25\\ -\\ 36\\ 35\\ 20\\ 152\\ 18\\ 24\\ 6\\ 45\\ -\\ 375\\ -\\ 24\\ 6\\ 44\\ -\\ -\\ 58\\ 21\\ 2\\ -\\ 58\\ 21\\ 2\\ -\\ 58\\ -\\ 58\\ -\\ 58\\ -\\ 58\\ -\\ 21\\ 2\\ -\\ 58\\$	$ \begin{array}{c} 3 \\ 10 \\ -1 \\ 10 \\ 32 \\ 1 \\ 12 \\ 10 \\ 11 \\ -1 \\ 3 \\ -1 \\ -3 \\ -1 \\ -3 \\ -1 \\ -3 \\ -1 \\ -3 \\ -1 \\ -3 \\ -1 \\ -3 \\ -1 \\ -3 \\ -1 \\ -3 \\ -1 \\ -3 \\ -1 \\ -3 \\ -1 \\ -3 \\ -3 \\ -3 \\ -3 \\ -3 \\ -3 \\ -3 \\ -3$		$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c}                                     $		$ \begin{array}{c}             I \\             26 \\             - \\             I \\           $	$ \begin{array}{c} \mathbf{I} \\ \mathbf{I} \\ 2 \\ 2 \\ 2 \\ 4 \\ 2 \\ 4 \\ 2 \\ 2 \\ 4 \\ 2 \\ 2 \\ 1 \\ 1 \\ 7 \\ 8 \\ 2 \\ 2 \\ 1 \\ \mathbf$	$\begin{array}{c} 62\\ 361\\ 254\\ 180\\ 142\\ 55\\ 147\\ 76\\ 8\\ 24\\ 182\\ 6\\ 51\\ 182\\ 6\\ 51\\ 182\\ 6\\ 51\\ 182\\ 6\\ 51\\ 182\\ 6\\ 51\\ 182\\ 6\\ 52\\ 8\\ 24\\ 112\\ 6\\ 9\\ 21\\ 42\\ 8\\ 5\\ 31\\ 23\\ -19\\ 113\\ \end{array}$
3,730	1,227	376	6,216	1,138	53	1,247	504	14,491

۰,

# Appendix I

PLANTATIONS-YEAR ENDED 30TH

			Area plan	ted (Acres	5)	
	Affor	ested	Re-affo	prested	Total	
Forest	Coni- fers	Broad- leaved	Coni- fers	Broad- leaved	Coni- fers	Broad- leaved
Achaglachach, ArgyllAchnashellach, RossAe, DumfriesAltcailleach, AberdeenArdross, RossArdross, RossAsknish, ArgyllAssich, NairnAssich, NairnAssich, NairnBalblair, SutherlandBarcaldine, ArgyllBenmore, ArgyllBenmore, ArgyllBander, ArgyllBarcaldine, ArgyllBarcaldine, ArgyllBarcaldine, ArgyllBarcaldine, ArgyllBarcaldine, ArgyllBarcaldine, ArgyllBarcaldine, ArgyllBarcaldine, ArgyllBarcaldine, Kincoss and FifeBlairadam, Kinross and FifeBarcadam, Kinross and FifeBarcadam, Kinross and FifeCairn Edward (Clatteringshaw), KirkcudbrightKirkcudbrightCarden, FifeCarden, FifeCarden, FifeCarden, FifeCarden, FifeCarden, FifeCarden, FifeCaradale, ArgyllCaradale, ArgyllCaradale, ArgyllCaradale, Argyll <td><math display="block"> \begin{array}{c}         \\         \\         \\         </math></td> <td>                                     </td> <td><math display="block">\begin{bmatrix} - &amp; - &amp; - &amp; - \\ - &amp; - &amp; - &amp; - \\ - &amp; - &amp;</math></td> <td></td> <td><math display="block"> \begin{array}{c ccccccccccccccccccccccccccccccccccc</math></td> <td></td>	$ \begin{array}{c}         \\         \\         \\         $		$\begin{bmatrix} - & - & - & - \\ - & - & - & - \\ - & - &$		$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	

# -continued

# September, 1945—Scotland

Scots and Corsican Pine	Eur. and Jap. Larches	Douglas Fir	Norway and Sitka Spruces	Oak	Ash	Beech	Other	Total	
$ \begin{array}{c}                                     $	$\begin{bmatrix} 13 \\ 6 \\ -19 \\ 14 \\ 26 \\ 11 \\ -1 \\ -1 \\ 21 \\ 8 \\ -1 \\ -1 \\ -1 \\ -1 \\ -1 \\ -1 \\ -1$		$\begin{array}{c} 4\\ 6\\ 17\\ 110\\ 15\\ 51\\ 18\\ -\\ 60\\ 12\\ 136\\ 28\\ 36\\ 29\\ 10\\ 90\\ -\\ -\\ 4\\ 67\\ 84\\ 288\\ 28\\ 137\\ 36\\ -\\ 104\\ 288\\ 28\\ 137\\ 36\\ -\\ 104\\ 21\\ 32\\ 59\\ 103\\ -\\ 51\\ 58\\ 31\\ 39\\ 32\\ -76\\ 33\\ \end{array}$		4	<sup>6</sup>                   <sup>2</sup>       <sup>2</sup> <sup>9</sup>           <sup>1</sup>           <sup>2</sup>             <sup>2</sup>             <sup>2</sup>	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	

						<u></u>
			Area plan	ted (Acres	5)	
Torest	Affor	ested	Re-affo	prested	Total	
Forest	Coni- fers	Broad- leaved	Coni- fers	Broad- leaved	Coni- fers	Broad- leaved
Garadhban, Stirling Garcrogo, Kirkcudbright Glenbranter, Argyll Glenbrittle, Inverness Glendevon, Perth Glenduror, Argyll Glenduror, Argyll Glenfnart, Argyll Glenhurich, Argyll Glenhurich, Argyll Glennigh, Inverness Glennigh, Inverness Glentress, Peebles Glentress, Peebles Glentress, Peebles Glentress, Peebles Glentress, Peebles Glentrool, Kirkcudbright Gusachan, Inverness Inchnacardoch, Inverness Inchnacardoch, Inverness Inglismaldie, Kincardine Inverinan, Argyll Inverinan, Argyll Keillour, Perth Kilsture, Wigtown Kinfauns, Perth Kirroughtree, Kirkcudbright Kirroughtree, Kirkcudbright Kirroughtree, Kirkcudbright Kirroughtree, Kirkcudbright Kirnapdale, Argyll Laurieston, Kirkcudbright Laurieston, Kirkcudbright Laurieston, Kirkcudbright Kindauns, Perth Kirnoughtree, Kirkcudbright Laurieston, Kirkcudbright Laurieston, Kirkcudbright Loch Ard, Achray, Perthshire Loch Ard, Perthshire Loch Ard, Perthshire Loch Ard, Perthshire Loch Ard, Achray, Perthshire Midmar, Aberdeen Kindaus, Aberdeen Kindaus, Aberdeen Kustang, Ross Kustang, Aberdeen Kustang, Ross Kustang, Sens Kustang, Perthshire Kustang, Aberdeen Kustang, Aberdeen Kustang, Achray, Perthshire Kustang, Achray, Perthshire Kustang, Aspyll Kustang, Aspyll Kust	$\begin{bmatrix} 18\\ 20\\ 22\\ 1 \end{bmatrix} = \begin{bmatrix} 6\\ 1 \\ 1 \\ 1 \end{bmatrix} = \begin{bmatrix} 7\\ 1 \\ 1 \\ 1 \\ 1 \end{bmatrix} = \begin{bmatrix} 7\\ 1 \\ 1 \\ 1 \\ 1 \end{bmatrix} = \begin{bmatrix} 18\\ 10\\ 10 \\ 10 \\ 10 \\ 10 \\ 10 \\ 10 \\ 1$		$ \begin{array}{c} - & - & - \\ - & - & - & - \\ - & - & - &$		$\begin{bmatrix} 18\\20\\20\\-\\-\\-\\-\\-\\-\\-\\-\\-\\-\\-\\-\\-\\-\\-\\-\\-$	
Ordiequish, Moray Port Clair, Inverness Queen's Forest, The, Inverness Ratagan, Ross and Inverness Rosarie, Banff Roseisle, Moray	  		    		    	

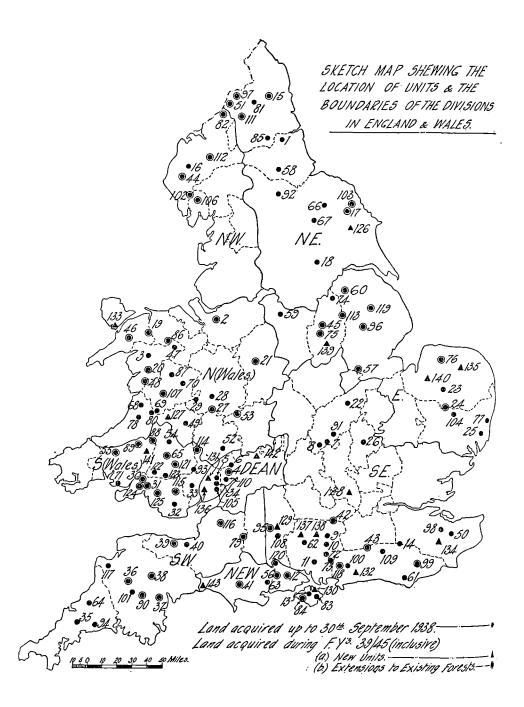
### ---continued

Scots and Corsican Pine	Eur. and Jap. Larches	Douglas Fir	Norway and Sitka Spruces	Oak	Ash	Beech	Other	Total
$ \begin{array}{c} 1 \\ 6 \\ 2 \\ - \\ - \\ 2 \\ 9 \\ 4 \\ 4 \\ 2 \\ - \\ 11 \\ - \\ 1 \\ 3 \\ 20 \\ 95 \\ - \\ - \\ - \\ - \\ 3 \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ -$	$ \begin{array}{c} 4 \\ 9 \\ 1 \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ -$		$\begin{array}{c} 10\\ 36\\ 12\\ 45\\ 55\\ 5\\ 7\\ 20\\ 18\\ 33\\ 28\\ 12\\ 4\\ 10\\ 7\\ 2\\ 13\\ 69\\ 3\\ -7\\ 1\\ 1\\ 7\\ 1\\ 1\\ 7\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\$				$ \begin{bmatrix} 1 & 3 \\ 1 & 3 \\ 2 & 4 \\ 4 & 1 \\ 1$	$\begin{array}{c} 16\\ 51\\ 16\\ 57\\ 55\\ 6\\ 12\\ 29\\ 22\\ 39\\ 35\\ -29\\ 5\\ 10\\ 1\\ 30\\ -34\\ 129\\ 91\\ -70\\ 9\\ -\\ 18\\ 13\\ 64\\ -\\ 188\\ 8\\ 28\\ 15\\ 29\\ 169\\ 134\\ -\\ 188\\ 8\\ 28\\ 15\\ 29\\ 169\\ 134\\ -\\ 188\\ 405\\ 117\\ -\\ 15\\ 379\\ -\\ -\\ 1\\ 1\\ 3\\ -\\ 96\\ 60\\ \end{array}$

		-	Area planted (Acres)				
	Affor	rested	Re-affo	orested	Total		
Forest	Coni- fers	Broad- leaved	Coni- fers	Broad- leaved	Coni- fers	Broad- leaved	
Saddell, Argyll	I	-			_		
Salen, Argyll			—				
Scootmore, Moray	12		15		27	-	
Slattadale, Ross			_				
South Laggan, Inverness	-	- 1	—		_	-	
South Strome, Ross						— —	
Strathord, Perth		2			48	2	
Strathyre, Perth	1 1	2	-		164	2	
Strathyre (Tulloch), Perth Tentsmuir, Fife			5		3	-	
Toindland Manage			5		9		
Tilliefour, Aberdeen	L .				61		
Tinnisburn, Dumfries and Rox-					01		
burgh		_			53		
Twiglees, Dumfries	. 6	I		I	46		
Wauchope, Roxburgh	-	_	24		28	- 1	
Whitehaugh, Aberdeen	_ d	-	-	-	18	L	
Total	1,650	11	1,057	I	2,707	12	

### ---continued

Scots and Corsican Pine	Eur. and Jap. Larches	Douglas Fir	Norway and Sitka Spruces	Oak	Ash	Beech	Other	Total
     	$ \begin{array}{c} - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\$		$ \begin{array}{c} 9\\53\\31\\-\\5\\-\\234\\17\\-\\76\\117\\96\\45\\42\end{array} $				-5 -2 -3 -7	10 58 56 4 6 119 266 17 98 120 120 124 103 71 63
1,929	640	96	4,369	4	 I4	56	351	7,459



### Appendix II

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### FORESTRY COMMISSION UNITS

#### ENGLAND AND WALES

- Chopwell, Durham.\* Ι.
- Delamere, Cheshire.\* 2.
- Hafod Fawr, Merioneth.\* 3.
- Dean Forest, Gloucester, Hereford 4. and Monmouth.\*
- Tintern, Monmouth.\* 5.
- Dymock, Gloucester and Hereford.\* 6.
- Salcey, Bucks and Northampton.\*
- 7. 8. Hazelborough, Bucks and Northampton.\*
- Alice Holt, Hants.\* ٥.
- Woolmer, Hants.\* 10.
- 11.
- Bere, Hants.\* New Forest, Hants.\* 12.
- Parkhurst, Isle of Wight.\* 13.
- Bedgebury, Kent and Sussex.\* Rothbury, Northumberland. 14.
- 15.
- Thornthwaite, Cumberland. ıć.
- Allerston, Yorks. 17.
- Selby, Yorks. ıŚ.
- Gwydyr, Caernarvon and Denbigh. 19.
- Coed y Brenin, Merioneth. 20,
- 21.
- Cannock Chase, Stafford. Rockingham, Northampton. 22.
- Swaffham, Norfolk. 23.
- 24. Thetford Chase. Norfolk and Suffolk.
- 25. Rendlesham, Suffolk.
- Ampthill, Bedford. 26.
- Mortimer, Hereford, Radnor and 27. Salop.
- Walcot, Salop. 28.
- 29. Kerry, Montgomery and Salop.
- 30. Rheola, Glamorgan.
- Margam, Glamorgan. 31.
- 32. Llantrisant, Glamorgan.
- Llanover, Monmouth. 33.
- Chepstow, Monmouth. Bodmin, Cornwall. Halwill, Devon. 34.
- 35.
- 36.
- 37. Haldon, Devon.
- 38. Eggesford, Devon.
- 39. Brendon, Somerset.
- Quantocks, Somerset. Wareham, Dorset. 40.
- 4I.
- Bramshill, Berks and Hants. 42.
- 43. Chiddingfold, Surrey and Sussex.
- 44.
- Ennerdale, Cumberland. Clipstone, Derby and Nottingham. Beddgelert, Caernarvon. 45.
- 46.
- Cynwyd, Merioneth. 47.
- 48. Dovey, Merioneth and Montgomery.
- 49. Radnor, Radnor.
- 50.
- Lyminge, Kent. Kielder, Northumberland. Haugh, Hereford. Wyre, Worcester. 51.
- 52.
- 53.
- 54. Brecon, Brecknock.
- 55. Brechfa, Carmarthen.
- 56. Ringwood, Dorset and Hants.
- 57. Bourne, Lincoln and Rutland.

\* Former Crown Woods

- 58. Hamsterley, Durham.
- Hope, Derby. 59.
- 60. Laughton, Lincoln.
- 61. Friston, Sussex.
- 62. Micheldever, Hants.
- 63. Ferndown, Dorset.
- Wilsey Down, Cornwall. Glasfynydd, Brecknock. 64.
- 65.
- Rosedale, Yorks. 66.
- 67. 68.
- Ampleforth, Yorks. Cwmeinion, Cardigan.
- Tarenig, Cardigan and Montgomery Mathrafal, Montgomery. 69.
- 70.
- 71. Pembrey, Carmarthen.
- 72. Westbury, Hants.
- 73.
- Buriton, Hants and Sussex. Bawtry, Nottingham. Sherwood, Nottingham. Swanton, Norfolk.
- 74.
- 75. 76.
- Dunwich, Suffolk.
- , 77. 78.
- Brynmawr, Cardigan.
- Bruton, Somerset and Wilts. 79. 80.
- Myherin, Cardigan. Harwood, Northumberland. 81.
- 82. Kershope, Cumberland.
- 83.
- Combley, Isle of Wight. Brighstone, Isle of Wight. 84.
- 85. Slaley, Northumberland.
- Clocaenog, Denbigh and Merioneth. Dyfnant, Montgomery. 86.
- 87.
- 88. Crychan, Brecknock and Carmarthen.
- 8q.
- 90.
- Caio, Carmarthen. Dartmoor, Devon. Yardley Chase, Bedford and North-91. ampton.
- Arkengarthdale, Yorks. 92.
- 93. Mynydd Ddu, Brecknock and Monmouth.

Bardney, Lincoln. Redesdale, Northumberland.

Herodsfoot, Cornwall. 94. West Woods, Wilts.

Challock, Kent. Vinehall, Sussex.

Lydford, Devon.

Itton, Monmouth.

Gravetye, Sussex.

† Previously known as Sedbury

Grizedale, Lancashire.

Hafren, Montgomery.

Collingbourne, Wilts.

Goodwood, Sussex.

Hardknott, Cumberland. Langdale, Yorks.

The King's Forest, Suffolk.

Tidenham Chase, Gloucester.

Wigsley, Lincoln and Nottingham.

Warke, Northumberland.

Greystoke, Cumberland.

Hay, Hereford. St. Gwynno, Glamorgan.

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- 116. Mendip, Somerset. Hartland, Devon.
- 117. 118.
- Marden, Sussex.
- Willingham, Lincoln. Gardiner, Wilts. IIQ.
- 120.
- Usk, Brecknock. 121.
- 122.
- Giedd, Brecknock. Coed y Rhaiadr, Brecknock. Michaelston, Glamorgan. 123.
- 124.
- 125. Cwmogwr, Glamorgan. 126. Scardale, Yorks.
- 127.
- 127. Coed Sarnau, Rads.
  128. Wendover, Bucks.
  129. Savernake, Wilts.

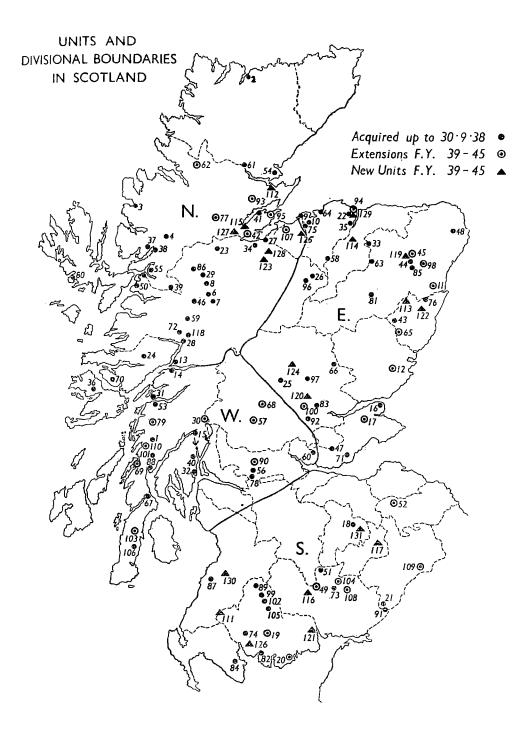
- Osborne, Isle of Wight. Monmouth, Mon. 130.
- 131.

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- Arundel, Sussex. 132.
- Newborough, Anglesey. 133.
- 134.
- Orlestone, Kent. Hevingham, Norfolk. Wentwood, Mon. Andover, Hants. 135. 136.
- 137.
- 138. Alton, Hants.
- Cotgrave, Notts. 139.
- 140.

- Shouldham, Norfolk.
- Cilgwyn, Carmarthen. Stanway, Gloucester. Charmouth, Dorset. 141.
- 142.
- 143.



#### FORESTRY COMMISSION UNITS

#### SCOTLAND

- Inverliever, Argyll.\* Ι.
- Borgie, Sutherland. Slattadale, Ross. 2.
- 3.
- Achnashellach, Ross. 4.
- Ratagan, Inverness and Ross. 5.
- 6.
- 7. 8.
- Inchnacardoch, Inverness. South Laggan, Inverness. Port Clair, Inverness. Culbin, Moray and Nairn. Monaughty, Moray. 9.
- 10.
- Kirkhill, Aberdeen. II.
- Montreathmont, Angus. 12.
- Glen Righ, Inverness. Glenduror, Argyll. 13.
- 14.
- Glenbranter, Argyll. 15.
- Tentsmuir, File. 16.
- Edensmuir, Fife. 17.
- Glentress, Peebles. 18.
- 19.
- Cairn Edward, Kirkcudbright. Dalbeattie, Kirkcudbright. 20.
- Newcastleton, Roxburgh. 21.
- 22. Teindland, Moray.
- Glenurquhart, Inverness. 23.
- 24.
- Glenhurich, Argyll. Drummond Hill, Perth. 25.
- The Queen's Forest, Inverness. 26.
- 27. Culloden, Inverness.
- 28. Nevis, Inverness.
- Craig nan Eun, Inverness. 29.
- 30.
- Ardgartan, Argyll. Barcaldine, Argyll. 31.
- 32. Benmore, Argyll.
- The Bin, Aberdeen. 33.
- Craig Phadrig, Inverness. 34.
- Ordiequish, Moray. Salen, Argyll. North Strome, Ross. 35.
- 36.
- 37. 38. South Strome, Ross.
- 39. Glenshiel, Ross.
- Glenfinart, Argyll. Findon, Ross. 40.
- 41.
- Kessock, Ross. 42.
- 43. Drumtochty, Kincardine.
- Midmar, Aberdeen. 44.
- Kemnay, Aberdeen. 45.
- 46. Glengarry, Inverness.
- Blairadam, Fife and Kinross. 47.
- 48. Deer, Aberdeen.
- Forest of Ae, Dumfries. 49.
- Eilanreach, Inverness. 50.
- Greskine, Dumfries. 51.
- Edgarhope, Berwick. 52.
- Fearnoch, Argyll. 53.
- Dornoch, Sutherland. 54.
- Inverinate, Ross. 55.
- 56.
- Lennox Castle, Stirling. Loch Ard, Perth. 57.
- 58. Scootmore, Moray.
- 59. Clunes, Inverness.
- 60. Devilla, Fife.
- 61.
- Balblair, Sutherland.
- 62. Lael, Ross.
- Clashindarroch, Aberdeen. 63.
- Roseisle, Moray. 64.
- Inglismaldie, Kincardine. 65.
- 66. Blackcraig, Perth.

#### \* Former Crown Woods

(53782) Wt. 1771-1511 12'46 D.L. G. 456

- Achaglachgach, Argyll. Strathyre, Perth. Knapdale, Argyll. Fiunary, Argyll. Carden, Fife. 67. 68.
- 69.
- 70.
- 71.
- Glenloy, Inverness. 72.
- 73.
- Auchenroddan, Dumfries. Kirroughtree, Kirkcudbright. Newtyle, Moray. 74.
- 75. 76.
  - Durris, Kincardine.
- . 77. 78. Longart, Ross.
- Garadhban, Stirling.
- **79**.
- Inverinan, Argyll. Glenbrittle, Isle of Skye. 80.
- 81. Alltcailleach, Aberdeen.
- 82. Fleet, Kirkcudbright.
- 83. Kinfauns, Perth. Kilsture, Wigtown.
- 84.
- 85. 86. Whitehaugh, Aberdeen.
- Guisachan, Inverness.
- 87. 88. Changue, Ayr.

Ardross, Ross.

Lossie, Moray.

Millbuie, Ross.

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- Asknish, Argyll.
- 89.
- 90.

Iushriach, Inverness.

Craig Vinean, Perth.

Carradale, Argyll.

Saddell, Argyll. Assich, Nairn.

Rosarie, Banff.

Clauchrie, Dumfries. Shielswood, Selkirk.

Pitfichie, Aberdeen.

Strathord, Perth.

Allean, Perth.

Ferness, Nairn.

Carrick, Ayr.

Elibank, Peebles.

Leanachan, Inverness.†

Mabie, Kirkcudbright. Fetteresso, Kincardine.

Strathnairn, Inverness.

Glengap, Kirkcudbright.

† Formerly part of Nevis

Strathdearn, Inverness. Speymouth, Moray.

Kilcoy, Ross.

Twiglees, Dumfries.

Tilliefoure, Aberdeen. Corriedoo, Kirkcudbright.

Keillour, Perth. Minard, Argyll. Garcrogo, Kirkcudbright.

Laurieston, Kirkcudbright.

Assich, Naffi, Castle O'er, Dumfries. Wauchope, Roxburgh. Kilmichael, Argyll. Glentrool, Kirkcudbright. Morangie, Ross. Blackhall, Kincardine.

Dundeugh, Kirkcudbright. Carron Valley, Stirling. Tinnisburn, Roxburgh and Dum-QI. fries. 92. Glen Devon, Perth.