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## FORESTRY COMMISSION

## Twenty-first )

Annual Report of the
Forestry Commissioners

> for the Year ending September 30 th 1940


NOTE. - Owing to war-time difficulties this Report was not printed.

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# TVEMTY-FIRST ANNUAL REPORT 

of the
FORESTRY COMMISSIONERS
for the
YeAR ENDING SEPTEBER BOth, 1940.

This Report covers the Forest Year ended $30 t /$ September, 1940. During the period the Commission continued to function as two Departments based upon the war organisation. The Forest Eanagement Department carried through a programme of reafforestation on the lines of the normal pre-war/activities of the Commission and the timber Supply Denartadnt, which was set un on the outbreak of war to deal with war demands of timber remained a separate organisation as a branch of the Ministry of Supply. The work of the Timber Supply Department during the year is reviewed in Part II of this Report $(X)$

The Headquarters of the Commission remained at Bristol throughout the year.

FOREST POLICY.
General.

total area of plantable land acquired during the year amounted
 of transplants in the nurseries have been greatly increased, the
K 27,288 area planted in $193{ }^{2}$ was $/ 24,089$ acres compared with $20,10728,28 s^{\prime}$ acres in 1'939, and the number of forest workers' holdings established was',


 imposer $m$ tho fromorio, the folantis mi uptante at Lour aguisit purcener s opportuctes offer hut to special step wee to bes torequie loans.
 on hour or theleging of te lur ant to receron volans.




The balance in the Forestry Fund at the commencement of 372,025 the forest year was 5545,0 Receipts from Parliamentary 450,000 Votes ( $£$
 balance in the Fund at 30th September, Ig ${ }^{4}$ \& was $£ 460,742.3363,006$ The progress of payments and receipts is indicated in the table below.

Forestry Fund: Payments and Receipts.

| Year ending $30 t h$ September. | Payments. |  |  | Receipts. |  |  | Net Payments. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Proposed. | Actual. | $\left\|\begin{array}{\|l\|} \text { Excess }(+) \\ \text { Deficit }(-) \end{array}\right\|$ | Proposed. | Actual. | $\left\|\begin{array}{l} \text { Excess }(+) \\ \text { Deficit }(-) \end{array}\right\|$ | Proposed. | Actual. | $\left\lvert\, \begin{aligned} & \text { Excess } \\ & \text { Deficit } \end{aligned}(+ \text { ) }\right.$ |
| First decade : <br> 1920-29 (rod finaucial years) | $\sim$ $\sim$ | $\underset{\sim}{\text { 4,502,018 }}$ | $\epsilon$ | E | $\epsilon$ $85 \mathrm{I}, 48_{4}$ | E | $\begin{gathered} € \\ 3,892,000 \end{gathered}$ | $\begin{gathered} € \\ 3,650,534 \end{gathered}$ | $\begin{gathered} E \\ -2.4 \mathrm{r}, 466 \end{gathered}$ |
| Second decade : |  |  |  |  |  |  |  |  |  |
| 1930-34 ... | 0,977,000 | 3,613,058 | -363,942 | 765,000 | 799.941 | + 25,941 | 3,212,000 | 2,822,117 | - 389,883 |
| 1935 | 611,000 | 620,818 | - 9,818 | 156,000 | 178,339 | +22,339 | 455,000 | 442,479 | - 12,521 |
| 1936 | 754,000 | 718,869 | - 35,131 | 174,000 | 186,140 | + 12,140 | 580,000 | 532,729 | - 47,271 |
| 1937 ... | 981,000 | 911,946 | - 69,054 | 202,000 | 228,079 | + 26,079 | 779,000 | 683,867 | $\cdots$ - 95,533 |
| 1938 - .. | 1,076,000 | 1,115,583 | + 39,583 | 213,000 | 231,231 | + $18,23 \mathrm{r}$ | 863,000 | 884,352 | + 21,352 |
| 1939 | 1,024,000 | 945,819 | - 78,181 | 221,000 | 207,122 | $-13,878$ | 803.000 | 738.697 | -64,303 |
| 1930.naqu. | 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 clecede: 1940 | $\left\|\begin{array}{\|c\|c\|} 1,012,000 \\ +,+1, \pi, 490 \end{array}\right\|$ | 822,217 | $\begin{array}{\|} -189.789 \\ -288,788 \end{array}$ | $\begin{array}{\|l\|} 349.000 \\ 446,600 \end{array}$ | 363,198 | $\left.\begin{array}{\|l\|} \hline+14,198 \\ -84,902 \end{array} \right\rvert\,$ | 663,000 | 459,019 | -203,981 |
| Total ... |  |  |  |  |  |  | - | 10213,794 | - |

## FINANCE

The Sections dealing with Finance and also the Forestry Fund (p. et seq.) are confined to the operations of the Forest inanagement Department of the Forestry Commission, and exclude all payments and receipts relating to the Timber Supply Department, the fiunds for which were provided by the ifinistry of Supply.

The following statement presents a general view of the properties under the charge of the Commissioners at 3oth September, Ig䔨, and a summary of the main silvicultural operations which have been undertaken:

$$
\begin{array}{lcc}
\text { England } & & \text { Total } \\
\text { and Wrales. } & \text { Scotland. } & \text { Great Britain. }
\end{array}
$$

| Number of Forests: | 130 |  |  |
| :---: | :---: | :---: | :---: |
| At beginning of year | -18 | 97117 $107 / 12$ | $23.2 \times 6$ |
| At end of year | - |  |  |

Utilisation of Ground (Acres) :

| Utilisation of Ground (Acres) : |  |  |  |
| :---: | :---: | :---: | :---: |
| Forest Land : <br> Acquired Plantations | 55,800 | 11,000 | $\begin{aligned} & 66,800 \quad \sigma^{\prime} \\ & 70,000 \end{aligned}$ |
| Planted by Forestry |  |  |  |
| $\begin{array}{ll} \text { Planted dy } \\ \text { Commission } & \ldots \\ \hline \end{array}$ | 241200 304000 | $1+3,000$ $726,000-$ | $333,000 *$ |
| To be planted ... ... |  | $126,000298,000$ $1+44,000263,000$ | $\begin{aligned} & 279,0001+6,000 \\ & 295,000 \text { 68,000 } \end{aligned}$ |
| Nurseries | 24.000 | , 400 |  |
| Agricultural ... | 22,500 |  | 37,208 |
| Forest Workers' Holdings (including outrun) | S | 3,000 | - |
| $\begin{array}{cc} \text { Unplantable } \\ \text { Miscellaneous } & \text { and } \\ \ldots \end{array}$ | . 134180000 | 275,900 342,900 | $\begin{aligned} & 409,900 \\ & 361,800 \end{aligned}$ |
|  | 6,7,700 | 594,300 | 7, $71.12,000$ |

* The total area planted, including replacements, was 340,638 acres (see page 23 ).
o Ciftén adgintimentis due ts fexeings ind fires


It will be observed that during the year the number of forest
 ${ }^{7} 7$ are in England and Wales and $\mathrm{I}^{\prime} \oplus \mathrm{in}$ Scotland.

Including transferred Crown woodlands the total area of land which has been acquired increased by Heafly 920000 acres from过 27,80 acres from

Compared with the previous year the canaleo been-increases in all silvicultural operationse the mest-inpertant being in planting and sowing $\frac{27,089}{}$ acres against $250, \pm 97$ acres, and in
 s,993 acres against 563 aeres.

## Land Acguisition.

Acquisitions during the year amounted to 62,397 of which 64,095 -acres were classified as plantable.

Acquisition of Plantable Land.

| Year ending 30th September. | By Lease or Feu. | By <br> Purchase. | Total. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Actual. | Acland Proposals. | $\begin{aligned} & \text { Excess }(+) \\ & \text { Deficit (-) } \end{aligned}$ |
| First decade : 1920-29 | $\begin{aligned} & \text { Acres. } \\ & \text { I56,759 } \end{aligned}$ | Acres. $\mathrm{I} 53,47 \mathrm{I}$ | $\begin{gathered} \text { Acres. } \\ 3 \mathrm{IO}, 230 \end{gathered}$ | $\begin{gathered} \text { Acres. } \\ 402,000 \end{gathered}$ | $\begin{aligned} & \text { Acres. } \\ & -\quad 91.77{ }^{\circ} \end{aligned}$ |
| Second decade : 1930 ... | 8,409 | 25,951 | 34,360 | 34,300 | $+\quad 60$ |
| 1931... | 4,85I | 44,007 | 48,858 | 34,300 | + 14,558 |
| 1932 . | 4,970 | 41,467 | 46,437 | 34,300 | + 12,137 |
| I933 ... | 2,885 | 12,450 | 15,335 | 34,300 | - 18,965 |
| 1934 .. | II,581 | 17,305 | 28,886 | 34,300 | - 5,414 |
| 1935 | 268 | 13,772 | I 4,040 | 34,300 | - 20,260 |
| 1936 ... | 603 | 17,641 | 18,244 | 34,300 | - 16,056 |
| 1937 ... | 1,805 | 40,490 | 42,295 | 34,300 | + 7,995 |
| I938 ... | $\begin{array}{r} 3,307 \\ -21,378 \\ \hline \end{array}$ | $\begin{array}{r} 60,788 \\ -10,839 \\ \hline \end{array}$ | $\begin{aligned} & 64,095 \\ & 32,207 \end{aligned}$ | 34,300 342000 | $\begin{array}{r}1 \\ +\quad 29,795 \\ \hline 2,097 \\ \hline\end{array}$ |
| $\begin{aligned} & 1939 \ldots \\ & 1940 \\ & \text { Total } \end{aligned}$ | $\begin{array}{r} 21,378 \\ -24,348 \\ +95,438 \end{array}$ |  | 3,207 3,634 622,780 |  | - $\begin{array}{r}\text { 2, } 2973 \\ -87.668\end{array}$ |
| $\longrightarrow$ | $241 . \frac{2 / 2}{} \mathrm{PLAI}$ | $\begin{aligned} & 4+5,409 \\ & \text { IING } P_{R} \end{aligned}$ | $686,621$ <br> RAMME | 779,300 | - 92,679 |

State Forests.
The area planted during the year was $\begin{gathered}27,288 \\ 24,089\end{gathered}$ acres.
Ayea Planted.

| Year ending 3othSeptember. | Proposed to be Planted. | Actually Planted. |  |  | Excess ( + ) <br> Deficit (-) on Decade or Annual Programme. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | New Planting. | Replacements. | Total. |  |
| First decade : 1920-29: Conifers Hardwoods | Acres. | Acres. | Acres. | Acres. | Acres. |
|  | 150,000 | 126,444 | 4,316 | 130,760 | - 19,240 |
|  | unspecified | 6,365 | I, 146 | 7,511 |  |
|  |  |  |  | 138,271 |  |
| Second decade : |  |  |  |  |  |
| I930 | 25,000 | 21,404 | 3,698 | 25,102 | + 102 |
| I93I | 25,000 | 24,234 | 1,396 | 25,630 | - 630 |
| 1932 | 20,000* | 21,959 | 794 | 22,663 | - 2,663 |
| 1933 | 20,000* | 20,394 | 657 | 21,051 | + 1,051 |
| 1934 | 20,000* | 20,355 | 1,302 | 21,657 | + 1,657 |
| 1935 | $20,000^{*}$ |  | 719 |  |  |
| I936 | 20,000* | f\%,498 | 1,081 | 28,596 | + $\quad \frac{386}{36}$ |
| 1937 |  | 19,324 | 783 | 20,107 | + |
| 1938 1939 |  | 23,404 | $\begin{array}{r}685 \\ 1.518 \\ \hline\end{array}$ | 24,089 28.235 | + 4,89 |
| 1939 <br> Total | - | $\begin{array}{r}26,717 \\ 24 \\ 244 \\ \hline 245\end{array}$ | $\underline{1,388}$ | - 28.238 | - |
| * Minimum ared. $\longrightarrow$ |  | 377,284 18,882 |  | 396,166. |  |
| $\dagger$ From 193 programme. T as quickly as po | 3 onwards <br> he general ossible to 3 | the prop bject in vie ,000 acres | sals emb <br> was to in r annum | ced the ease the | pecial Areas te of planting |

The total area planted by the Commission to 30 th September, 1948, was 346,1650 acres, of which 35,565 acres consisted of conifers and ${ }^{20,972}$, acres of hardwoods. New planting
 5,764 acres replanted after damage by fire, for 16,48 , acres. Details are given below.


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 pro-ceeds-sharing scheme. The total area planted amounts to
 year. Particulars of the grants are given on page 38 .

Acres.


## Utilisation of Home Grown Timber.

-Prior to the outbreak oi the war the Comissioners realised that heavy felling in the Home mood lands would be inevitable to meet Military and Civil requirements and they were anxious that war fellings should be conducted so far as might be possible in an orderly way and with reasonable regard to the future of British woodlands. They therefore classified the woods in their own charge into three categories containing roughly equal quantities of timber -

> Category I. Woods which could be felled forthwith. Category II. Woods which would be felled if necessary. Category III. Woods which would be felled only \&s a matter of extreme urgency.

Into the first category were placed stands $20-35$ years old; a part of the mature hardwood and softwood timber; also coppice of pitwood dimensions. In the second category the range of pitwood stands was widened to include the 15-20 years age-class and the $35-40$ years class. The remainder of the mature timber was also included. The third category consisted of the very young plantations and the middle-age classes.

The ideas underlying this classification were first to permit feelings to proceed without confusion, and secondly, to keep in view the needs of the future timber supply of the country. It was considered permissible to fell pitwood plantations because the Comissioners owned a large area of young plantations winch would rapidly replace then. It was considered not permissible to fell middle-age or immature plantations because they constituted the sole reserve for providing mature timber within the next two or three generations.

During tine Forest Year, which very nearly co-incided with the first twelve months of the war, very large inroads have been made into Category I. The demands for home-produced mining timber rose progressively month by month. Prices were regulated by the Control of Timber Orders.

It has not been possible to arrange any meeting of the Joint Informal Comittee of the Comissioners and the Council for the reservation of Rural England. Arrangements are in hand, however, to continue the meetings during the ensuing year.

## New Forest.

The advent of the war has unfortunately interrupted nomal progress in completing plamine schemes which are required to implement the recommendations contained in the Report of the Comittee of Planning Officers. Several schemes in the ivew Forest region had reached an advanced stage and therefore some of the recommendations of the Committee of Planning Officers could not be included. It is probable that it will not be feasible to complete the schenes during the war and the Commissioners feel most strongly that development in the meantime should be guided along the lines indicated in the Report.

Faving regard to the fact that immediately after the cessation of hostilities there is likely to be a rush of building development the Comissioners have made strong representations to the various Planning futhorities that in the interim no claims should be established which are not in hamony with the recommendations of the Report and they have expressed the hope that the Interim Development Authorities will pay carerul regard to such recommendations if and when they are asked to sanction any plans for future development.

The Comissioners have recific assurances from the various Defence Departments that land taken over will be thrown open and restored to its natural condition on the conclusion of" peace.

## Private Forestry.

Shortly before the war the Comissioners, as a result of a conference on Private Fiorestry which they had convened, set un on an experimental basis a Cornittee under the Chairmanship of one of their members, Sir George Courthope, to advise and report on the recommendation which had been made that an advisory service should be established. The work of the Comittee had to be suspended.

It is not yet possible to foresee the full extent of war rellings but having regard to the condition of private woodlands and to the volume of fellings which have tanen place in the past year it is already clear that drastic steps will have to be taken in regara to the post-war rehabilitation of British woodlands. War requirements have brought out very clearly the scarcity of sof twoods and it has not been found possible to exohe hardwoods, of wich there is fur more than is reeded,


One of the niain problens after the war will be the treatment of small woods, which in the aggregate, form a large contribution to the wealth of the timber in the country. Small woods play an important part in the amenity of the countryside and it is essential that they should be well managed. There will be the need too for the replanting of conifers on a large scale and an extension of afforestation areas. In order to cope with the problem in anything like reasonable time it will be necessary both to plant and to encourage natural regeneration and a determined effort must be made to get derelict and semi-derelict woods in order. Matural regeneration of woodlands calls for strict control of rabbits.

Argyll. Arrangements were made for the usual camping fecilities to be available during the year and the park remained open. The effect of the war was, however, reflected in the small number of persons recorded as using the available accomodation compared with the previous year when some 30,000 visitors were accomodated. Sertain of the Scottish Youth Hostels were taken over for evacuees.
"Snowdonia. The formal opening of the Snowdonia Park had been arranged for the soring of the year but circunstances impelled cancellation of the ceremony. The Park, however, was thrown open and visitors found that a Common Roora and Caretaker's quarters had been erected. The installation of a water supply was also completed. Facilities were available for pedestrians, cyclists, motorists and caravanners. The charges for night accomnodation were fixed at a nominal sum and the Comissioners received numerous congratulations on the success of the enterprise.

Forest of Dean. It was found necessary to utilise the buildings and carnping ground for war purposes during nost of the year but arrangements were made to provide alternative temoorary camping sites for the comaratively small number of visitors.

The attraction of the National Forest Parks and the appreciation shown by visitors for the facilities afforded for camping have encouraged the Comissioners to make arrangements for the creation of further areas for public recreation. The impprtance of this aspect of the Commissioners' activities will be in the forefront o $\vec{I}$ any post-war planning.

CEIVSUS OF WOODLAVDS.

The Gensus of Moodlands which the Forestry Commission hed in hand at the outbreak of war, so designed as to ascertain the character and cubic contents of all woodlands exceeding 5 acres in extent, was brought to a conclusion as quickly as possible. The results of the unfinished census covering 912,000 acres of private woodlands situated in various parts of Great Britain have now been analysed and they represent a sample of about 32 per cent. of the total area. There is reason to believe that this sample is representative of the whole and analysis of the data has not only provided valuable information as to the quantities of timber available to meet war-time demands but it has also provided the Comissioners with information as to the silvicultural methods of managenent which will be invaluable in the fraring of a post-war forest pelicy. It has, for instance, revealed that not more than 60\% of the total area is under a form of management which can be considered as potentially productive. When, however, woodiands under potentially productive forms of management are examined separately for condition the results are even more disappointing. Thus of the High Forest over the whole country less than half has been classified as satisfactory and no less than $28 \%$ of the total as unsetisfactory. Reviewing the two considerations form of management and condition of the crop the Comnissioners feel that it is a fair deduction that not more than one-third of the total area of nominal woodand of Great Britain is passably productive.

The Commissionexs have considerea whether the present. national needs may not pver-ride apr other considergtions but they are bound to pфint out that the current pate of felling will indolve further dedfetions of the home woodands which cannot be defended on silvicultural grounds.

In April Professor R.G. Chamion was appointed Director of the Institute as the result of the death in the previous year of Professor R.S. Troup.

The Institute has also suffered a great loss in the death in August of Dr. Burtt Davy. He will long be renembered by the many students passing througin the Institute, and the results of his teaching are already apparent in the valuable botanical work being done by many of them.

The Comissioners provide the Institute with a block grant of 21,500 to enable valuable data to be collected from the many woods which were being clear felled to meet the war demands, data which would otherwise have been irretrievably lost. The project aimed orimarily at correlation of growth and timber defects with site factors, and the investigation included details as to ecology, soil science and pathology. The close collaboration of the Departments of Botany and Rural Economy at Oxford contributed very largely to the successful carrying out of the field work.


#### Abstract

WEATHER.

Whe weather during the year calls for special comment. The winter was exceptionally severe and in the South of Scotland the heaviest snowfall within menory was reported. As a result forestry operations of all kinds were greatly delayed and when mild weather returned congestion in particular was caused at the central nurseries.

The phenomenal ice stom or January was unprecedented in the Commission's history. Young plentations in the pole stage were destroyed and up and down the country over wide areas the phenomenon resulted in considerable damage. In North Wales, where the most serious effects were felt, some 150 acres of plantations 10 years old were devastated. Between January and June tenperatures at Delanere, Cheshire, ranged from 33 degrees fahrenheit below zero to 93 degrees fahrenheit.


The position of the Forestry Fund at 30th September, $19 \$ 8$, and at the same date in previous years is shown in Table I.

Table I.-Forestry Fund Account.

| Year ending 3oth September. | Balance from preceding Year. | Receipts. |  |  | Payments (Table II, Heads A to L). | Balance in <br> Forestry Fund, 30th September. $\qquad$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Parliamentary Votes. <br> (2) | From Forestry Operations, etc. (Table II Head Z). <br> (3) | Total. <br> (4) |  |  |
| First decacle : _1920-29 | $\pm$ | $\underset{4,000,000}{\ddagger}$ | ${ }_{85 \mathbf{I}, 484}^{\ell}$ | $\stackrel{\underbrace{}_{4,85 I, 4}}{f}$ | $\underset{4,502,018}{f}$ | $£$ |
| Second decado : 1930-34... | - | 2,726,800 | 790,941 | 3,517.741 | 3,613,058 | - |
| $\begin{array}{r} 1935 \\ 1936 \end{array}$ | 254,149 261,670 | $\begin{aligned} & 450,000 \\ & 700,000 \end{aligned}$ | 178,339 186,140 | 628,339 886,140 | $\begin{aligned} & 620,818 \\ & 718,869 \end{aligned}$ | $\begin{aligned} & 261,670 \\ & 428,941 \end{aligned}$ |
| 1937 | 428,941 | 800,000 | 228,079 | 1,028,079 | 911,946 | 545,074 |
| 1938 | 545,074 | 800,000 | 231,23I | 1,031,231 | 1,115,583 | 460,722 |
| 1939 | 460,422 | 650,000 | 207,122 | 857,122 | 945,819 | 372,025 |
| 1930-3q9.: | - | 6,126,800 | 1,821,852 | 7,948,652 | 7.926 .093 | - |
| Third decade: 1940 | 392,025 | 450,000 | 363,198 | 813,198 | 822,217 | 363,006 |
| Grand Total | - | 10,5\%6,800 | 3,036,534 | 13,613,334 | 13,250,328 | - |

Balances remaining in the Fund at 3oth 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
945,819 payments from ferm,946 to $£ \mathrm{f}, \mathrm{II} 5,583$, an inerease of

156,076 Receipts were greater by $£ \mathcal{J}, 552$, and net payments were there- torist workus hoedings
279,678 fore $£ 200,485$ mosse than in 1939. 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 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.

Subheads A to D-General Organisation. Expenditure,
418546 90.903
 normal inerements, and salaries, travelling and-offie expenses of additional-staff required for work in enne with the Special Area and Gensus of Woodlando:

Expenditure was $£ 31,945$ less than in 1939 owing to the transfer of staff to the Timber Suppl Department. The technical staff employed by the Forest Management Department comprised 15 Divisional Orficers and $s$ District officers.

Table II.-Payments and Receipts by Heads of Account.

| $\begin{gathered} \text { Year } \\ \text { ending } \\ \text { 3oth } \\ \text { September. } \end{gathered}$ | Payments. |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | A. <br> Salaries, Wages and Allowances. (I) | B. <br> Headquarters' Cbarges. <br> (2) | C. <br> Assistant Commissioners' Charges. <br> (3) | D. <br> Divisional Officers' Charges. <br> (4) | E. <br> Forestry <br> Operations. <br> (5)$\|$ | F. <br> Advances for Afforestation Purposes. (6) | G. <br> Education. <br> (7) | H. <br> Research and Experiment. <br> (8) | J. <br> Agency and Advisory Services. <br> (9) | K. <br> Special Services. <br> (10) | L. <br> Forest Workers' Holdings. <br> (II) | Total. $\text { ( } \mathrm{I} 2 \text { ) }$ | Receipts. <br> 2. <br> (13) | Net Payments. $(14)$ |
| First decade : 1920-29 <br> Second decade,: | $\begin{gathered} £ \\ 494,157 \end{gathered}$ | $\begin{aligned} & \ell \\ & 22,676 \end{aligned}$ | $\begin{gathered} t \\ 30,586 \end{gathered}$ | $\begin{gathered} £ \\ 74,434 \end{gathered}$ | $\begin{gathered} £ \\ 3, \pm 18,837 \end{gathered}$ | $\begin{gathered} \mathcal{L} \\ 207,824 \end{gathered}$ | E 76,004 | $\begin{aligned} & \underset{36,927}{\mathcal{E}} \end{aligned}$ | $9 \mathrm{x}, 776$ | $£$ $23,342$ | $\begin{gathered} E \\ 325,455 \end{gathered}$ | $\begin{gathered} £ \\ 4,502,018 \end{gathered}$ | $\begin{gathered} 6 \\ 851,48_{4} \end{gathered}$ | $\begin{gathered} \ell \\ 3,650,534 \end{gathered}$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1930-34 $\ldots$ | 31\%:50 | 22,027 | 22,152 | 48.062 | 2,795,005 | 68,042 | 37.202 | 34,708 | - | 2,932 | 265,878 | 3,613,058 | 799,941 | 2,822,117 |
| 1935 ... .. | 67,385 | 4,343 | 3,090 | 10,340 | 491,506 | 13,968 | 5,999 | 8,479 | - | 1,066 | 14,642 | 620,818 | 178,339 | 442,479 |
| 2936 ... ... | 72,997 | 4.178 | 4,262 | 10,944 | 573,593 | , 13,516 | 6,183 | 9,057 | - | 3,284 | 21,255 | 718,869 | 186,140 | 532,729 |
| 1937 ... ... | 79,583 | 4,8II | 5,893 | 11,547 | 719,951 | 9,884 | 7,111 | 10,253 | - | 2,301 | 60,612 | 911,946 | 228,079 | 683,867 |
| 1938 | 86,538 | 7,083 | 5, 818 | 12,980 | 919,639 | 10,905 | : 9,361 | 15,366 | - | 2,314 | 49,579 | I,115,583 | 231.231 | 884,352 |
|  | 90,790 | 10,567 | 8,270 | 13,378 | 733,233 | 12,65i | $y, 682$ | 11,053 | 57 | 1.784 | 56,340 | 445,819 | 207,122 | 738,697 |
|  | 7-9,343 | 53,003 | 49.485 | 107,251 | 6.232.917 | 126,54\% | 73.53 | 84,916 | 57 | 13,681 | 468,306 | 7,926,093 | 1,821,852 | 6,104.241 |
| 7hind decade: 1940 Grand Tetal | 62,630 | 6,347 | 6,698 | 13,566 | 681.491 | 9,660 | 3,657 | 9.433 | 52 | 762 | 27,872 | 822,217 | 363,198 | 459.019 |
|  | 1,271,130 | 82,076 | 86,769 | 195.250 | 10,033,245 | 346,080 | 153,199 | 131,276 | 91,885 | 37.785 | 821,633 | 13,250,328 | 3,036,534 | 10,213,794 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |


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| trs'trs't | sol'zes | Lss" | ort" |  | z9'199\% | 208't19 | $48^{\prime}$ | oth's | stior | <N'94 | 996 | 'rtir | Losget |  |
| 0666995' | 65 | ${ }_{966}$ | 5s54z | ${ }^{\text {z888 }}$ |  | E986888 | $66 z^{29}$ | ${ }_{88}$ | os9'64 | ${ }_{\text {Etrt'or }}$ |  | Listrise | ${ }_{8 / \mathrm{r}}$ |  |
| , | ${ }^{9}$ | ${ }^{\text {q }}$ | ${ }^{9}$ | 9 | ${ }^{9}$ | ${ }^{9}$ | ${ }^{9}$ | ${ }^{9}$ | ${ }^{\text {f }}$ | ${ }^{9}$ | \% | \% | ${ }^{\text {f }}$ |  |
| ${ }^{(\mathrm{r})}$ | ${ }^{(\mathrm{r})}$ | ${ }^{(\mathrm{zr})}$ | ${ }^{(\mathrm{x})}$ | ${ }^{(0,9)}$ | (6) |  | (4) |  |  | (1) |  | ${ }^{(5)}$ | (r) |  |
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## Subhead E-Forestry Operations. Expenditure, $£ 4,017,351$

 Income, £227,723.781.192
$.551,362$
Details of expenditure and income are given in Tanle F. Fxpenditure was 560,887 less than in 1939 , but income rose by $\delta 345,620$ due to the sale of greatly increased quantities of timber. As the bulk of the timber was felled by the Timber Supily jepartment the Comnission's expenditure on preparation of iroduce decreased by $£ 37,445$. Acquisitions of land, etc. decressed by $£ 19,937$.

Overhead Charges, fis, $1659 ;$ Superior Supervision, $\begin{aligned} & 32,565 \\ & 43,959,\end{aligned}$
62,773 and Local Supervision, 660,683 . 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 3 toresters and foremen were employed on Forestry Operations (Foresters: Head, $\ddagger$; Grade I, 4 ; Grade II, it ; : Poresters if (\%).

Acquisition of Land, Buildings and Standing Timber.-
70,857 Expenditure amounted to $£ 25425$ of which $£ 270,147$ was in respect of purchases of land including standing timber and build-
30,893 ings, and (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 $1939-48$ amounted to $62,5 \frac{56}{56}$ acres, of which 6 fied as plantable. On the other hand disposals and adjustments


The average rent or feu duty for land acquired for forestry operations during the year by lease or feu was approximately $1 / 9 \mathrm{~d}$ per acre and the average price for such land purchased, approximately R1.9.Od. Der acre. If the wole outlay in respect of lond, buildings, timber, etc., were charged against plantable land the figures would be $2 / l l d$ and di. 3.4 . respectively. land and buildings for torest workers' holdings are excluded.

The net total area in Great Britain in respect of which the legal formalities of acquisition by the Department had been
 corresponding figures in the previous two Annual Reports being
 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.

Land acquired by Lease, Feu and Purchase from 29th November, 1919, to 30th September, 1938.

|  | By Lease and Feu. |  |  | By Purchase. |  |  | Total Acquired. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Plantable (including planted). | Other Land. | Total. | $\begin{array}{\|c\|} \text { Plant- } \\ \text { able } \\ \text { (includ- } \\ \text { ing } \\ \text { planted). } \end{array}$ | Other Land. | Total. |  |
|  | Acres. | Acres. | Acres. | Acres. | Acres | Acres. | Acres. |
| England and Wales:- |  |  |  |  |  |  |  |
| Finally completed ... | $\begin{aligned} & 138,02 z \\ & ¥ 19,097 \end{aligned}$ | - $\begin{array}{r}30,720 \\ -25,982\end{array}$ | $\begin{aligned} & 68,792 \\ & 139,079 \end{aligned}$ | $\begin{aligned} & 259,3 \times 3 \\ & 248,790 \end{aligned}$ | $\begin{aligned} & 77,897 \\ & 75,842 \end{aligned}$ | $\begin{aligned} & 3372220 \\ & 324 ; 632 \end{aligned}$ | $\begin{gathered} 56,012 \\ +63174 \end{gathered}$ |
| Entry secured | 2,632 | 107 | 2,739 | 222 | - | 222 | 2,961 |
| Total |  | -30,87 |  | $\begin{aligned} & 259,5755 \\ & 249 ; 9 \times 2 \end{aligned}$ | 77.85 | $\begin{aligned} & 33, x_{2}^{24+2} \\ & 3=4,854 \end{aligned}$ | $\begin{aligned} & 308.973 \\ & +460.672 \end{aligned}$ |
| Scotland:- |  |  |  |  |  |  |  |
| Finally completed .. | 100,129 79710 | 163,3/6 | 2, | $\left.\begin{array}{\|c\|} \hline 185,864 \\ 178,330 \end{array} \right\rvert\,$ | $183.038$ $-178 \div 137$ | $\begin{aligned} & 368,902 \\ & 356,467 \end{aligned}$ | $\begin{array}{r} 552,36,9 \\ -5107799 \end{array}$ |
| Entry secured |  |  |  |  |  |  |  |
| Total | 100,558 79,710 | 113,380 | $2 / 3,938$ 154,242 | $\begin{array}{r} 18,864 \\ 178,330 \end{array}$ | $\begin{array}{\|l\|} \hline 183,038 \\ -78 ; \times 37 \end{array}$ | $\begin{aligned} & 368,903 \\ & 356,467 \end{aligned}$ | $\begin{aligned} & 38,8, y=0 \\ & -5+10,709 \end{aligned}$ |
| Great Britain... | ㅍ95,439 244,212 | futh, 257 | $296-060$ $383 ; 1469$ | $\begin{array}{\|c} -427,342 \\ 4 \sim 5,409 \end{array}$ | $\left.\begin{array}{\|r\|} -253,979 \\ 260,935 \end{array} \right\rvert\,$ | $681,32 x$ yo6, 3.fat | $\begin{aligned} & 977.38 \mathrm{I} \\ & 1096.8 / 3 \end{aligned}$ |

Of the net total area acquired by lease feu and purchase in Great Britain to 30 th September, $\operatorname{Ig} 38,682,58$ acres were classified at the time of acquisition as plantable and of this area
${ }^{460}$, 199 acres ( 58 per cent.) were in England and Wales and $286,4 \times 4 / 258,040$ acres (深 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 as at 30th September, Ig等, was as shown in the table on page 0.

| Sns'n: | ＋ $\mathrm{smitan}=\mathrm{c}$ | dibl | To．8． |  | Stic | Toot |  | Trex | 9， |  | $115$ | $\begin{aligned} & 7 \cdot 91 \\ & 795051 \end{aligned}$ | ${ }^{2}$ | ｜ 0.51 | $5$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \％\％\％ber | \％n＇ | $\operatorname{sch}_{5}$ | 590 ז\％＋ | stict | ＋ | zbisis | z10\％b | L8y＇st | тяtic | ¢EL1的 | Lssol | \％LL＇zワ | sas $=\varepsilon$ | \＆าT＇s： | －．0ヶか |
| 999＇93z＇r |  | ＋otsor | ＋bo＇49 | ［EO＇bl |  | ${ }^{085}$＇950＇L | T20＇カリ9 | Ess＇\％\％ | S6s＇T9\％ | b10＇1ロ0¢ |  | 199¢¢力7 | bro＇ts¢ | 090＇tE¢ | $6 \varepsilon-0 \varepsilon b$ |
|  | \％ | $\square$ | 5．ved | inss | ¢ | ＊ | － |  |  | 00180 | H0Liob | corba |  | 9bibet |  |
| ${ }_{882}{ }^{\prime} 686$ | ${ }^{\varepsilon z<}\langle\lll$ | ${ }_{686} 6$ | t56tror | ${ }_{\text {rist }}$ ¢ | ${ }^{699} 95$ |  | zzr＇¢8 | ${ }^{\text {¢ }}$ ¢ ${ }^{\prime}$＇z | ${ }^{18} 0^{\circ} \mathrm{t} 9$ | 9egtiot | ${ }^{12 t^{\prime} 96 \%}$ | E89609 | 656¢t | 950＇88 | ．．．．． $8^{86 \mathrm{r}}$ |
| ELE＇Lo9 | 996＇szz | z66＇g ${ }^{\text {¢ }}$ | ${ }_{\text {tr } 8^{\prime} 68}$ | $\mathrm{Es}_{5} \mathrm{~L}^{\text {b }}$ | Lot＇c | 6 6E¢E® | $6_{89}{ }^{\text {s }} 99$ | Efr＇gz $^{\text {g }}$ | \＄58＇60 | ${ }^{\text {8\％o＇gq¢ }}$ | L55 600 | 98¢＇9s | ${ }^{\text {tr }}$ | ז＜4＇98 | ．．．．．．\ll 61 |
| rrotzi $^{\text {c }}$ | －80＇E | ${ }_{88}{ }^{1}$ | rir＇ct | ＜zo＇¢8 | 80／s | ${ }_{\text {reors }}$ S 9 | Loo＇ $\mathrm{E}_{\mathrm{g}}$ | 1zo＇gr $^{\text {d }}$ | Ezr＇9 ${ }^{\text {c }}$ | Log ${ }^{\text {¢ }}$ ¢ ${ }^{\text {c }}$ | $z_{\text {ar }}$＇s | $\angle 5 z$ | ${ }_{808}$ | 906＇ 18 | ．．．．．．g86\％ |
| z $5 \Sigma^{\prime} / 68$ | 207＇69x |  |  | zzg＇r9 | ${ }^{\text {b6\％＇9 }}$ | ＋55＇995 | ${ }^{\circ} 8_{8}{ }^{\circ} \mathrm{OS}$ |  | $6_{8}+p{ }^{\text {d }}$ | ${ }_{888}{ }^{188}$ | zo＇ | 79¢＇th | Lzi＇s¢ | ${ }_{58} 8^{\prime} / 2 z$ | ．．．．．s¢6r |
|  | ／sc＇ss ${ }^{\text {c }}$ | EES＇8 | ${ }_{80+1} 8<\tau$ | 019098 | ＇r＇ | 918＇z＋1＇$¢$ | 1276208 | sss＇S11 | ог＇，＇t， | Hot LEs： | Sticiscic | 12 T \％os | $3 b^{\prime}$＇rst |  |  |
| ${ }^{69+1089}$ | gorrz8 | 6E9＇zzı | ${ }^{\text {v6S＇got }}$ | $160^{\prime}+\angle z$ | ${ }_{8}{ }^{4}$＇s 64 |  |  | ${ }_{88} 8^{\prime} \mathrm{S}_{11}$ $y$ |  | $\left\lvert\, \begin{array}{\|c\|} \text { rog'ors's } \\ j \end{array}\right.$ | $605484$ | $\text { of } \varepsilon_{1}+6 x$ | $z_{z z r^{\prime} \mathrm{oz}}^{f}$ | 466'zr |  |
| ${ }_{(S,}{ }_{\text {S }}$ | ${ }^{\text {（ri）}}$ | （EI） | （z1） | （11） | （07） | （6） | （8） | （2） | （9） | （s） | （5） | （f） | ${ }^{\text {（z）}}$ | （i） |  |
|  | ［ P O | тэчо |  |  |  | $\mathrm{TrOL}^{1}$ |  |  |  |  |  |  | $\begin{gathered} \text { coisisis } \\ \hline \text { Hopadis } \end{gathered}$ |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## Forestry Commission Units.

## England and Wales.

I. Chopwell, Durham.*
2. Delamere, Cheshire.*
3. Hafod Fawr, Merioneth.*
4. Dean Forest, Gloucester, Hereford and Monmouth.*
5. Tintern, Monmouth.*
6. Dymock, Gloucester and Hereford.*
7. Salcey, Bucks and Northampton.*
8. Hazelborough, Bucks and Northampton.*
9. Alice Holt, Hants.*
no. Woolmer, Hants.*
ir. Bere, Hants.*
12. New Forest, Hants.*
r3. Parkhurst, Isle of Wight.
14. Bedgebury, Kent and Sussex.*
15. Rothbury, Northumberland.

ェ6. Thornthwaite, Cumberland.
I7. Allerston, Yorks.
18. Selby, Yorks.
19. Gwydyr, Caernarvon and Denbigh.
20. Coed-y-Brenin, Merioneth.

2I. Cannock Chase, Stafford.
22. Rockingham, Northampton.
23. Swaffham, Norfolk.
24. Thetford Chase, Norfoll and Suffolk.
25. Rendlesham, Suffolk.
26. Ampthill, Bedford.
27. Mortimer, Hereford, Radnor and Salop.
28. Walcot, Salop.
29. Kerry, Montgomery and Salop.
Rheola, Glamorgan.
Margam, Glamorgan.
Llantrisant, Glamorgan.
Llanover, Monmouth.
34. Chepstow, Monmouth.
35. Bodmin, Cornwall.
36. Halwill, Devon.
37. Haldon, Devon.
38. Eggesford, Devon.
39. Brendon, Somerset.
40. Quantocks, Somerset.

4I. Wareham, Dorset.
42. Bramshill, Berks and Hants.
43. Chiddingfold, Surrey and Sussex.
44. Ennerdale, Cumberland.
45. Clipstone, Derby and Nottingham.
46. Beddgelert, Caernarvon.
47. Cynwyd, Merioneth.
48. Dovey, Merioneth and Montgomery.
49. Radnor, Radnor.
50. Lyminge, Kent.
51. Kielder, Northumberland.
52. Haugh, Hereford.
53. Wyre, Worcester.
54. Brecon, Brecknock.
55. Brechfa, Carmarthen.
56. Ringwood, Dorset and Hants.
57. Bourne, Lincoln and Rutland.
58. Hamsterley, Durham.
59. Hope, Derby.
60. Laughton, Lincoln.

6i. Friston, Sussex.
62. Micheldever, Hants.
63. Ferndown, Dorset.
64. Wilsey Down, Cornwall.
65. Glasfynydd, Brecknock.
66. Rosedale, Yorks.
67. Ampleforth, Yorks.
68. Cwmeinion, Cardigan.
69. Tarenig, Cardigan and Montgomery.
7o. Mathrafal, Montgomery.
71. Pembrey, Carmarthen.
72. Westbury, Hants.
73. Buriton, Hants and Sussex.
74. Bawtry, Nottingham.
75. Sherwood, Nottingham.
76. Swanton, Norfolk.
77. Dunwich, Suffoll.
78. Brynmawr, Cardigan.
79. Bruton, Somerset and Wilts.

8o. Myherin, Cardigan.
8r. Harwood, Northumberland.
82. Kershope, Cumberland.
83. Combley, Isle of Wight.
84. Brighstone, Isle of Wight.
85. Slaley, Northumberland.
86. Clocaenog, Denbigh and Merioneth.
87. Dyfnant, Montgomery.
88. Crychan, Brecknock and Carmarthen.
89. Caio, Carmarthen.
90. Dartmoor, Devon.
91. Yardley Chase, Bedford and Northampton.
92. Arkengarthdale, Yorks.
93. Mynydd Ddu, Brecknock and Monmouth.
94. Herodsfoot, Cornwall.
95. West Woods, Wilts.
96. Bardney, Lincoln.
97. Redesdale, Northumberland.
98. Challock, Kent.
99. Vinehall, Sussex.
ioo. Goodwood, Sussex.
ioi. Lydford, Devon.
102. Hardknott, Cumberland.
103. Langdale, Yorks.
104. The King's Forest, Suffolk.
105. Itton, Monmouth.
106. Grizedale, Lancashire.*
107. Hafren, Montgomery.
108. Collingbourne, Wilts.

Iog. Gravetye, Sussex.
rı. Sedbury, Gloucester. $\dagger$
iII. Warke, Northumberland.

II2. Greystoke, Cumberland.
113. Wigsley, Lincoln and Nottingham.
II4. Hay, Hereford.
115. St. Gwynno, Glamorgan.

II6. Mendip, Somerset.
117. Hartland, Devon.
i18. Marden, Sussex.
119. Willingham, Lincoln.
120. Gardiner, Wilts.

12I. Usk, Brecknock.
122. Giedd, Brecknock.
123. Coed-y-Rhaiads, Brecknock.
124. Michaelston, Glamorgàn.

J25. Cwmogwr, Glamorgan.
126. Seardole, 1/estio
127. Coed Sarnau, Radnor:
128. Wendover, Bucks.
129. Savernake, Wilts.
130. Osborne, Iste of Wight-

* Previously known at Hawkshead.
$\dagger$ Previously included under Chepstow.

131. Newborough, Anglesey.
132. Chequers, Bueks.
133. Arunde1, Susser.

Mrf. Monmouth, Mormouth

## Scotland.




Cultural Operations.--Expenditure amounted to details of which are given in Table E5. Plantations accounted for $£ 312,035$ and nurseries $£ 89,605$.
$331,154 \quad 100,599$

Plantations.-The total area planted or sown during the year was $374{ }^{2} 8$ acres, conifers and $\frac{2,420}{2},{ }_{4}$ acres under broadleaved species. Included in the above, are 474 acres re-afforested in the former Crown woods and ${ }^{2}$ 铨 acres replanted after damage by fire. Details by forests are given in Appendix II, pages $50-6 \mathrm{I}$.

The total addition to the woodland area of Great; Britain as a result of the Commission's operations was $\frac{20,4\}^{2}+\text { acres. In }}{24}$ forming plantations and beating-up previous years' plantations 54 million trees were used, of which 48 per cent. were Norway and Sitka spruces; ${ }^{23}$ per cent. Scots and Corsican pines; * per cent. European and Japanese larches; I per cent. Douglas fir, and 折per cent. broadleaved species.

An area of ${ }^{765}{ }^{765}$ acres ${ }^{2}$ of existing woods was underplanted, necessitating the use of 435,000 plants.

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

Silvicultural Operations.


Cost of Planting. -The outlay on labour and material on the areas planted between IgI9 and In was $\mathcal{E}^{\prime 0} \cdot 2 \cdot 6$ priaure,


## England and-Wales.

Se thant-..
Great Brit


Thess figures coversthe 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.

Nurseries. -The total area under nurseries at 30th September, 193 $\frac{4}{8}$, was million transplants. Comparative figures for the three years 193-3 are given in the following table:-

Nurseries.


Details showing by Divisions the utilisation of nursery area are as follows:-

Utilisation of Nursery Area.

| Division. | Seedbeds. | Lines. | Fallow and Green Crops. | Other. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Acres. <br> $16.782-6$ | Acres. $70.463-8$ | Acres. 15.88. | Acres. | Acres. $120.0$ |
|  | $6 \cdot 4$ |  | 6.75 | 3-2 3-4 | ${ }_{27}^{274} 435.4$ |
|  | 29.830-2 | 59.059 | 25:223-5 | 16.514 | F26.8/3e.5 |
|  | 27.4 4 -8 | 35.837 .9 | 13.24 .9 | 12.88 | - 89.2 |
|  | 5.964 | 12.7 9.5 | 5.275 | 7.46 .3 | $29631 / 2$ |
|  | $1 \%$ O以 | 19.58 | 11.79 | 3.035 | $45 \times 45 \cdot 2$ |
|  | 8.5 9-7 | $15.8 \pm 54$ | 9.970-7 | $4.6 \div 9$ | 39.738 .8 |
|  | 14.389-4 | $44 \cdot 23205$ | 22-117\% 6 | $14.6 \pm 2.6$ | 85995.2 |
|  | 9.5 1559 | 46.150 .2 | 22.88 | 18.2759 | 90.966 .6 |
|  | 29.5.52-3 | $22 \cdot 694$ |  | 97.48 | $6 \times 9.982 \%$ |
| Scotland- $\quad$ - 80 |  |  |  |  |  |
| South ... | 16.48 | $20.5{ }^{-9}$ | 8.7-2-6 | 9.048 | 3044 54.6 |
| East | 17.2864 | 41.84+9 | k7. 36.7 | 21.435 | 139107.7 |
| West | 37.64007 | 58.6642 | 57.542 | \%.075-7 | 160-1/63.7 |
| Total ... | 79.989 | 153.9 | 16.8006 | 39.44572 | $399.64 \% 0.0$ |
| Total, Great Britain |  | $\sqrt{76 \cdot 5} 45 \pm .3$ | $\begin{array}{r} 294 \cdot 4 \\ 193-5 \end{array}$ | 36.80-5 | 7,017-51092.1 |

Seed Supply.-
Practically no seed of Japanese lerch was obtaineble during the year. A bulk purchese from Corsica resulted in an ample supply of Corsican pine, While fron Tancouver came usefol quantities of Sitka spruce and Douglas fir.

At home the oak crop was plentiful but beech once again was in short supply. Eone-collected seed also included adequate cuantities of ash, syoanore and sweet chestnut, and roadsides of the future are likely to benefit fron the collection and sowing of the more ornaraental broadeaved species, including wild cherry, mountain ash, fieldmaples and laburnur. The cones of Scots pine were scarce bit larch seed of the European variety collected in Great Britain was well in excess of the normel quantity.

In order to zuara arcinst loss by enemy action it was decided during the year to store all seed in relatively sefe areas.

## Forest Fires，－As ha－

（furing the year 628 fires occurred，the planted area affected was 1,750 acres and the damage was assessed at $£ 38,145$ ．These figures include 45 fires，with a loss of $£ 21,000$ ，aue to enemy action．In spite or this new f actor the totil damage caused as less then had been experienced in two previous years， 1989 （ 409 fires，$£ 45,961$ danage）and 1938 （1，144 fires， £39，910 damage）when drought conditions prevailed．

Fire－fighting nethods have been greatly inproved during the vear by the develoment of the use of vater．rhe systen depends upon the projection of relatively smell volumes of weter at a comparatively high pressure by neans of self－ containea pover purs．The eguipment and the water are corried by motor lorry to the scene of the rorest eire and difficulties attendins the lack of vater supplies at some forests are being overcome．Harly results from the use of this equiment indicate thet it should be possible to evolve a really successful fire－fighting technigne wich it is hoped will be the means of seving lerge arees of plantations of considerable value．

Comparative figures for the five years $193 x$ to $19{ }^{4}{ }^{8}$ are given below．

|  | 1984 | 1935. | 1936. | 1937. | 1938. | 1939. | 1940. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number of fires | 50 | 48 | 407 | 438 | 1，144 | 355 | 628 |
| Area burnt（acres）．．． | $74 \pm$ | －70 | r， 563 | 126 | 2，066 | 975 | 1,750 |
| Damage valued at．．． | 5－6 | \％ | £20，170 | £2，140 | £39，910 | 太 19.465 | 右38，145 |

In．addition cight fres caused damage to buildings amomiting －

Claims aggregating $£_{6,530}^{1,525}$ have been lodged by the Com－ missioners in respect of the damage done during the year．

The following table gives the causes of fires in $199^{40}$ and it will be seen that most fires originated in sparks from railway engines，but a large number（ $2 \times 18$ ）were caused by the general public mainly as the result of carelessness．Enemy action was reaponviere +45 tries：

## Origin．

Railways
Railways ．．．
General public

Number of Fires． $475 \quad 270$


| 160 | 42 | $\pm 4$ | 6 |
| :---: | :---: | :---: | :---: |
| $5{ }^{8}$ | 30 | 5 | 5 |
| 喠年 | 54 | 5 | 9 |
| 13 | 8 | 士 | 1 |
| 13 | 30 | 士 | 5 |
| 5 | 6 | － | 1 |
| 12－ | 23 | 士 | 4 |
| 237 | 120 | $2 I$ | 19 |
|  | 45 |  | 7 |

Percentage of total Number．

From public roads，etc．

## Other

 Adjoining land Incendiarism $\ldots$ ．．． Commission＇s employeesRoad engines ．．．．．．
Other
Unknown $\ldots$ ．．．．

Enemy achion

Subhead F-Advances for Afforestation Purposes.
Expenditure, 843,872
Grants to private individuals and local authorities for planting amounted to $\mathrm{f} \pm 0,526$, dynes in respect prods chairing的 E3225:
The grants were as follows:-
(1) Conifers.-Up to $£ 2$ 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 $£ 4$ per acre for oak or ash; $£ 3$ per acre for beech, sycamore or chestnut, and $£ 2$ 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:-


Subhead G-Education. Expenditure, $\begin{array}{r}5,349 \\ \hline 1,698\end{array}$
Details of expenditure are given in Table G.
Apprentices' Schools. Ex

Eprentices Schools - Expenditure 22060.
In the early part of the year the Forest Apprentices at Parikend (Forest of Dean) were dispersed, nearly all of then being engaged on Timber Supply cuties. partan School was subsequently taken over for the purposes of special courses of instruction in timber measuring for members of the Nomen's Lend Army.

At Benmore School, Argyll, apprentices who were in the Territorial Army joined the Pores and others became gangers or foreman in the woods, the majority being recruited by the Timber Supply Department. Later on in the year younger boys below military age were given a six months course ir practical forestry which included some theoretical instruction

Grants to Universities, Colleges, etc.: Expenditure, fir,
Grants were made during the year to the following: -Oxford Universe Cambridge University; University College of North Wales, Bangor; King's College, Newcastle-on-Tyne; Abrden University; Edinburgh and -East of Scotland Collego-of

Fragment of roust pw parsi of The yen wo rode at a late dole ard aunt pogroms on mon moluded in th armor stinted adore.

Table G.-Education.


Imperial Forestry Institute: Ixpenditure 2875, - The Annual Grant to the Inperial Forestry Institute from the Forestry Fund was continued. The amount of 2875 represents the grant in respect of the six months to 3lst harch. Payment of the grant over the succeeding six months was delayed until arter the close of the Forest Year.

Under the system by which Colonial Forest Service probationers are sent back to the Imperial Porestry Institute for a further period of study six students attended, the Colonies of British Honduras, Gold Coast, Nalaya and Trinidad being represented.

## Subhead H-Research and Experiment. Expenditure : Gross, $£ 14,519$; Net, $£ 14,1887$

Details of expenditure are given in Table H .


War fellings on orivate estates have resulted in a considerable loss of sample plots. During the year 23 plots in all were lost; with the exception of one which was destroyed by ice damage all these plots were felled prematurely for war purposes.
re-
Forty plots were/measured during the year and two new plots established. The position as at 30.9.40 was as follows:

| England end Wales | ll5 Sample Plots established. |  |  |  |
| :--- | :--- | :---: | :---: | :---: |
| Scotland | 100 | $"$ | $"$ | $"$ |
| Total | 215 | $"$ | $"$ | $"$ |

## INursery and Plantation Work.

Existing experiments were continued according to plan; steps were also taken to ensure the proper maintenance of all experinental piots in the Forests. Little in the way of new work could be attempted owing to lack of staff for other than supervisory purposes.

## Entomology and ucology.

The chafer problern has occupied most of the time of the Entomologist during the year under review. Mxperiments with insecticides are being pursued; there are indications that an effective method of controlling the chafer by chemical means may yet be found.

An outbreak of oak-leaf caterpillars in the Forest of Dean was kept under observation and further field studies made on the Pine Weevil.

Although the Alm disease continues to attack elm trees in many parts of England and Wales the position is not substantially worse than in previous years. Work has continued on the raising of disease-immune strains of eln.

The new needle-cast disease of Douglas fir, caused by the fungus known as Adelopus has now been found in a number of different localities in Great Britain. In no case was the attack severe.

Botany and Soils.
Owing to air raid damage, work on the mycorrhiza of forest trees has been transferred from Bedford College, London, to other centies. The principal species under investigation are beech and sitka spruce.

Surveys of plantations being felled for war purposes have been carried out in ingland and Wales and in Scotland. The principal object has been io obtain data on the effect of locality factors - soil in particular - upon the growth and health of tree crops.

## Advisory Committee on Forest Research.

Owing to war conditions it was impossible to arrange a meeting of this Comittee.

## Utilisation.

A comprehensive investigation was started to determine the rate of seasoning of barked and unbarked pit props, cut at different seasons of the year, and in different parts of the country.

## Subhead J-Agency and Advisory Services. Expenditure : 906 ह665 Gross, 81,282 ; Net, 8772.

No thirect expenditurernetunder this head. The expenditurce 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.

1635
Subhead K-Special Services. Expenditure, £40,496. Details of expenditure are given in Table K.

Table K.-Special Services.

| Year ending 3othSeptember. | Expenditure (Table IIa, Columin 7 ). |  |  |  |  |  | $\begin{gathered} \text { IN: } \\ \text { cоме. } \end{gathered}$ | $\begin{gathered} \text { NET } \\ \text { EXPIN } \\ \text { DITURE. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Consultamittees' Expenses. | Publi- cations. | Special Enquiries. | Relief of Un employment. | Total. |  |  |
| First decade : 1920-29 | $\begin{gathered} \bar{\epsilon} \\ 26,58_{5} \end{gathered}$ | $\begin{gathered} f \\ 523 \end{gathered}$ | $\begin{gathered} \bar{\ell} \\ 1,995 \end{gathered}$ | $\begin{gathered} t \\ x 2,368 \end{gathered}$ | $\begin{gathered} \epsilon \\ 19,828 \end{gathered}$ | $\begin{gathered} f \\ 61,299 \end{gathered}$ | $\begin{gathered} f \\ 347 \end{gathered}$ | $\begin{gathered} \hline \frac{f}{60,952} \end{gathered}$ |
| Second decade: 1930-34 | 8,173 | 125 | 425 | 2.17+ | - | 10.897 | 16 | 10,581 |
|  | 3,750 <br> 2,859 <br> 2,803 <br> 8,257 <br> 8.25 | $\begin{array}{r}10 \\ \quad 7 \\ -3 \\ - \\ \hline\end{array}$ | $\begin{array}{r}196 \\ 4 \\ 74 \\ 164 \\ \hline\end{array}$ |  | 二 | ( $\begin{array}{r}\text { 5,012 } \\ 5,973 \\ 4,770 \\ 10,496 \\ \hline 5,54 \\ \hline\end{array}$ | - ${ }_{-}$ |  |
| 1939 | 3.214 | - | \%116 | 1.856 | - | 5,545 | 13 | 5535 |
| 1930-39. | 28,1.78 | 145 | 1,279 | 12,572 | - | 42,694 | 33 | 42,661 |
| Threddacado:- | - 864 | 9 | 2 | 7. | - | 1.635 | 1 | 1.634 |
| Teta: Percencas. | 56,147 .53 .2 | $\begin{array}{r} 677 \\ 0.6 \end{array}$ | $\begin{array}{r}3276 \\ 3.1 \\ \hline\end{array}$ | $\begin{array}{r} 25,700 \\ 24.3 \end{array}$ | $\begin{array}{r} 19.828 \\ 18.8 \end{array}$ | $\begin{gathered} 105.628 \\ 100 \\ \hline \end{gathered}$ | 381 | 105,247 |

Publications.
Publications were seriously affected by the exigencie of the war. Proofs of a bulletin on the Cultivation of Br Hardwoods were edited but publication had to de unavoidabl postponed.

A new leaflet on Pine Beetles and Pine Weevils was distributed to all woodland owners who had been granted wartime licences to fell timber.

International Union of Forest Research Organisations.
A Congress of the above Union was planned to be held in Finland in June 1939 but had to be cancelled owing to the Russo-Tinnish war. There is no prospect of resuming international co-operation in forest research until the present hostilities are over.

Fimpire Forestry Conference.
The Conference winch vas due to take olace in India and Burma in 1940 had to be postponed.

## Subhead L-Forest Workers' Holdings. 37,587 20,324 <br> Expenditure, $£ 59,452$; Income, $£ 18,465$.

 are given in Table L

During the yeardurther holdings were completed, raising the
 holdings is $£ 495$, of which land accounts for $£ 70$, and cost of buildings, drainage, water supply, etc., £42モ. 426. The
average annuli rent of each holding (house, outbuildings and land) vas :i5.15.0., and the average area (including outing) 9 'acres.

The figures for average rent and area
hove been calculated from account s which
relate only to holdings in completed
sch ines. Previously the figures were
sullied by the Secretariat and were
based on total quiver of holdings
approved. As sone of the latter have
been postonned until sifter the war the
accounting averages are probably more
accurate.

Subhcach $Z$ - Income, 左572,468.
Total income was ${ }^{*} 347,184$ more tan on 1939 due money
 to one large sale comprising a mansion house, cottages and land-not-required for afforestation purposes. Rents and royalties
17,001 include $£ \mathrm{f} 7,0,88$ from the Forest of Dean mines. "Other " income includes sales of live stock £0,855, and miscellaneous $\quad 8,838$ estate, farm and forest receipts $£ 6,69$.
setailo ans
given in Table 2.11494

Table Z. -Income.



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## Employment in the Commission's Forests.

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


(紫)

Secretary,
Camp House,
Promenade, Bristol, 8.


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| Forest | Area planted (acres) |  |  |  |  |  | Species planted, including beating-up (thousands). |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Afforested |  | Re-afforested |  | Total |  | Scots and Corsican Pine | Eur. <br> and <br> Jap. <br> Larches | $\begin{gathered} \text { Dougla } \\ \text { Pir } \end{gathered}$ | Norway and Sitka Spruces | Oak | Ash | Beech | Others | Total |
|  | Conifers | Broadleaved | $\begin{aligned} & \text { Coni- } \\ & \text { fers } \end{aligned}$ | Broad- <br> leaved | Conifers | Broadleaved |  |  |  |  |  |  |  |  |  |
| Clipatone, Derby and Notta. | 126 | $\theta$ | 107 | 30 | 233 | 39 | 580 | 5 | - | - | 12 | 9 | 33 | 50 | 634 |
| Merioneth | -398 | - | 39 | - | 437 | - | 63 | 62 | 1 | 705 | - | - | 3 | 76 | 910 |
| Coed Sarnau, Radnor. .. | -107 | - | T | - | 107 | - | 5 | 32 | - | 164 | - | - | - | - | 201 |
| Coed-y-Brenin, Merioneth | -155 | - | 37 | - | 192 | - | 5 | 55 | 32 | 435 | - | - | 3 | 146 | 676 |
| Coed-y-Rhaiador, Brecon. | -262 | 2 | - | - | 262 | 2 | - | - | 1 | 556 | - | - | - | 3 | 560 |
| Collingbourne, liilts .. . | - | - | - | 43 | - | 43 | - | - | - | - | - | 2 | 111 | 3 | 113 |
| Combley, Isle of white.. | - | - | - | - | - | - | - | - | - | - | 6 | 7 | - | - | 13 |
| Crychan, Brecknock and Carmarthen. | -436 | 10 | 23 | 10 | 459 | 20 | 35 | 170 | 9 | 687 | - | - | 42 | 25 | 968 |
| Cowmeinion, Cardigan. .. . | - 49 | - | - | - | 49 | - | - | 3 | - | 93 | - | - | - | 2 | 98 |
| Cwmogwr, Glamorgan . .. . | -. 80 | - | 2 | 4 | 82 | 4 | 48 | - | - | 112 | - | - | 8 | 9 | 177 |
| Cynwyd, Merioneth .. .. . | - - | - | - | - | - | $\cdots$ | 1 | - | - | 1 | - | - | - | 2 | 4 |
| Dartmoor, Devon. .. .. . | 82 | 7 | - | - | 82 | 7 | - | - | - | 176 | - | - | 8 | 2 | 186 |
| Dean Forest, Glos., Monmouth and Hereforde. | $16$ | - | 88 | 58 | 104 | 58 | 47 | 106 | - | 104 | 193 | 1 | 44 | 9 | 504 |
| Delamere, Cheshirew. .. . | - | - | $\cdots$ | - | - | - | 1 | - | - | 21 | - | - | - | - | 22 |
| Dovey, inerioneth and Montgomery. | $-340$ | - | 40 | 9 | 380 | 9 | 1 | 145 | - | 617 | - | - | 5 | 52 | 820 |
| Iunwich, Suffolk .. .. |  | - | - | - | 7 | - | 9 | - | - | 5 | - | - | 1 | 2 | 17 |
| Dyfnant, Montgomery. | - 7 | - | 20 | 1 | 27 | 1 | - | 7 | - | 49 | - | - | 4 | 22 | 82 |
| Dymock, Glos. and Hereford. | - | - | 4 | 25 | 4 | 25 | - | 4 | - | 4 | 25 | - | - | - | 33 |
| Eggesford, Devon .. .. . | - | - | 54 | 1 | 54 | 1 | 7 | 47 | 9 | 21 | - | - | 2 | - | 86 |
| Ennerdale, Cumberland .. | 212 | 19 | - | - | 212 | 19 | 34 | 153 | - | 199 | - | - | 20 | 5 | 411 |
| Fernãown, Dorset. .. .. . | - | - | - | - | - | - | 90 | 6 | 3 | 25 | 4 | - | - | 4 | 132 |
| Friston, Sussex. .. .. . |  | 100 | - | - | - | 100 | 78 | - | - | - | - | 1 | 268 | 1 | 348 |
| Gardiner, Wilts. .. .. . | 1 | 46 | $\square$ | - | 1 | 46 | 13 | - | - | - | 40 | 19 | 89 | 4 | 165 |
| Giedd, Brecon .. .. .. . | - 220 | - | 10 | - | 230 | - | - | 51 | 3 | 400 | - | - | - | 17 | 471 |
| Glasfynydd, Brecknock .. . | $-105$ | - | - | - | 105 | - | - | 16 | - | 193 | - | - | $\overline{7}$ | - | 209 |
| Goodwood, Sussex .. .. . | - | 59 | 8 | 57 | 8 | 116 | 14 | - | - | - | - | - | 267 | - | 281 |
| Gravetye, Sussex .. .. . | - | - | - | - | - | - | 1 | - | - | 1 | 1 | - | 1 | - | 4 |
| Greystoke, Cumberland .. . | 102 | 2 | - | - | 102 | 2 | 7 | 39 | - | 161 | - | 1 | 8 | 2 | 218 |
| Grizedale, Lancs . . . - | 292 | 5 | - | - | 292 | 5 | 249 | 173 | - | 103 | - | - | 12 | 1 | 538 |

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 $\begin{array}{lll}\text { Iyminge, Kent } & \text {. } & \text {.. } \\ \text { Marden, Sussex } & \text {.. }\end{array}$ Iydford, Devon ..
Iyminge, Kent
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Hope, Derby. . . . Hazelborough, Bucks and
Northants $=$.. .. Harwood, Northumberland

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| $\underline{278}$ | ${ }^{88}$ | £ | - | = | $\underline{48}$ | - | $\stackrel{69}{-}$ | ${ }_{-1} 9$ | $\underline{\square}$ | ${ }^{\text {ITI }}$ | $\underline{\square}$ |  |  |  |  |
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| ${ }_{8 \ddagger 8}^{8 \%}$ | \# | - | - | - |  |  |  | $\stackrel{7}{4}$ | - |  | E | 89 |  | $\stackrel{\text { ¢ }}{\substack{\text { git }}}$ |  |
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| ${ }^{7}$ | - | - | - | - | $\stackrel{\square}{8}$ | E |  | I | - |  |  |  | - |  |  |
| ${ }_{\text {zor }}$ | - | - | - | - | ${ }_{0}{ }^{\text {¢ }}$ | - | $\stackrel{8}{8}$ | \%8 | - | Ts | - | - | - | Ts | $\because . . .$. sotutuna |
| 885 | 98 | $z$ | - | - | 468 | ${ }^{85}$ | $\stackrel{L z}{ }$ | $\pm$ | I | 2г8 | - | - | I | 2ヶz |  |
|  | ${ }_{\text {T }}$ | 9 | - | - | $\stackrel{\text { ¢ }}{\substack{\text { ¢ } \\ \text { ¢ }}}$ | $\bar{\square}$ | ${ }_{9}$ | ${ }_{\text {LTL }}^{\text {Lit }}$ | $\overline{-}$ | ${ }^{\circ} \mathrm{og}$ | - | $\stackrel{-9}{\square}$ | $\bar{\square}$ |  | $\cdots{ }^{\prime}$. |
| ¢98 | 48 | $-$ | - | - | 26 | - | $\stackrel{1}{2}$ | ¢¢5 | - | $8{ }^{2}$ | - | - | - | ${ }_{8 \text { ¢ }}$ |  |
| ${ }_{08}^{\text {ºg }}$ | ${ }_{9}^{65}$ | $\stackrel{?}{\square}$ | - | - |  | - | ${ }_{\square}^{¢ L}$ | s | $\stackrel{\square}{\square}$ | ${ }^{\text {O5Z }}$ | - | = | $\underline{\square}$ | 088 |  |
| O\% $60 \%$ | $\stackrel{9}{09}$ | $\overline{8}$ |  |  | $\underset{\text { ¢ } 28}{08}$ | $\overline{6}$ | * |  | \% | ${ }_{\text {¢т® }}$ |  | - |  |  |  |
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| 997 | ${ }^{\text {ct }}$ | － | － | － | 90\％ | $\sim$ | 97 | － | － | 088 | － | － | － | OZE |  |
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| $\varepsilon$ | $\varepsilon$ | － | － | － | － | － | － | － | － | － | － | － | － | － | －．．．．．．Kexon＇puetputai |
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