CYPRUS

REPORT

OF THE

FOREST ADMINISTRATION

FOR THE YEARS

1947 & 1948

BY

R. R. WATERER, C.B.E., M.A.
Conservator of Forests

NICOSIA
PRINTED AT THE CYPRUS GOVERNMENT PRINTING OFFICE
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Page 6 :

Note: (3) FIRE DAMAGE, paragraph 22 : The figures quoted here exclude Minor State Forests, while the figures quoted in Appendix 11 (*d*), pp. 22 and 23, include Minor State Forests.

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Appendix 11 (*d*), FIRE INCIDENCE: Area burned, square miles: The figure should be 0.66.

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Report of the Forest Administration in Cyprus for the Years 1947 and 1948.

I.—INTRODUCTION.

This report gives a general account of events that have occurred during the two-year period, but separate statistical forms have been prepared and are appended for both 1947 and 1948. As will be seen there has been no change in policy, and development has broadly followed the Ten-year Forest Development Plan which forms a part of the Ten-year Development Plan for Cyprus as a whole.

2. Throughout the period under review much attention was given to strengthening and consolidating cordial relations between the Forest Administration and the rural population. For many years it has been obvious that a successful forest policy in Cyprus must be one which creates a very close co-operation between the forestry service and the people, and particularly with the villagers having lands adjoining the forests. By opening up the forests with a good road system and by arranging excursions into the forests, a much better public understanding of the value of the people's forests and of the need for protecting them has been established. But even so it is a matter for regret that so much expenditure of both money and energy has still to be devoted to protective measures instead of to purely technical development as would be so much more desirable and remunerative. However though the realization of the value of forests and tree crops in general may be slow yet it is surely taking form and is cumulative in its effect. An ever growing proportion of the population do realize the need for forest protection and for reafforestation and take an active part in advising the people to protect their forests and to plant trees in their own lands. It is certainly safe to say that never before have the public taken such a keen interest in their forests and nor have so many trees ever been planted in the private lands. This is now a most noticeable change that is taking place over wide areas of the countryside in contrast to the almost total absence of trees which till recently characterized such large areas of Cyprus.

3. The Cyprus Forestry Association is an unofficial body of persons who are keen to promote a better understanding of the benefits to be derived from better forests and more tree growth throughout Cyprus. This Association is encouraged by a yearly grant of £200 from Government funds. Its main objects are to spread a knowledge of forestry, the reasons and benefits of forest conservation; and the encouragement of any form of tree planting by the public. It also acts as a distributing centre for information of interest to the public on forest and tree planting matters and so forms a most valuable link between the Forest Administration and the public. This Association has taken a prominent part in the difficult pioneering work of creating public interest in trees where formerly little or none existed and deserves much wider support than it has so far received.

II.—VISITS AND CONFERENCES.

4. In the early summer of 1947 Mr. V. K. Maitland, the Forestry Adviser to the British Middle East Office in Cairo, visited Cyprus and toured the forests to examine forest development in Cyprus in relation to Mid-Eastern forestry in general. In the summer of 1947 Mr. G. F. Walpole, the Director of Lands and Forests in Transjordan, visited Cyprus and toured the forests. In the autumn of 1947 Mr. W. A. Robertson, the Forest Adviser to the Secretary of State for the Colonies, visited Cyprus and examined all aspects of forestry development and outstanding problems in detail. This visit was the first of its kind since the late Professor Troup examined the forests of Cyprus at the request of the Secretary of State in 1929. Mr. V. K. Maitland together with Mr. Wajih el Malki, Director of Forests in Syria, and Mr. Antoine Bey Salha, Director of Forests in the Lebanon, visited Cyprus to meet Mr. W. A. Robertson and discuss Mid-Eastern forest problems. All these officers toured the forests extensively to examine forest development. During 1948 Mr. G. F. Walpole again visited Cyprus in connection with the training of Transjordan forest staff in Cyprus. Mr. L. Thuriaux, Principal Scientific Officer of U.N.E.S.C.O., paid a short visit and toured the forests to examine forest reclamation works; as a soil scientist he was particularly interested in forest soil conservation works in the high catchment areas. Mr. W. F. Crawford, of the British Middle East Office in Cairo, visited Cyprus and discussed current forest matters. Mr. E. W. Noonan, Petroleum Attaché of British Middle East Office, visited Cyprus in connection with the shortage of oil fuel supplies which forced an excessive consumption of wood fuel and was instrumental in relieving that position. Count A. Knuth, the representative of F.A.O. in Cairo, and Wadie Effendi Habashi of the Ministry of Agriculture, Sudan, also both visited Cyprus and toured the forests to see forest reclamation works. Several members of the Turkish Forest Service spent their leave in Cyprus and toured the forests.

5. The Fifth Empire Forestry Conference was held in London during 1947 and the Conservator of Forests attended as the delegate representing Cyprus and Palestine. Thirty-three territories were represented and in all 71 delegates, 38 associate delegates and 3 guests took part in this Conference which lasted for forty days. Guests from the United States of America and the Food and Agriculture Organization of the United Nations took part in certain of the sessions. The Conference included extensive tours to examine the Forestry Commission's afforestation works at many representative areas of England and Scotland, also a number of private forest estates and other works of interest were seen. The resolutions of this Conference covering such subjects as Forest Policy, Land Use, Survey of Resources, Forest Management, Silviculture, Protection, Forest Products Research, Timber Supplies and Marketing, Education, The Imperial Forestry Bureau, and Empire Forestry Association, dealt with many items of vital interest to Cyprus. These resolutions form a guide and background within which the forest administrations of the territories of the Commonwealth should work. The forest policy and application of forestry in Cyprus is therefore carefully adjusted to fit in with successive Empire Forestry Conference resolutions.

6. In September, 1948, the Conservator of Forests attended a European Conference on Soil Conservation held at Florence as British Delegate representing Cyprus and the British Middle East Office. This Conference was organized by the United Nations Food and Agriculture Organization. A month was spent at this Conference and in field excursions. Many examples of land use, including land reclamation and soil conservation works, were seen. Some of these Italian methods and techniques of land use may prove to be of special interest to Cyprus.

7. In December, 1948, the Conservator of Forests attended a Sub-Commission Conference of the F.A.O. held in Rome to examine the Mediterranean Forestry problems. On this occasion the Conservator led the British delegation. The resolutions of this Conference were of particular interest to Cyprus since they endorsed the forest policy that is already being applied in Cyprus. This Conference also included field excursions that proved to be of particular interest in illustrating Italian experience in good land use.

III.—THE FOREST ESTATE.

(1) Forest Area.

8. During 1947 there was a net increase in the area of the State Forests of 487 donums, while in 1948 there was a further net increase of 725 donums. The total State Forest area as on 31st December, 1948, is now computed to be 1,206,175 donums, which is equal to about 623 square miles or about 17.44% of the total land area of Cyprus. (Note : 1 acre = 3.025 donums.) The State Forests are divided by the Forest Law into two categories for administrative purposes. The Main State Forests, which amount to about 531 square miles, as their name implies, include all the mountain catchment areas and productive forests and are under the administrative control of the Forest Department. The Minor State Forests, amounting to about 92 square miles, are mostly lowland areas of degraded forest from which the growing stock has mostly been removed by over-cutting and overgrazing and which are under reclamation work, under the administrative control of the District Commissioners. In addition to the State Forests it is estimated that there are about 30 square miles of private and ecclesiastical forest lands which are mostly in a derelict condition.

(2) Forest Boundaries.

9. The redelimitation of forest boundaries has been proceeding as opportunity allowed ever since the enactment of the 1939 Forest Law. This task entails much detailed work, for not only do all the many land claims and tiny private properties have to be examined and defined accurately on the ground, but also the actual construction of the boundary marks takes much time. All new boundary marks are of cement concrete built on solid foundations and numbered as fixed surveyed points. This work has been mostly completed for the forests of the Southern mountains. During the period under review this work was almost entirely confined to redelimiting the forest boundaries of the Northern mountains and the Karpass area. The forest boundaries in the Northern Range Division were in an extremely ill-defined condition with the result that a very large number of encroachments and land claims had arisen up to the time of the 1939 Forest Law which put a stop to such claims. There is, however, much detailed work to be done before the forest boundaries are accurately and permanently defined.

(3) Forest Survey.

10. The forest survey branch was maintained and was responsible for the maintenance and redelimitation of forest boundaries, for all survey work and record of all forest lands encroached upon, leased, or acquired during the two-year period. Also all plans or sunprints required in the Department were prepared in the forest survey office. The Forest Surveyor and his assistants spent most of their time on field work with the redelimitation or working plan parties or in the Divisions on such duties as boundary maintenance or surveying encroachments and new roads.

IV.—FOREST PROTECTION.

(1) Unlawful Cutting.

11. In Cyprus damage caused by man is still the greatest problem of forest protection with which the Forest Administration is faced. The reasons for this are not far to seek. Cyprus is situated in a dry climatic area in which the growth of vegetation is not rapid or luxuriant. The pressure of population has already cleared tree growth from the greater part of the Island, and so the remaining forests and tree crops have to withstand a very heavy pressure of demand for usage as timber and more urgently as fuel. Some idea of this ever increasing pressure of population may be gained from the fact that during the past 65 years the population has increased by 140%, and at the present rate of increase it will surely double again by the end of this century. The 1946 census showed the population to be 126 to the square mile. The total land area to support this population is static and so it is easy to see that the only hope for the future is to make that land area far more productive per unit of area than it is at present. So far as the forests are concerned that can and is being done, similarly the forest area might with advantage be extended to include wide areas which are already derelict and unproductive. The main relief however must come from the re-establishment of tree crops in the village areas which have been stripped of their tree growth. This can only be done by applying what has come to be called farm forestry or the creation of a multitude of small plantations, windbreaks, and even single trees scattered on the less productive lands amongst the farm lands.

12. From the above it is clear that protection from unlawful cutting can only be brought about by providing the public with alternative timber and fuel supplies during the period required to build up the forests and tree crops of the Island to full productivity. By this means alone can the public be relieved of the necessity to pilfer forest produce to supply their daily needs. This is already being done by supplying imported timber and substitutes for timber and by the provision of sufficient mineral fuel to relieve the pressure on wood fuel. These subjects are dealt with under other headings of this report. These alternatives having been provided the Forest Administration has been justified in tightening protective control to punish those who continue to pilfer from the forests unlawfully. Results have proved to be very satisfactory. In the forests of the Southern mountains unlawful cutting has largely ceased and such pilfering, as still goes on, is negligible compared to a few years ago, and is now usually detected and the wrong doers punished. In the forests of the Northern mountains and the Minor State Forests of the south-east, the position is far more difficult, for these areas are situated near to the main concentration of population and are therefore very vulnerable. But even so the effects of conversion to oil fuel coupled with efficient forest patrolling and detection of forest offences has had a very great effect upon relieving the forests of the greater part of the unlawful cutting that was, till recently, so severe a strain on the forests as to cause the continual degradation of the dwindling growing stock.

13. In the case of the Village Fuel Areas, which are situated in the most vulnerable positions of any forest growth down on the fuelless plains, it is remarkable that they suffer practically no damage. This interesting fact is easily explainable. The public as a whole have not yet understood the fact that the State Forests are in reality the " People's Forests ". The old conception of the State Forests being the property of the " Government " as distinct from the " People " still lingers and while that belief persists the State Forests are fair game for all to plunder and a feeling of " good luck to all those who can escape detection " prevails. But with the Village Fuel Areas it is very different. These plantations are established on village lands for the village. They belong to the village and produce fuel for the villagers and revenue for the village fund. They are the communal property of the people and the village authorities protect them and guard them jealously from the hands of those who might wish to pilfer them. The protection of these plantations presents little difficulty for the Forest Administration. They do, however, provide a most interesting example of communal responsibility taking form in the villages. Once this attitude can be extended to the State Forests then the everlasting problem of protection would be very largely solved and the people's forests would be safe from pilfering.

(2) Forest Grazing.

14. The effective control of grazing flocks is the key to success in forestry and the establishment of tree crops in Cyprus. Unfortunately, however, Cyprus has inherited the age-old Mid-Eastern system of animal husbandry whereby all flocks are allowed free range grazing over all categories of land irrespective of the land-owners' wishes. This custom is further aggravated by the fact that the shepherding minority need not be land-owners, and in fact that profession is usually followed by those who are landless or who have insufficient land or other forms of legitimate livelihood. This background has caused many of the lawless members of the community to be recruited into the ranks of the shepherds, and has produced a system of grazing that is mostly parasitic on the rest of the community. In such circumstances it is small wonder that the graziers are usually in conflict with the agriculturists owing to the damage they do. Formerly the whole forest area was subjected to grazing and browsing by the maximum numbers of sheep and goats that could be kept alive. Forest grazing has been responsible, more than any other single factor, for degrading and wasting the forests. The flocks did enormous damage but the graziers did even more than their flocks, for they fired the hills in rotation to produce better grazing within reach of their flocks. With such a past history it is no wonder that the forests have been destroyed and that the hills are now in a rapid and advanced state of soil erosion.

15. Forest grazing policy has for some years been quite inflexible in that it aims at the complete eradication of all flocks from the mountain forests, but in some of the lowland forests, where the forest crop allows it, controlled sheep grazing may be permitted. Goat grazing in all classes of forest must be eradicated, for goats, by natural instinct browse, whereas sheep graze. This is a very important distinction when viewed from a forest point of view, and few forest services can have had such very unfortunate or realistic opportunities to study this point as has the Cyprus Forest Service. But, however, forest grazing policy acknowledges that though the forest graziers form only a tiny minority of the community, yet they cannot be expected to give up the profession of their forefathers unless they are provided with an alternative form of livelihood. For the past ten years it has therefore been the policy to pay the forest graziers fair compensation when they accept to give up forest grazing. If possible also they are employed on forest works or settled on the land as agriculturists as a safeguard for the future, otherwise they tend to drift back to being goatherds as soon as they become unemployed. This policy has proved to be outstandingly successful and has resulted in freeing large areas of forests from the curse of goat grazing. It is without doubt a fact that removing the flocks from the forests has been the soundest form of forest development yet done. It has also proved to be by far the cheapest form of reafforestation possible, for nature quickly takes a hand to restore the forest crop once the goat flocks are removed and natural regeneration again becomes possible.

16. Up to now the forest grazing position is that in the Southern mountain forests of Paphos and Troodos Forest Divisions all forests, except Aetomutti, Akamas and Peyia forests, have been freed of permitted grazing and all the recognized forest graziers have been paid their compensation and given up forest grazing under amicable circumstances. In these forests it is now a continual duty for the Forest staff to prevent new generations of goatherds from entering the forests already freed from grazing. In the mountains of the Northern Range Forest Division the battle to gain control of the forest grazing position has been fought and won during the two-year period of this report. By the end of 1948 all permitted graziers, with the exception of five village church committees that held forest grazing permits in Kantara forest, had been compensated out of the forests. The remaining five church committees permit holders have also consented to give up forest grazing in the following year. The success of this campaign was an outstanding achievement that marks the turning point for the reafforestation of the Northern Range Forests. The difficulty now, as in the Southern mountains, is to prevent other graziers from entering the forests. Having got the door shut it is a hard task to keep it shut for these forests are very vulnerable owing to their proximity to the grazing villages and to the fact that Northern Range Forests, unlike those in the Southern mountains, are in many scattered blocks with private lands between them through which the flocks may enter the forests without detection.

17. It is also an essential part of forest grazing policy that villages having lands adjoining the Main State Forests should apply the Goats Law to their village areas. This Law provides for a ballot to be held in any village at the request of the villagers whereby a straight majority of the approved voters may vote for the exclusion of free ranging flocks of goats from their village area. When such a vote takes place each family is permitted to keep three tethered goats to supply their essential milk requirements, but all free ranging flocks of goats whether from that village or any other village are excluded from the village area. This, of course, means that a long length of forest boundary is safe from pressure from goat flocks. It must, of course, be the aim of forest policy to surround the forests with villages that have applied the Goats Law and so to create a buffer area through which free ranging goat flocks cannot approach the forests. A glance at the Forest Map at the back of this report will show how this works, and it will be seen that the red areas represent those villages which have already excluded free ranging goats from their lands by voluntary vote of the majority. The application of the Goats Law is steadily being used by the villagers to free themselves from the damage suffered from free ranging flocks of goats grazing over their lands. It is, of course, slow in taking form but it is nevertheless sure for it can only come about at the request of the majority of the villagers themselves, and therefore is very much more effective than any restrictive measures which might be imposed upon the goatherds by the administration. The extent to which the Goats Law has already been applied by the villagers is perhaps not generally known but it is a matter of vital importance to forest policy, aiming as it does, at the improvement of the State Forests and the establishment of tree crops throughout the village lands. Up to the end of 1948 two hundred and thirty-four villages had applied the Goats Law out of a total of 627 villages for the whole of Cyprus. This represents that 37% of the villages, or 40% of the rural population (excluding the population of the six district towns) have already applied the Goats Law. During the two years under review 30 villages applied the Goats Law.

18. The Village Tree Planting Law also plays a big part indirectly in making forestry and tree planting possible, for it provides for certain areas of the village lands to be set aside for tree planting purposes. All grazing flocks are excluded from such lands till the tree crops are established. This Law, like the Goats Law, can only be applied at the request of the villagers and so is an effective instrument in the hands of the villages wishing to establish tree crops. Up to the end of 1948 one hundred and twenty villages had applied the Village Tree Planting Law to their lands. During the two years under review four villages applied this Law.

19. In Paphos Forest there are certain isolated villages whose only occupation was formerly forest grazing. These small communities of ex-goatherds have all been paid compensation for relinquishing their forest grazing privileges, but are now faced with the problem of resettlement having no suitable or sufficient land in the vicinity of their villages from which to support themselves as agriculturists. During 1948 sanction was received to move and resettle two of these communities on new sites where they could support themselves. In the case of Dhimmata village, a new village is to be built for them at a site at the edge of the forest where there is suitable

land to support them on the basis of irrigated agriculture. This project is well under way and should now go forward to a satisfactory conclusion. In the case of Ay. Merkourios village a different arrangement has been agreed upon. These villagers accepted to merge into other neighbouring villages if their present lands were bought in by Government at agreed upon figures to provide them with sufficient capital to enable them to start up a new agricultural life outside the forest. This amicable resettlement of ex-forest grazing communities is the only possible solution for providing these people with a future to prevent them firing and pilfering the forests as has been their custom in the past.

20. During 1947 the long standing forest grazing problem in the Akamas and Peyia forests was amicably settled. In these lowland forests it is recognized that controlled sheep grazing may be permitted as a form of forest usage that would be provided for in the working plan. The villages concerned at present graze both goats and sheep and a five-year period of grace was allowed for them to convert from goats to sheep and thereafter to graze sheep at the density of 1 sheep to 15 donums (5 acres) of forest and in addition 1 large animal to every 100 donums (33 acres) of forest. This amicable settlement was arranged through a committee composed of the Mukhtars of the villages concerned together with members of the District and Forest Administration which decided the details of application at the village level. These negotiations provided a valuable example to show that even such fiercely contested demands as forest grazing can be controlled and arranged satisfactorily at the village level when a spirit of common sense and moderation can be induced to prevail.

21. On the whole it may be said that the period covered by this report has seen an enormous improvement of the forest grazing problem, which, till comparatively recently, appeared to be insurmountable, and formed an obstacle which effectively prevented any form of forest development. The time is not far ahead when forest grazing will have been eradicated from the mountain forests and effectively controlled in all forests. As forest grazing is controlled so do the forests immediately respond with prolific natural regeneration and with an astonishing recovery of vegetation, which is so much needed to arrest soil erosion and to provide an effective catchment for surplus winter rainfall. To gain control of forest grazing has necessitated a long-fought battle with the graziers, but a policy of generous compensation for the loss of grazing privileges, followed up with future employment or resettlement, and applied with firmness of purpose and in a friendly manner has succeeded. But perhaps the most important development is that the majority of the public at last begin to realize that they suffer an enormous damage from the depredations of the tiny minority of graziers, and they are not prepared to tolerate such a state of affairs indefinitely. Similarly the public are beginning to realize the value of their forests and of tree crops in general and are now taking active steps to demand that the graziers be properly controlled. This is evident in many areas, but its effects are cumulative and every year improves the forest grazing position.

(3) Fire Damage.

22. The two years under review were both years of very light fire damage by comparison to the disastrous fires that used to destroy the forests a few years ago. During 1947 forty-three forest fires occurred which burnt 1,109 donums (about 370 acres); the value of the crop burnt was £1,602 and the cost of extinguishing the fires was £1,317. During 1948 fifty-five forest fires occurred which burnt 862 donums (about 287 acres); the value of the crop burnt was £1,343, and the cost of extinguishing the fires was £1,702. In both cases the value of the crop burnt is the assessed market value of the burnt material, and does not include such items as deterioration of the site from soil erosion, costs of reclamation, or loss of interest on immature growing stock destroyed, etc.

23. The incidence of malicious firing is an interesting indicator of village feeling. During 1947 there was only one malicious fire in Paphos Forest, one in Adelphi Forest, and two in the Northern Range Forests, making a total of 4 as compared to 12 in 1946. During 1948 there were 18 malicious fires most of which occurred in the Northern Range Forests. The reason, as is nearly always the case for this, was that it was during 1948 that the main effort to eradicate grazing from the Northern Range Forests took place. A few of the old-timer type of graziers did not accept the changed conditions and fired the forests as their last parting contribution before leaving the forests with their flocks. Fortunately the forest staff were expecting this retaliation and quickly put out the fires with very little damage resulting. Forest grazing has been the main cause of the disastrous fires that have wasted the forest in past years, and it has been already proved that as the forest graziers are moved out of the forests so also do most of the fires cease to occur. It is also customary for a few of the old-timers to fire the forests as their last expression of disapproval as their flocks leave the forests. This unfortunately is a very real danger that has to be faced and overcome in the process of eradicating the forest graziers.

24. The Forest (Protection against Incendiarism) Law, which was first enacted in 1946 for the special purpose of dealing with the emergency of malicious fires, was renewed for both 1947 and 1948. This Law only remains in operation for a one-year period and has to be renewed if required. This Law was employed only once in 1947 and once in 1948. It enables the Governor to employ wide and effective powers in an emergency to deal with malicious firing. It is difficult to say how much the control and reduction of malicious firing is due to this Law, but its mode of operation is now known in the villages and the opinion is strongly held that it is an effective deterrent that has greatly reduced incendiary fires.

(4) Encroachment on Forest Land.

25. Ever since the enactment of the 1939 Forest Law, and the redelimitation of forest boundaries was put in hand the number of land encroachments has steadily been reduced. In the Paphos and Troodos Forest Divisions where forest boundaries have been redemarcated and are now clearly shown there are now very few encroachments and those that do occur are quickly detected and dealt with. The remaining difficulty is mostly in the Northern Range Forest Division and in the Minor State Forests where the redelimitation of boundaries is not complete. However, this matter is rapidly being overcome and land encroachment has already ceased to be a major difficulty as it was a few years ago.

(5) Wind and Snow Damage.

26. The main coniferous species of the mountain forests (*Pinus halepensis*, *Pinus laricio*, and *Cupressus sempervirens*) are normally very windfast and no serious uprooting took place. It sometimes happens that heavy snowfalls do much damage particularly by collapsing dense pole crops. *Pinus halepensis* is the most susceptible to snowbreak and both poles and large trees are sometimes badly broken. The two years under review did not produce heavier snowfalls than usual, but in the early months of 1948 a peculiar set of circumstances did quite exceptionally heavy damage in Troodos forest at the higher elevations. A heavy fall of snow occurred which was immediately followed by a very severe drop in temperature that froze the deeply piled snow solidly on to the crowns of the trees. This in its turn was followed the same night by a gale of extreme fierceness. The damage in a few hours resulting from these peculiar circumstances was most spectacular. Where the main force of the

gale had struck the hills, thousands of trees were torn to pieces. Many were snapped off half way up the stem while others were stripped of their heavily laden branches. Strange as it may seem very few were uprooted as one might have expected. This experience certainly proved how extremely windfast are the open stands of pine forest at Troodos.

(6) Damage from Insects and Birds.

27. No exceptional damage was observed from the usual insect pests, such as the pine defoliating processionary caterpillar and wood and bark borers, and no protective measures, other than normal silviculture, were taken against insect pests during the two years under review. Birds did very noticeable damage to the young pine sowings on the reafforested areas. This damage is done by birds either seeking to eat the seeds or by grazing off the cotyledons. Crows did great damage to the *Pinus pinea* sowings on the sand-dune areas at Ayia Erini. The large seeds of *Pinus pinea* are very attractive to crows and in some cases they stripped the sown areas bare and caused a complete failure. In the case of the smaller *Pinus halepensis* seed this is sought by large flocks of finches, mostly chaffinches, visiting Cyprus as winter migrants. If these large migrations visit a sown area that is just germinating they can cause an almost complete failure. Special precautions to cover the seed and scare off birds had to be employed to save the sown areas. Both partridges and woodpigeons are fond of eating pine seed and also graze off the cotyledons. In the case of partridges the stock of game was so low that little damage resulted. But woodpigeons visit Cyprus in very large winter migrations, as do the finches, and the damage that large flocks of these birds can quickly do is very great indeed. Both these winter migrants are responsible for the regular failure of *Pinus laricio* seed at the higher elevations. During winter this seed falls on the snow where it is very conspicuous and vulnerable and is consumed by large migratory flocks of pigeons and finches.

(7) Protection of Private Forests.

28. Clause 11 of the Forest Law provides for private forests to be placed under the protection of Government. Where such private forests or plantations happen to be so situated that the Forest Staff can afford them protection in the ordinary course of their patrol duties, then the Forest Administration may accept to protect them. At the end of 1948 twenty-six such properties amounting to 8,731 donums (about 2,910 acres) were under the protection of the Forest Law. Now that goat grazing is no longer lawful in the forests, owners of private forests who desire the protection of the Forest Law are required to exclude goats from their forest lands as a condition of protection being undertaken.

(8) Forest Offences.

29. An analysis of all forest offences dealt with in 1947 and 1948 is set out in the Appendices. There has been a general downward trend in all forest offences since 1944 when professional lawyers were engaged as members of the Forest Staff for the special purpose of dealing with all legal and court work. This is because this branch of the work is far more efficiently conducted by lawyers and consequently the court results obtained are more deterrent. 1948 shows a slight increase and this is almost certainly the result of insufficient oil fuel supplies during that year which increased the pressure for wood fuel from the forests and so put up the offences for unlawful cutting. 1948 was also a bad season for grazing fodder which was at once reflected as an increased pressure on the forests for grazing. This coincided with a year of intense vigilance on the part of the staff to keep unlawful grazing out of the forests, particularly in the Northern Range Division, which put up grazing offences. However, on the whole it may fairly be said that improved road and telephone communications in the forests, together with an ever increasingly more mobile and efficient forest staff now makes detection of offences far easier and more certain. At the other end of the protective machine more efficient legal and court work produces more deterrent results. A combination of these factors is rapidly perfecting forest protection and giving the forests a better chance than ever was possible before to rebuild the forest growing stock.

V.—FOREST MANAGEMENT.

(1) Forest Policy.

30. Since 1938 there has been a departmental forest policy setting out the fundamental aims of forest management, which has received full support from the Government of Cyprus and formed the background round which the Ten-year plan for the development of the Cyprus Forests has been framed. The advisability of drawing up a written declaration of the Cyprus Government's long-term forest policy, as has been done in most other British territories, is now under review. The aims of forest management as defined in 1938 are set out below in the order of importance attached to them, since they have in no way changed since they were drawn up and so in effect determine forest policy.

First : To establish and maintain a fully stocked forest vegetative cover to provide complete soil conservation and protection of the steep hillsides from erosion ; also to provide and maintain rain water catchment at the highest level of efficiency possible to prevent flood damage and to preserve surplus winter waters for domestic purposes and for agricultural irrigation during spring and summer.

Second : To exploit to the utmost the value of the forests as national amenity or park areas for the development of national recreation and health and the expansion of the summer and winter tourist resort stations.

Third : To provide and maintain the maximum yields of timber, fuel, charcoal and other forest products on the basis of regular sustained yields, and by this means to support the various local industries working and consuming forest products.

Fourth : To provide regular employment and part-time livelihood for the maximum number of forest workers residing mostly in the villages surrounding the forests (contented by these means, forest villages cause few fires and little pilfering).

Fifth : To provide money returns in the form of revenues for the State.

(2) Legal Position.

31. The 1939 Forest Law was thought to be complete and final in preventing the future use or acquisition of rights in the forests, but in 1947 in an appeal arising from the Akrotiri forest case the Appeal Court ruled that " proprietary rights " could still be exercised or acquired in State forests. It appeared that such a usage as forest grazing could be exercised as a proprietary right. It was obvious that it was urgently necessary to amend the Forest Law in such a way as to make clear the intention of the Legislation that no private rights should be acquired in the forests. Accordingly that was done during 1948 and it is hoped that the effectiveness and strength of the Forest Law has now been restored.

(3) Working Plans.

32. During this two-year period the Working Plans Section was under the charge of an Assistant Conservator of Forests. The preparation of the working plans for Limassol and Akamas forests was completed. Revision work for the Paphos Forest group of working plans and for some of the lowland forest plantations was undertaken. The main task now remaining to be done is to draw up working plans for the Northern Range group of forests. A considerable amount of work was done on this duty in preparation for reafforesting and working these forests systematically. Once the Northern Range forests are placed under working plans, as will shortly be the case, then all Main State Forests will be managed under approved working plans and only revision work will then have to be attended to.

(4) Forest Roads.

33. During 1947 10¼ miles of new forest roads were constructed at a total cost of £5,812 or about £570 per mile. In addition about 6½ miles were constructed and taken over as permanent forest road by contractors working out timber yields in the Platys valley of Paphos forest and near Nikitari in Adelphi forest. Also about 5 miles of road between Lythrodhonda and Prophitis Elias was taken over from the District Administration for future maintenance. All the above roads were in the Paphos and Troodos Forest Divisions. 338 miles of existing forest roads were maintained in good condition at the low average cost of £29. 10*s*. per mile.

34. During 1948 17¾ miles of new forest roads were constructed under the forest development plan for a total cost of £11,062, or about £626 a mile. The average cost of construction per mile has increased, but this is mostly accounted for by the large amount of rock cutting which was encountered on the Alonoudhi and Kantara roads. During 1948 the road construction position was changed by the fact that up to that year road construction work had been almost entirely confined to the development of the Southern mountain forests in Paphos and Troodos Forest Divisions, but in 1948 the location of the main road works shifted to the Northern mountain forests.

35. Early in 1948 it was decided to start work on the construction of the east to west road along the top of the Northern range, and thus to provide those forests with quick access and communications necessary to allow of their proper protection and reafforestation. During the first half of the year much work was done on planning and tracing this road through the broken and difficult country as nearly along the top of the range as the passes would allow. By the end of the summer active construction work was started at first on realigning the length from Kantara Castle westwards to Kantara summer resort. Later, work was started from Kantara summer resort westwards towards Mersiniki forest station situated in the Lefkoniko–Akanthou pass. Work also started from Halevga forest station eastwards to meet the construction gangs working from the Kantara end. By the end of 1948 about 7½ miles of road had been constructed in a preliminary manner and work was proceeding quickly owing to the pressure of unemployment in the villages in that vicinity. Enough work was done to confirm the opinion that the average costs per mile of constructing this road would not be excessively heavy over the length from Halevga to the Komi Kebir pass. It was also very apparent that besides serving the forests this road would provide the finest scenic tourist route in Cyprus.

(5) Transport.

36. The Forest Department is unlike most of the Departments in that its main works and concentrations of staff are centres in the forests far from the town bases where transport can be easily hired. In such circumstances it is extremely difficult and most uneconomic for the Forest Department to operate hired transport. The principle was therefore accepted that the Forest Department must own and operate a fleet of suitable utility type vehicles for the quick transport of both materials and staff.

37. During 1947 departmentally operated motor transport ran 144,996 miles at the average cost of 7½ piastres per mile including all charges. During 1948 the equivalent figures were 162,657 miles at 4½ piastres per mile average inclusive cost. (Note : 9 piastres = 12 pence.) At the beginning of 1947 the fleet of vehicles included a number of worn-out vehicles dating from before the war and also some ex-army condemned vehicles from the African desert campaign that had been patched up for further duty in the forests. By the end of 1948 five new Thornycroft diesel lorries had arrived as replacements and other new vehicles were on order. The very great drop in running costs per mile was due to the arrival of the Thornycrofts which ran on gas oil. Further reductions should result as new vehicles are received and the worn-out and uneconomical ones scrapped.

(6) Buildings.

38. The forest building programme, which had been interrupted during the war, was resumed throughout 1947 and 1948. This programme aimed at providing suitable modern buildings at strategic positions in the forests where the forest staff could be housed under satisfactory and contented conditions. It formed a very necessary part of the Ten-year forest development plan and very good progress was made during this two-year period. The following buildings were erected :—

Paphos Division.

1 Forest Rangers Station at Stavros.
1 Rest House at Stavros.
1 Recreation and restaurant building at Stavros.
1 Labourers quarters at Stavros.
1 Patrol Station at Mavrosykies.

Troodos Division.

1 A.C.F.s Station at Platania (uncompleted).
1 Forest Rangers Station at Platania.
1 Forest Guards Station at Saittas.
1 Forest Guards Station at Ayios Theodhoros.
1 Forest Guards Station at Mandra Kambion.

Northern Range Division.

1 Divisional Office at Halevga.
1 Forest Guards Station at Halevga.
1 Recreation and restaurant building at Halevga.

In addition to these new buildings a number of major repairs and improvements were done to existing buildings which made them more serviceable. There are still many obsolete buildings that need replacement urgently. The problem of providing sufficient maintenance for forest buildings is a difficulty that is a very real one, for forest buildings are mostly situated in exposed positions at high altitudes where deterioration from weather is excessive.

(7) Telephones.

39. The forest telephone system was maintained for the purpose of fire detection and general control. It was considerably improved and operated efficiently. At the end of 1948 this system consisted of 474 miles of lines, 6 exchanges and 99 instruments. During the two-year period the total length of line was increased by 67 miles of extensions, but during the same period a reduction of 38 miles was brought about by straightening and improvement of routes so the net increase was only 29 miles. Full details for both years are given on Appendix 11.

40. A major change in telephone maintenance is now in progress in that as wooden poles become rotten they are changed to reinforced concrete poles, similarly all new pole routes are of concrete poles. This change has been decided upon owing to the short life and heavy maintenance of the wooden poles. There is no plant in Cyprus for preserving the full length of telephone poles, and so only the butts were preserved by the hot and cold method of creosoting. The concrete poles are cast departmentally and appear to be very satisfactory for forest purposes. Economically this change over will effect a large economy in expenditure of both time and money in a few years when the concrete poles have been installed.

(8) Water Supplies.

41. The supply of water for the use of the community is a main object of forest policy. Besides supplying all the needs of the forest stations, the forests supply a considerable amount of water for the public in the form of direct supplies. The indirect supplies cannot be assessed. 28 villages obtain their domestic water supplies direct from sources inside the forests. Also about 85 villages made use of irrigation water from the forests in the form of spring and summer stream flows other than spate waters at time of heavy rains.

(9) Land Leases.

42. It is the policy that the forests should be used for forest crops and not leased out for cultivation or other purposes if that can be avoided. But even so there are many small leases which cannot be avoided without causing undue friction. In 1947, 241 separate leases covering a total area of 1,663 donums were in force for a total rental of £93. 10*s*. In 1948 the equivalent figures were 254 leases for a total area of 1,790 donums and total rental of £99.19.4. It will be seen from this that rents are nominal and that such leases are merely a nuisance that cannot be entirely avoided.

VI.—EXPLOITATION.

(1) Timber Markets and Prices.

43. The total yield of Cyprus timber is consumed within the Island, and in addition a large quantity of timber has to be imported to supply the demand. In view of this position the export of Cyprus timber is normally prohibited. Throughout 1947 and 1948 there was a very keen demand for all classes of Cyprus timber and auctions of standing timber were well attended and sold at high prices. During the period of this report prices tended to fall but even so the prices paid for timber were too high. By the end of 1948 Cyprus pine timber was selling for about 2 shillings a cubic foot, Whole Stem Volume Overbark as standing timber. As sawn timber Cyprus pine was selling for about 7 shillings a cubic foot at the merchants stores in the towns. Hardwoods of Plane and Alder also sold well and at the end of 1948 their prices were about 2 shillings a cubic foot Whole Stem Volume Overbark or 8 shillings a cubic foot for sawn timber in the towns. The main commercial timber in Cyprus is Aleppo pine (*Pinus halepensis*), and to a less extent Troodos pine (*Pinus laricio*), both of which yield good constructional timbers of the heavy resinous red pine type. The hardwoods are mostly Plane (*Platanus orientalis*) and Alder (*Alnus orientalis*) which find a fair local market for furniture and many other purposes. Also Golden Oak (*Quercus alnifolia*) and Arbutus (*Arbutus andrachne*) is extensively coppiced for small sized timbers and fuel and charcoal.

(2) Timber Yields.

44. The total output of timber from the State Forests during 1947 was 639,093 cubic feet, and during 1948 it was 546,875 cubic feet, in both cases measured as Whole Stem Volume Overbark. The actual yield cut was in both years again well below the calculated sustained yield from the State Forests in their present condition. The reason for this was that every effort is being made to balance the excess fellings of the war period by equivalent under-fellings during the post war period in order to return to normal yields as soon as possible. For comparison the total yield felled in 1938, which was about normal, was 903,793 cubic feet. At the present rate of savings on the annual yields, it is hoped, if all goes well, to have balanced the war period deficit by the end of 1952. If in fact that can be accomplished it will have been a creditable performance for the forests to have withstood the pressure of excess war fellings and to have returned to a normal state in so short a period. A very important fact that is very seldom understood by those who are quick to criticise forest policy and to point out the comparatively small total yield from the State Forests, is the condition of the growing stock. The Cyprus forests have suffered long centuries of every sort of abuse that could be applied to wipe out forest growth in the shortest possible period. It is not therefore surprising that only about one-fifth of the total area is now productive. From that one-fifth have to come all the yields and forest revenues for the whole Island. The remaining four-fifths are not yet productive and have to be carefully protected and nursed back to a state of production. To achieve that, costly overhead expenses of maintenance and protection have to be met and large sums of capital have to be sunk in reafforestation works in order to build up the growing stock to a normal state. This steady build up of the growing stock takes long years of patient work, so it is well for impatient critics to remember these facts for when viewed in this light the forests are by no means so unproductive of yields or revenue as may sometimes be thought. It is, however, comforting to know that the present rate of building up the growing stock and of reafforesting the unproductive areas, is now very rapid indeed for the class of forests that the dry climate of Cyprus can support.

(3) Timber Imports and Duties.

45. Cyprus is a timber importing country and till the growing stock can be built up to a state of productivity it must continue to be so for many years yet. It must therefore be a vital part of forest policy to ensure that sufficient quantities of imported timber are available while the forests are being built up to full productivity once more. During the two periods under review timber imports have been sufficient to meet the demand though prices to the consumer have been very high. The price of imported soft woods at the end of 1948 was about 12 shillings a cubic foot for sawn timber retailed in the towns. During 1947, 1,087,278 cubic feet of timber was imported, mostly from Canada. During 1948, 1,691,939 cubic feet of timber was imported. Prices of imported timber were lower in 1948 than in 1947.

46. As a matter of interest and comparison below are quoted the rates of duty on imported timber and the classes of timber that are exempt from import duty.

Rate of Import Duty on Imported Timber.

Description.	Unit.	Preferential Tariff (*piastres.*)	General Tariff (*piastres.*)
(*a*) Planks, boards, logs, beams and rafters of mahogany, walnut, oak, teak and beech ..	cubic feet.	4	6
(*b*) Other planks, boards, logs, beams, rafters and poles	do.	2½	3¾
(*c*) Plywood	*ad valorem.*	20%	30%
(*d*) Other, not otherwise specified	do.	20%	30%

(Note: 9 piastres=12 pence.)

Exemption from Import Duty.

Exemption from import duty is allowed on the following categories of timber :—

(*a*) Sawn and round timber of any dimension imported solely for use underground in any mine of the importer.

(*b*) Timber imported into the Colony ready-cut to size for the purpose of being used for the making of cases for packing fruit, vegetable or eggs.

(*c*) Timber imported into the Colony for the purpose of being used for the making of cases for the packing of goods which are the produce of the Colony for export, not being timber imported into the Colony ready-cut to size for the purpose of being used for the making of cases for packing fruit, vegetable or eggs.

The exemptions from import duty are made purposely to relieve pressure on the forests for classes of timber that cannot be produced in sufficient quantities. For example, the mines are the largest single consumers of timber in Cyprus, and their requirements are largely in the form of pit props; therefore, every encouragement is given to import such a class of timber which the forests cannot yet produce in sufficient quantities. By the end of 1947 all the war time timber control restrictions on the use of timber had been abolished, and by the end of 1948 the responsibility for controlling imports of timber had been handed over to the Supplies Department.

(4) Wood Fuel and Charcoal.

47. The main pressure on the forests and tree growth of the Island is to supply fuel rather than timber. The supplies of fuel in the form of both wood fuel and charcoal are continually inadequate to meet the pressing demand. It was for this reason that conversion to oil fuel had to be applied and also why the Fuel and Charcoal Control Branch of the Forest Department had to be set up during the war. Throughout 1947 and 1948 the Forest Department was responsible for the control of fuel, but at the end of 1948 the Fuel and Charcoal Control branch, which also controlled oil fuels and the oil conversion organization, was transferred to the Supplies Department. So in the future the Forest Department is free from the operation of the last of the war time control organizations affecting forest produce. The present consumption of wood fuel is estimated at about 100,000 tons a year whereas before conversion to oil fuel it was estimated at about 220,000 tons a year, so it is easy to see what a very great relief of the pressure for wood fuel has been achieved. Owing to reduced oil supplies as from September, 1947, and throughout 1948 the forests were placed in a most difficult position for a large part of industry that had already been converted to oil had to revert back to wood as a temporary expedient. In the Main State Forests considerable fellings of riverine forest and coppice underwood had to be carried out specially to maintain supplies of wood fuel for this increased demand. The production of wood fuel from the Main State Forests as fuel fellings amounted to 1,296,169 cubic feet in 1947 and 1,249,768 cubic feet in 1948. The charcoal position was greatly relieved by the importation of some 401 tons from Turkey. It is obvious that in general the wood fuel resources of Cyprus cannot possibly continue to supply the quantities demanded and so the only hope for the future is to go over to mineral fuel and electricity far more than has yet been possible. This should provide a relief or breathing space for a sufficient period to enable the forests to recover and to allow tree crops to be established in the village lands all over Cyprus.

(5) Ploughwood, Cartwood and Trough Making.

48. In Cyprus a number of farm implements are normally supplied from specially shaped timbers. Wooden ploughs, cart-wheels, handles, etc., are fashioned from suitably shaped stems of Golden Oak (*Quercus alnifolia*). Chairs are generally made from Arbutus (*Arbutus andrachne*). Such material is selected from the coppice fellings and during 1947 11,462 cubic feet of timber was used for those purposes and in 1948 4,732 cubic feet was consumed.

49. Wooden troughs fashioned on the dug-out principle in a single piece, from pine logs, continued to be in keen demand for general household utensils. This peculiar local industry is confined to one village only, Moutoullas, and the trough makers from that village bid keenly for trees of the right size and shape for their industry. It often happens that trees that are unsound with heart rot fetch good prices for this special purpose, so though it is a wasteful use of timber yet the trough makers serve a useful purpose and are always welcome at auctions of standing trees.

(6) Wild Fruit Trees.

50. The forests contain many wild olive, carob and hawthorn trees and in some forests these species form an important part of the crop. Unfortunately experience has shown that the presence of these species in the main hill forests is a constant source of trouble, since it is the custom to graft such trees surreptitiously and afterwards to claim ownership of the grafted trees standing in the forests. In the past this was done extensively with the result that thousands of privately owned or claimed fruit trees are now found in the forests occupying the best localities, while needless to say, any forest trees which grow near enough to cast shade upon such grafted trees are ringed by the owners or claimants. In view of these difficulties experience necessitated the exclusion of these species from the main forests as far as was possible. There is, however, a very keen demand for wild grafting stocks from the forests, particularly of olives, for transplantation into the private village lands. In order to assist the public in this respect no charge is made for grafting stocks uprooted and removed from the forests for this purpose. The public are also encouraged to uproot and remove the grafted trees from the forests and to transplant them into their own properties.

51. The total recorded number of grafting stocks removed from the forests in 1947 was 57,789 and during 1948 43,192. It will be seen from these figures that the supply of these grafting stocks is a very real assistance to the public in furthering the policy of establishing tree crops in the village lands. In many areas the tall and stout wild forest stocks are preferred, for not only do they grow quickly when transferred into deep rich soil, but also, and perhaps most important, they are of a sufficient size to allow budding to be done well out of reach of grazing animals. This latter quality is a very real advantage in the many villages in which grazing is still out of control. It is, therefore, the policy to supply the public with the maximum number of stocks possible from the forests free of charge.

In those forests where grazing is excluded a rapid regrowth of root suckers results from the broken root ends where the wild trees have been uprooted. These shoots form excellent grafting stocks for the future, but they cannot get up unless grazing is excluded, for olive is very heavily grazed and all regrowth is cushioned if grazing is present. Many forest areas, as for example the Northern Range Forests, contain very great quantities of wild olives but they are useless for grafting stocks till grazing is excluded to allow them to grow out of their present cushioned condition into useful stocks. This is a further advantage to the public resulting from excluding grazing from the forests.

(7) Minor Forest Produce.

52. Sales under this item of exploitation increased from £816 in 1947 to £1,991 in 1948. This was mostly due to a greatly increased harvest from origanum for the extraction of origanum oil. This plant grows mostly in Paphos Forest and it has been observed that the volume of this crop has greatly increased since that forest has been closed to grazing. There are a number of forest plants yielding marketable essential oils and it is hoped to develop them as small cottage industries in the forest villages thus providing an additional source of village income and employment.

53. It had been hoped to build up a village industry for the production of gum mastic from *Pistacia lentiscus*, as is done in the Island of Chios. This bush grows plentifully over the lowland areas of Cyprus and is an excellent soil fixer with which to combat soil erosion. Unfortunately in Cyprus it is only uprooted as fuel and thus wasted. Accordingly in September, 1947, Mr. D. F. Davidson, A.C.F., went to Chios to study this industry in detail, and his report brought to light much information and many peculiarities of this very restricted industry that are not normally known. However, it was clear from his study of this subject that the scope and specialization of this industry is unfortunately so restricted already that it would not be practicable to try to introduce it to Cyprus.

(8) Agency of Exploitation.

54. As a general rule it is the policy of the Forest Department to provide the maximum quantities of forest produce as sustained yields of raw materials, but not to engage in the commercial side of extracting, processing or marketing those raw materials. Experience has shown that the Government organization is too ponderous, and is so restricted by its many regulations and obstructions that it cannot possibly operate as flexibly, economically, or efficiently as private enterprise does in handling and marketing forest products. Therefore, with the exception of certain produce worked out from fired areas, all exploitation is in the hands of private enterprise. All forest produce was sold by auction, tender, or fixed prices, the latter method was only employed in a small way for certain produce that it was found inconvenient to sell by tender or auction. All timber and coppice, except that from burnt areas, was sold standing in the forests. There are ample numbers of skilled contractors and forest workers to undertake the whole of the exploitation side of forest yields. Such work is done by contracts which provide for the Forest Department to retain complete control of supervision and the protection of the remaining crop while the work is in progress. Fired areas are usually worked out departmentally purposely to prevent profit being made from them, and thus to eliminate the incentive to fire the forests in order to provide future profits. This unfortunately was done extensively in the past and resulted in enormous damage to the forests till it was stopped.

(9) Sawmills and Utilization.

55. At the beginning of 1947 there were three Government owned sawmills in operation at Ayia, Vroisha and Kambos; all of which were situated in Paphos Forest. In compliance with the policy of putting exploitation work in the hands of private enterprise, the Ayia sawmill was sold in 1947 and the Vroisha mill in 1948. Both these mills were sold by public auction and were removed from the forests to be erected at private mill sites outside the forests. At the end of the period, therefore, only the Kambos mill was operated by Government. This mill will be retained for the present for direct operation by the Forest Department or leased to contractors as may prove to be the more expedient. This reduction of sawmilling machinery is a considerable saving of maintenance for the mills were old. It is worthwhile to record that the mills disposed of were acquired as second-hand machinery in 1914 and have worked regularly ever since, including the strain of two world war periods when they were required to work double and sometimes triple shifts during a 24-hour day for long periods. They are still working.

56. Cyprus is now well equipped with a sufficient quantity of wood working machinery, operated privately, to handle the outturns of forest produce. All that is needed now is for certain classes of modern machinery for processing timber mechanically to be introduced to economise timber and to provide products of standard quality. The only remaining Government mill at Kambos has been modernized by conversion from a circular saw to a band saw which results in a considerable economy of timber and increased efficiency. Cyprus is, however, not a country that wastes very much of its forest produce. In most cases the entire tree is utilized. The pressure for fuel is so acute that after all convertable timber has been taken out, and a Cypriot sawyer does not leave much behind, the remainder, including the branch and brushwood, bark, sawdust and often the stump as well, is saleable as fuel if these otherwise waste products happen to be in an accessible position.

VII.—SILVICULTURE.

(1) Silvicultural Systems.

57. Most of the forests of Cyprus are hill forests serving the vital role of catchment or protection forests to prevent rain water run off and soil erosion. It is, therefore, a primary necessity to maintain a permanent forest cover over such hills. In these circumstances and in the dry climate prevailing, the silvicultural systems of management must not allow extensive clear fellings or excessive fellings of any kind. In the main hill forests there are two main types of forest crop which may be briefly described as coniferous high forest and broad leafed coppice forest. These two types of forest crop may be found either separately or mixed together, according to altitude and locality. The coniferous high forest is worked on the selection system or on modifications of that system. The fellings might correctly be described as selective improvement fellings with the object of removing

mature or defective trees for the main purpose of promoting natural regeneration and thus building up the growing stock to normal full stocking. The broad leafed coppice forest may form pure coppice forest or an understory to the coniferous high forest. In either case it forms a dense and most effective soil cover and in both cases it is worked selectively according to the diameter of the stems. Experiments are, however, being carried out to ascertain whether it might not be permissible and desirable to clear fell coppice hill forest, since clear felling produces better quality and more rapid regrowth. In the lowland plantations, where protection of the site from soil erosion is not of such great importance, it is the practice to clear fell compartments of acacia and eucalyptus. This management has been found to promote the best regrowth from the coppice stools of these species, and regrowth is sufficiently rapid to allow of it being safely applied even on sand dunes.

(2) Natural Regeneration.

58. Owing to the necessity of maintaining a cover crop over the hills and to the selective system of working the hill forests, by far the most important means of restocking the forests is by natural regeneration. Generally speaking the whole of the hill forests are permanently under regeneration and it is this fact, above all others, that makes it essential to exclude grazing from such forests. The indigenous forest species regenerate themselves remarkably well considering the adverse conditions of the summer months. Every year a promising flush of natural seedlings may be seen at the beginning of the summer, but by November many have succumbed to excessive soil and air temperatures, if not to actual drought. This is particularly so on southern aspects and on sites where no side shade is available to give some protection. Much depends upon the abundance of seed and upon the climatic conditions prevailing. When late spring rains and early autumn rains occur the effects of the summer drought are much reduced. It is clear therefore that the distribution of rainfall is far more important than the total depth of rainfall. For example, 1948 was a year of moderate rainfall but the high mortality of forest seedlings was quite exceptional for the reason that the dry summer weather was much prolonged into the autumn when seedlings could least withstand drought. The result was that very excessive mortality occurred, not only of one year seedlings but also of seedlings that had already withstood several summers.

59. In the case of Aleppo pine (*Pinus halepensis* var. *brutia*), which forms by far the greater part of the coniferous crop, it has been found that natural regeneration under the parent crop is very slow. This is perhaps the more surprising since it is a most prolific seed producer. It is, however, a strong light demander and it seems that to obtain good regeneration the cover crop must be opened more than may be prudent from a protective point of view. Experiments are being made to find the means of adjusting this difficulty and it may be that the silvicultural system may have to be modified in order to hasten regeneration.

60. With Troodos pine (*Pinus laricio*) the position is quite different. Here again natural regeneration is very slow but the main difficulty is irregular and insufficient production of fertile seed. This species is a shade bearer and regenerates best under a moderate crown canopy, where in favourable sites it forms dense groups of regrowth. It is, however, unlike Aleppo pine, extremely difficult to establish on areas that do not provide top or side shade and is, therefore, a very hard species to re-establish on fired areas once the crop has been cleared and the site has deteriorated in consequence.

61. The indigenous cedar (*Cedrus brevifolia*) is being extended in Paphos Forest by all means that can be given to assist its regeneration. In this case, as with Troodos pine, the chief obstacle is insufficient seed production. It is a light demander that cannot regenerate easily in competition with other species, so local silviculture is modified to favour cedar wherever that is required.

62. In the northern mountain forests Cypress (*Cupressus sempervirens*) is slow to establish on areas that have been stripped of their forest cover, and particularly is that so on southern aspects. But it is a prolific seed producer and being a fair shade bearer it regenerates well under the light shade cover of Aleppo pine crops.

63. With the exception of Plane (*Platanus orientalis*) and Alder (*Alnus orientalis*) which regenerate freely in the valley bottoms and moist places, other broad leafed species regenerate very slowly indeed.

(3) Artificial Regeneration.

64. For some years the Forest Department has been very actively engaged upon a large programme of reafforestation financed from the Colonial Development Fund. A great amount of productive work has already been done and it continued uninterrupted throughout the period of this report. Artificial regeneration is in two main forms in Cyprus. First, and perhaps most important, is the reafforestation of the protective forests on the hills, and second the establishment of lowland plantations of quick growing species to relieve the pressure on the main hill forests.

65. The reafforestation of the hill forests is mostly left to natural regeneration wherever there are sufficient parent trees left to provide seed enough to regenerate the hillsides, but many areas are so depleted of their forest crop from past fires, overgrazing, and overexploitation, that artificial regeneration is necessary to re-establish the forest crop. On fired or grazed out areas, the surface is usually in a state of rapid soil erosion. Overgrazing reduces forest land to an equally derelict condition as that resulting from fire, and the treatment required to reclaim such damage is precisely the same. The technique of reclaiming these fired and grazed out areas has been built up after long experience of trials based on successful results. The system of working consists of stabilizing the surface in such a way as to prevent all rain water run off and soil erosion and simultaneously to reseed the area to a coniferous crop. The whole work is carried out strictly on the contour and proceeds from the top of the slope to the bottom. Stabilizing earth works vary in intensity according to the angle of slope, the vegetative cover, degree of erosion, volume of rainfall to be retained and so forth. It is therefore impossible to define any rules, for it must vary with the conditions existing at each locality. In most cases earth works entail the construction of gradoni or contour trenches together with gully plugging and contour strip cultivations which are sown broadcast with Aleppo pine seed. Provided reasonably good climatic conditions prevail such reclamation and reseeding works are outstandingly successful and form the customary form of artificial reafforestation applied in the hill forests. Very seldom is planting used in the hill forests for it is subject to very heavy mortality during summer drought and the costs per unit of area are very much higher than reseeding.

66. It has constantly been the purpose of the Forest Department to provide the public with the maximum results in square miles at the minimum cost per unit of area. In spite of labour costs having risen more than 300% since this work was started about ten years ago the Department has been able so to improve and perfect its mode of working that costings have steadily decreased till to-day such reafforestation works, inclusive of all earth works, cost of seed and reseeding, etc., cost on the average £3 a donum or £9 an acre. Areas treated and reafforested by this process amounted to about 6,343 donums in 1947 and 3,957 in 1948. Stone wall terracing and planting is too expensive to be practicable and so is only applied to very small areas requiring special treatment. By contrast the costs of such work may vary between £20 to £50 a donum (3 donums = 1 acre).

67. The establishment of lowland plantations is divided into those that are established as lowland state forests and those that are established as Village Fuel Areas. The latter are dealt with under a separate chapter. Lowland forest plantations are established mainly for the supply of fuel, the fixing of shifting sands, anti-malarial swamp drainage or a combination of these purposes. The main concentration of effort in this respect was at Ayia Erini, where extensive coastal dunes are being fixed and brought under a remunerative forest crop and at the Fresh Water Lake near Famagusta where a saline swamp depression is being reclaimed to a forest crop. These works are accomplished by a combination of planting and direct sowing. The sand dunes are being fixed with Acacia (*Acacia cyanophylla*) and Stone pine (*Pinus pinea*). The saline swamp is being afforested with the same species of Acacia and Eucalyptus (*Eucalyptus gomphocephalon* is mostly used for this purpose). Other lowland forest plantations are also being extended. The costs of this work have been considerably reduced since a technique of deep planting for Acacia and surface cultivation for all species has eliminated the need for watering during summer months, which formerly made this work extremely costly and liable to failure.

(4) Forest Nurseries.

68. From the above description of reafforestation works it will be seen that very little nursery work is required for the hill forests which are almost entirely regenerated by direct seeding. Small nurseries are, however, maintained at the three Divisional Forest Stations at Stavros, Platania and Halevga. All the lowland nurseries, in which the main production of plants takes place, were under the Plains Division organization. During 1947 five lowland nurseries were maintained in which were raised a total of about 1,000,000 plants, of these 590,000 were disposed of to the public and the remainder used for Government plantations. During 1948 the outturn from the nurseries was increased to a total production of 1,320,000 plants of which 930,000 were supplied to the public. These figures show very clearly that the public requirements for private tree planting are increasing very rapidly. The demand for nursery plants is a direct measure of the growth of the tree planting movement, which it is hoped will ultimately afford a relief to the pressure on the main hill forests. Each successive year the outturn of plants has been increased, and yet as surely each year has resulted in a shortage of plants. Plans are now in hand for a greatly increased production.

(5) Seed Collection.

69. Insufficient supply of seed, as in the case of nursery stock, may be a very real limitation on the scope of reafforestation works that can be undertaken. With some species, as for example Cedar and Troodos pine, the total natural production of seed is always inadequate to meet the requirements. With other species such as Aleppo pine, Cypress, Acacia and Eucalyptus the natural production is normally ample, but the seed collection organization may be inadequate to maintain sufficient supplies. This has been noticeably so since some neighbouring countries have sought to obtain their seed requirements from Cyprus. 1947 was a good seed year and sufficient seed of all kinds was collected. About 35 tons of seed was collected of which about 5 tons was exported. 1948 was a bad seed year for most species and insufficient stocks could be collected to meet all requirements. About 12 tons were collected of which about 2 tons was exported.

VIII.—VILLAGE FUEL AREAS.

70. Since 1946 the number of village fuel areas increased from 69 to 80 by the end of 1948. The total area covered by such plantations also increased from 5,283 donums to 14,758 donums (about 4,919 acres) during the same period. The village fuel area organization forms a separate Forest Division, known as the Plains Division, based on Nicosia and is steadily growing at the request of the villages. It has been financed from Colonial Development Funds, and its purpose is to relieve pressure for wood fuel from the hill forests. It is in fact an indirect way of reafforesting the hill forests, for by creating fuel plantations at the villages on the fuelless plains, a very considerable burden is taken off the hill forests and thus a much needed rest period is provided in which the forests may recover. It is obvious of course, that the total area of the village fuel plantations could not possibly yield sufficient quantities of fuel to maintain the eighty villages they serve in fuel supplies. But they serve another, perhaps even more important, role. They provide demonstrations for the villages to show that derelict lands, which at present produce nothing, can easily be made productive and remunerative by planting to tree crops. This example has been widely followed and is a very real and important stimulus for villagers to plant trees on their own lands. It is this private interest and development in tree planting that is slowly but surely changing the scenery of Cyprus from treelessness to tree crops. It is also, of course, the aggregate effect of tree crops in the village lands that is relieving the pressure on the forests, rather than the actual village fuel areas, themselves.

71. The creation and operation of the village fuel areas is based upon requests from the villages and upon the co-operation and willingness of the people to establish and maintain such plantations in their village lands. It is upon this foundation that the strength and success of the movement depends. The villages now realize that such plantations are a considerable asset, for in the first place the establishment charges are met by Government and they provide labour for the village. Thereafter the produce goes to the village at cheap rates and the money they pay for it, their money, goes into a village fund for public improvements in their own village. The ownership of these plantations is vested in the village so that the people feel they have a very real share in the success of the scheme. They are in fact communal forests and the people guard them jealously. It is this background which accounts for the seemingly unbelievable miracle of these plantations being situated in the most vulnerable positions but yet being safe from pilfering and destruction without any protective fencing or guards looking after them. They belong to the people and the people look after them through their own village organizations. The forest staff are therefore almost entirely relieved of what would otherwise be an impossible duty of providing protection for these plantations. The forest staff, of course, provide all technical supervision and maintain control of these plantations in all technical respects.

72. The sites on which these plantations have to be established are in most cases, by necessity, of extremely poor and barren quality. They are generally vacant waste lands that are unsuitable for cultivation, and even for forest purposes would ordinarily be regarded as unproductive or of the lowest productivity. But even so, experience has shown that with the right species and technique, these lands can be made productive and in fact many astonishingly successful plantations have been established on most unpromising sites. A variety of techniques have been developed and employed by the Plains Division to establish these village fuel areas, some of which are quite contrary to generally accepted beliefs concerning local tree planting requirements. It is for such reasons that this work has proved to be so valuable as public demonstrations.

IX.—OIL CONVERSION.

73. The oil conversion scheme aims at converting all industrial and commercial usage of wood fuel, together with a proportion of domestic usage, to oil or other mineral fuels. By these means only can the pressure for fuel from the forests be relieved sufficiently to allow time for reafforestation and the recovery of the growing stock to take place. The application of such a fuel conversion scheme would not normally be a duty to be undertaken by a forest service. In this case the force of necessity has compelled the Forest Department to do this duty ever since the general failure of wood fuel supplies occurred in 1943, and oil conversion had to be hastily applied. The fuel problem in Cyprus is such, that unless the increasing pressure on the remaining tree growth of the Island can be relieved by the use of alternative fuels, then the forests must inevitably be wiped out. In such circumstances it is small wonder that the Forest Department had to undertake the unusual duties of oil conversion. It must be appreciated also that the conversion from wood to mineral fuels, and the maintenance of adequate mineral fuel supplies is of necessity an essential part of forest policy. It is equally a problem for soil conservation policy, for the continual stripping of the hills of their tree growth and bush soil cover for fuel, has been and still is a main factor in causing soil erosion and land degradation.

74. During the first nine months of 1947 oil conversion was pressed forward with very marked success, oil supplies were then adequate and oil burning appliances were easier to obtain. It was estimated in October, 1947, that at the rate of progress then being made, it would only require one more year, say till the end of 1948, to complete oil conversion in Cyprus to the degree required. Unfortunately, however, in the autumn of 1947 the Haifa oil refinery, from which all Cyprus supplies of oils came, closed down owing to local disturbances in Palestine. This was bad enough but it coincided with an acute world shortage of oils so that Cyprus could not get enough oil even to maintain essential services, without resort to strict rationing of all fuels and the allocation of oil fuels to priority uses only. This meant that all oil conversions had to stop, and many branches of industry including the lime, brick, gypsum and pottery kilns, had to reconvert back to wood fuel. The full pressure for wood fuel was suddenly turned on to the forests once more, together with all its evil consequences, which had only so recently been removed. This position grew steadily worse till in the first half of 1948 the position was desperate from a forest point of view, and it was feared that all the good resulting from oil conversion would be wiped out.

75. Early in 1948 a Fuel Allocation Committee was appointed consisting of representatives of industries, Government Departments and the Oil Companies to estimate the minimum needs of the essential services and to allocate priorities for such small quantities of oils as were available. Simultaneously prices of oils steadily rose till by the end of 1948 they showed increases over those at the end of 1946 of gas oil 44%, diesel oil 49%, furnace oil 56% and kerosene 22%. This change in prices completely upset the balance of economy as between oil fuel and wood fuel, which latter had stayed at about the same figure throughout this period. In many cases it was now more economical to use wood than oil even if oil was available. This accentuated the pressure for wood fuel and made forest protection even more difficult than the actual shortage of oil had done.

76. The estimated consumption of wood fuel was 70,000 tons in 1946; this figure was reduced to 53,400 tons in 1947 owing to the success of oil conversion in the first nine months of 1947. In 1948 this figure had increased again to 75,200 tons. These figures reflect the immediate effect that the shortage of oils had on the forests and tree growth of the Island. Fortunately by the end of 1948 there were indications that oil supplies would again be more plentiful and possibly cheaper during 1949.

77. At the end of 1948 the whole of the Fuel and Charcoal Control organization, which included oil conversion, was transferred from the Forest Department to the Supplies Dapartment. Provision was, however, made for the Forest Department to retain control of policy concerning fuel and oil conversion. This was a necessary provision because the fuel problem is inevitably one of the main forest problems. If the two policies were not in one control it might easily happen that changes in fuel policy could conflict with forest policy.

X.—GAME PRESERVATION.

78. The preservation of game is a subject which many forest services take an active part in, and in Cyprus, too, that duty largely falls to the Forest Administration. In Cyprus the only remaining wild animal of any size is the moufflon or wild sheep (*Ovis ophion*). This animal was formerly numerous in all the mountainous areas, but now it is only found in Paphos Forest. Ten to fifteen years ago this interesting animal was within extreme danger of extermination when in 1938 Paphos Forest, an area of 232 square miles, was declared a permanent game reserve for the special purpose of affording a sanctuary for moufflon. The forest staff also applied the strictest possible protection for moufflon, and picked Forest Guards were allotted this special duty. As a result of these measures it is very encouraging to report that this little known insular species has been saved from extermination and is now noticeably on the increase. Specimens of this very handsome wild sheep are kept in paddocks at Stavros Forest Station in Paphos Forest as exhibits to show the public what their wild sheep is like, for very few have ever seen it in the wild state.

79. In 1947 an attempt was made to re-introduce pheasants to Cyprus by the importation of eggs. Unfortunately this attempt was a total failure, so in 1948 a second attempt was made. This time both eggs and mature birds were imported and some success from both was attained. By the end of 1948 thirty pheasants had reached maturity in the pens at Stavros Forest Station. It is the intention to release some of these in Paphos Forest around Stavros Station and to breed up others for release later on. It is hoped that the initial difficulties of establishing pheasants in Cyprus forests are now over and that gradually the Paphos Forest game reserve may be stocked with pheasants.

80. In general the stocking of game has deteriorated very badly in recent years. Indigenous game birds have been shot out by too many guns coupled with several bad breeding seasons. The 1947–48 shooting season recorded the lowest head of game ever known, till by the end of the season the last remaining breeding stock had been shot out from wide areas. This is mainly because those who shoot for sport in Cyprus are few compared with those who kill game commercially. So serious had this position become that in many areas the forests were the only places where a remnant of the breeding stock of Red Legged Partridge (*Chukar*) and Francolin (*Black Partridge*) could find cover enough to escape extermination. In these circumstances it was obvious that one more such season would wipe out the last game from the Island, and so the 1948–49 shooting season was suspended. All shooting was prohibited for one season except in certain local marsh land areas where migratory wild fowl could be shot. The results from this measure are very encouraging and go to prove that it is mainly the pressure of overshooting that has caused the reduction of game. In many areas, particularly in the forests where the birds had cover, game shows good signs of recovering. It is thought that with care and the application of strict measures to prevent unlawful practices and to control the length of future shooting seasons in proportion to the head of game and the number of guns, the position may be restored.

XI.—FINANCIAL.

81. The total departmental expenditure and revenue for 1947 and 1948 is shown as follows :—

	1947		*1948*
	£		£
Current Expenditure..	86,943	..	101,762
Revenue	42,748	..	40,153
Deficit balance	44,195	..	61,609
Capital Expenditure (Advanced under Colonial Development or Loan Funds) ..	72,180	..	73,593

Appendix No. 8 shows details of the financial statement. In examining the financial position it is at once apparent that the forests show a deficit balance, but this needs some explanation for the true position is not apparent from figures alone. As was explained more fully under the heading of " Timber Yields " above, it is necessary that the forests must still be managed on a very restricted yield as a result of excess fellings during the war period. Also only about one-fifth of the total forest area is at present productive. This point needs to be accentuated for the position will be very different when the greater part of the forest area has been nursed back to a productive state. Further it must be fully appreciated that, though the direct financial results show a deficit, yet the forests have to stand the continual drain of very extensive free permitted usages. They also provide much employment and serve the primary purposes of water catchment, protection and amenity in the hills. These extensive indirect values cannot be expressed in terms of revenue to appear on the credit side of the forest balance-sheet. The maintenance and improvement of the forests is a thoroughly sound long-term investment that will repay handsome dividends in the future, both in direct and indirect returns. Even within the short period of a single generation the forests have twice been called upon to contribute heavily during the emergency of world wars. The rate of recovery and building up of the growing stock is now very rapid, so the forests will in future be in a better position than ever before to serve the country well in times of emergency.

XII.—ADMINISTRATION.

(1) Forest Staff.

82. The total strength of staff of the Forest Department as on 31st December, 1946, and 31st December, 1948, is set out below for comparison.

	1946		*1948*
Conservator	1	..	1
Senior Assistant Conservator of Forests	—	..	1
Assistant Conservators of Forests	6	..	5
Forest Assistant	—	..	1
Temporary Forest Surveyor	1	..	1
Fuel and Charcoal Controller	1	..	1
Forest Rangers	6	..	7
Foresters	14	..	19
Forest Guards	128	..	124
Telephone Linesmen	4	..	4
Temporary Telephone Linesmen	4	..	4
Telephone Operators	12	..	12
Temporary Forest Guards	54	..	17
Temporary Forest Foremen	40	..	75
Temporary Forest Surveyors	3	..	3
Forest Officers Prosecutions	4	..	4
General Clerical Staff	7	..	9
Temporary Clerical Staff	23	..	29
Accounting Officer	—	..	1
Drivers and Mechanics	8	..	12
Others	40	..	14
Totals	356	..	344

(2) Forest Organization.

83. The Forest Department Headquarters are at Nicosia. The forests were divided into four Divisions, three of which were territorial and one non-territorial as follows : Paphos Division based on Stavros forest station, Troodos Division based on Platania forest station, Northern Range Division based on Halevga forest station and Plains Division based on Nicosia Head Office. This latter division was in charge of some lowland forests, all the Village Fuel Areas and the organization for the encouragement of private tree planting all over Cyprus. In addition the following technical branches operated under separate control in all four forest divisions but were based on Nicosia : Working Plans Section, Survey Section, Fuel and Charcoal Control Section, Telephone and Mechanical Section.

84. Every possible effort was made to keep the Headquarters staff down to the minimum and the executive field staff at maximum strengths. A difficulty throughout the period was that the Senior A.C.F., Mr. Chapman, was absent on secondment serving in Iraq. This secondment puts a very severe strain on the Department for this officer is still on the Department's strength and so his post cannot be filled.

(3) Training Cyprus Staff.

85. Throughout the whole of 1947 and 1948 Forester D. Couppis, i/c Telephone and Mechanical Section, continued his scholarship training in Forest Engineering in Britain. Forest Ranger Jacouris and Forester Middleton left in December, 1947, for a two-year scholarship training in Britain at the Forestry Commission's Training School at Lynford Hall in Norfolk. In October, 1948, Forester Michaelides and Forester Omer left to go to the Lynford Hall School for a similar two-year scholarship training. A.C.F. Mr. Davidson left in July, 1948, to complete a postgraduate course of study at the Imperial Forestry Institute at Oxford. Temporary Forest Foreman Polycarpou was selected for a scholarship training for a three-year Forestry Degree course at Aberdeen University. He left in October, 1948, for preparatory study at Gordon's College, Aberdeen.

(4) Training Overseas Staff.

86. At the request of the Transjordan Government the Forest Department accepted Yacoub Bey Salti, of the Transjordan Lands Department, for a year's training course in practical forestry to fit him to be in charge of the Transjordan forests upon his return. Mr. Salti arrived in Cyprus in June, 1947, and returned in June, 1948. During his course of training he was attached to all Divisions and was able to study and perform all branches of forestry as applied in Cyprus. Mr. Salti worked and studied in all respects as if he were a member of the Cyprus Forest Service. Under these conditions his training was very successful and was accomplished with a very high standard of hard work and good fellowship.

During the spring of 1948 two Transjordan Foresters were also accepted for a three months course of practical forest training in the Cyprus forests. These two men were, therefore, attached to the Divisional staffs in turn where they could study and took part in the practical side of current forest works.

(5) Forest School.

87. During 1948 the Forest School project was approved and work will start during 1949. In recent years there have been constant requests from other territories to train their forest staff in Cyprus. In view of this position the new Forest School will make special provision for the training of students from overseas. The school is estimated to cost about £35,700 and it is hoped that it will be in operation by the end of 1950.

(6) Acknowledgment.

88. I take this opportunity to express my thanks and appreciation to all members of the staff for their hard work, co-operation and loyal service.

R. R. Waterer,

3rd June, 1949. *Conservator of Forests.*

APPENDIX 1.

AREA IN SQUARE MILES OF FOREST LAND ON 31ST DECEMBER, 1947 AND 1948.

Category of Forest Land	Total area of unit	State Forests				Private Forests	Total Forest Land	Percent. of whole area of Cyprus	
		Production reserves	Protection reserves	Unreserved	Total State Forests			Forest reserves	Total Forest Land
1947:—									
Main State Forests	530.74	—	530.74	—	530.74	—	530.74	14.86	14.86
Minor State Forests	91.91	—	91.91	—	91.91	—	91.91	2.58	2.58
Private Forests ..	30.00	—	—	—	—	30.00	30.00	—	0.84
Total ..	652.65	—	622.65	—	622.65	30.00	652.65	17.44	18.28
1948:—									
Main State Forests	531.12	—	531.12	—	531.12	—	531.12	14.86	14.86
Minor State Forests	91.91	—	91.91	—	91.91	—	91.91	2.58	2.58
Private Forests ..	30.00	—	—	—	—	30.00	30.00	—	0.84
Total ..	653.03	—	623.03	—	623.03	30.00	653.03	17.44	18.28

APPENDIX 2.

STATEMENT IN SQUARE MILES OF PROGRESS IN FOREST RESERVATION AND DEMARCATION DURING THE YEARS ENDED 31ST DECEMBER, 1947 AND 1948.

Category of Forest Reserve	Reserves Constituted and Demarcated			On 31st December	
	On 1st January	Added during the year	Excluded during the year		
1947:—					
Main State Forests	530.52	0.25*	—	530.77	
Minor State Forests	91.91	—	—	91.91	
Total ..	622.43	0.25	—	622.68	*Land purchases in and adjoining Main Forests.
1948:—					
Main State Forests..	530.77	0.35*	—	531.12	
Minor State Forests	91.91	—	—	91.91	
Total ..	622.68	0.35	—	623.03	

APPENDIX 3.

STATEMENT IN SQUARE MILES OF PROGRESS MADE IN WORKING PLANS DURING THE YEARS ENDED 31ST DECEMBER, 1947 AND 1948.

Territorial Unit	Area under Working Plans				Area not under Working Plans on 31st Dec.	Total Area	Area for which plans were revised during the year
	On 1st January	Added during the year	Excluded during the year	On 31st December			
1947 :—							
Main State Forests (Intensive)	412.53	11.39	—	423.92	106.82	530.74	3.07
Minor State Forests ..	—	—	—	—	91.91	91.91	—
Total	412.53	11.39	—	423.92	198.73	622.65	3.07
1948 :—							
Main State Forests (Intensive)	423.92	11.06	—	434.98	96.14	531.12	—
Minor State Forests ..	—	—	—	—	91.91	91.91	—
Total	423.92	11.06	—	434.98	188.05	623.03	—

APPENDIX 4.

RECORD IN MILES OF FOREST COMMUNICATIONS FOR THE YEARS ENDED 31ST DECEMBER, 1947 AND 1948.

Category of Forest Land	Forest Roads		
	Added	Abandoned	Total at the end of the year
1947 :—			
Main State Forests	27.14	—	338.13
Minor State Forests	—	—	14.00
Total	27.14	—	352.13
1948 :—			
Main State Forests	17.68	—	354.81
Minor State Forests	—	—	14.00
Total	17.68	—	368.81

APPENDIX 5.

SUMMARY OF FOREST OFFENCES FOR THE YEARS ENDED 31ST DECEMBER, 1947 AND 1948.

Category of offence	Cases taken to Court								Total		Cases dealt with departmentally		Offenders unknown	Total all offences		Confiscated property sold or released		Compensation for damage
	Imprisnt. without option of fine	Fined		Cautioned and Disch.	Acquitted	Bound over	Whipped	Withdrawn										
	Cases	Cases	Fine	Cases	Cases	Cases	Cases	Cases	Cases	Pers.	Cases		Cases	Cases	Pers.	Cases		
1947 :—			£ s. p.									£ s. p.					£ s. p.	£ s. p.
Damage to forest by fire	—	2	1 0 0	2	—	—	—	1	5	5	4	3 13 0	—	9	9	—	— — —	1 10 0
Unauthorized possession of forest produce	11	296	422 1 1	22	—	27	—	4	360	390	1,714	1,145 1 0	—	2,074	2,147	64	53 13 2	187 19 6
Unauthorized fellings	3	100	306 11 0	9	—	7	—	1	120	150	394	297 11 0	—	514	576	1	— 12 0	118 13 6
Unauthorized grazing	17	652	1,611 16 3	86	—	69	—	202	1,026	1,143	1,659	1,762 14 3	—	2,685	2,970	31	104 11 0	226 13 3
Land encroachments	—	41	67 17 0	8	—	2	—	1	52	60	62	13 15 0	—	114	123	...	—	6 1 0
Miscellaneous	1	14	117 19 0	1	—	1	—	—	17	22	28	6 5 0	—	45	51	—	—	4 5 0
Total	32	1,105	2,527 4 4	128	—	106	—	209	1,580	1,770	3,861	3,228 19 3	—	5,441	5,876	96	158 16 2	545 2 6
1948 :—																		
Damage to forest by fire	—	3	7 0 0	—	—	1	—	—	4	5	4	3 5 0	—	8	9	—	—	—
Unauthorized possession of forest produce	26	519	906 0 0	23	—	54	—	19	641	666	1,876	989 5 8	—	2,517	2,644	74	97 8 2	275 3 1
Unauthorized fellings	5	118	356 0 0	3	—	4	—	4	134	153	638	318 8 4	—	772	863	—	—	73 14 0
Unauthorized grazing	6	621	1,484 18 0	28	—	44	—	59	758	814	1,618	1,634 14 0	—	2,376	2,687	4	10 18 0	217 7 7
Land encroachments	—	97	127 13 0	1	—	3	—	8	109	109	18	9 12 0	—	127	127	—	—	6 16 0
Miscellaneous	—	13	22 18 0	—	—	1	—	3	17	17	15	6 2 0	—	32	33	—	—	1 5 0
Total	37	1,371	2,904 9 0	55	—	107	—	93	1,663	1,764	4,169	2,961 7 3	—	5,832	6,363	78	108 6 2	574 5 8

APPENDIX 6.

OUTTURN IN SOLID CUBIC FEET (WHOLE STEM VOLUME OVERBARK) OF TIMBER AND FUEL FOR THE YEARS ENDED 31st DECEMBER, 1947 AND 1948.

Territorial Unit	Logs (sold standing)	Sawn (Royalty Sales & departmental) Timber	Other hewn wood (Ploughwood, etc.)	Firewood	Charcoal (c. ft. of timber equivalent)	Total volume equivalent in round timber	Total value
1947 :—							
Main and Minor State Forests	407,813	219,813	11,462	1,296,169	30,536	1,965,798	£48,387
1948 :—							
Main and Minor State Forests	368,693	173,450	4,732	1,249,768	35,600	1,832,243	£41,674

APPENDIX 7.

OUTTURN OF MINOR FOREST PRODUCE, 1947.

Territorial Unit	Canes		Fodder, hay, grass, vetch and leaves		Miscellaneous (stones and earth)		Miscellaneous (fruit and seeds)		Miscellaneous (pine cones)		Miscellaneous (other material).		Miscellaneous (olive trees & nursery stock)		Saw dust	
	Pieces	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value	No.	Value	Lorries	Value
Cyprus	3,000	£2	0.2	£1	6,707	free	34	£712	19	£12	4	£5	84,013	£84	7	£1

OUTTURN OF MINOR FOREST PRODUCE, 1948.

Territorial Unit	Origanum Oil		Canes		Fodder, hay, grass, vetch and leaves		Miscellaneous (stones and earth)		Miscellaneous (fruit and seeds)		Miscellaneous (pine cones)		Miscellaneous (other material)		Miscellaneous (olive trees and nursery stock)		Saw dust		Pine bark	
	Tons	Value	Pieces	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value	No.	Value	Lorries	Value	Tons	Value
Cyprus	1.8	£294	2,000	£2	0.8	£1	7,402	free	77.8	£1,630	9	£5	3	£4	54,603	£32	53	£14	15	£9

APPENDIX 8.

COMPARATIVE FINANCIAL STATEMENT FOR THE 10 YEARS ENDED 31ST DECEMBER, 1947.

Year	Forest Revenue	Forest Expenditure	Surplus	Deficit	Expenditure under C.D.F.	Expenditure under L. S. Account	Expenditure under Development	Grand Total of Expenditure
	£	£	£	£	£	£	£	£
1938	13,074	28,120	—	15,046	—	—	—	28,120
1939	12,134	35,229	—	23,095	—	—	—	35,229
1940	56,123	61,099	—	4,976	—	—	—	61,099
1941	56,881	47,291	9,590	—	16,672	—	—	63,963
1942	74,864	87,283	—	12,419	24,677	—	—	111,960
1943	181,031	140,519	40,512	—	19,635	—	—	160,154
1944	127,774	144,498	—	16,724	21,621	—	—	166,119
1945	100,467	100,330	137	—	33,285	—	—	133,615
1946	81,866	79,016	2,850	—	47,219	—	—	126,235
1947	42,748	86,943	—	44,195	48,205	18,095	5,880	159,123
Total	746,962	810,328	53,089	116,455	211,314	18,095	5,880	1,045,617

COMPARATIVE FINANCIAL STATEMENT FOR THE 10 YEARS ENDED 31ST DECEMBER, 1948.

1939	12,134	35,229	—	23,095	—	—	—	35,229
1940	56,123	61,099	—	4,976	—	—	—	61,099
1941	56,881	47,291	9,590	—	16,672	—	—	63,963
1942	74,864	87,283	—	12,419	24,677	—	—	111,960
1943	181,031	140,519	40,512	—	19,635	—	—	160,154
1944	127,774	144,498	—	16,724	21,621	—	—	166,119
1945	100,467	100,330	137	—	33,285	—	—	133,615
1946	81,866	79,016	2,850	—	47,219	—	—	126,235
1947	42,748	86,943	—	44,195	48,205	18,095	5,880	159,123
1948	40,153	101,762	—	61,609	32,435	32,800	8,358	175,355
Total	774,041	883,970	53,089	163,018	243,749	50,895	14,238	1,192,852

APPENDIX 9.

STRENGTH OF FOREST STAFF.

Territorial Unit	Senior Staff			Subordinate Field Staff								Clerical Staff	Technical subordinates	Permanent labour force
	Colonial Forest Service	Others	Total	Forest Rangers	Foresters	Forest Guards	Temp. Forest Guards	Forest Foremen	Prosecuting Officers	Mess., Storekeepers, etc.	Total			
31st December, 1947 :														
Cyprus	7	1	8	7	18	105	18	82	4	22	264	24	34	65
31st December, 1948 :														
Cyprus	7	2	9	7	19	119	12	72	4	20	262	22	35	69

APPENDIX 10.

STATEMENT OF THE INCIDENCE OF FOREST GRAZING.

(*a*) GRAZING PERMITS ISSUED.

	Free		On payment		Total	
	1947	1948	1947	1948	1947	1948
1. Number of Permits ..	62	94	235	233	297	327
2. Number of Animals :—						
(*a*) Goats	4,495	5,771	4,447	5,536	8,942	11,307
(*b*) Sheep	1,064	1,567	7,146	7,378	8,210	8,945
(*c*) Other Animals ..	306	488	384	421	690	909
(*d*) Total No. of Animals	5,865	7,826	11,977	13,335	17,842	21,161
3. Fees Collected	£188. 3. 7.	£222. 17. 6.				

(*b*) GRAZING STATISTICS.

	1947	*1948*
1. Area grazed over lawfully, in square miles	118.70 ..	109.70
2. Area theoretically closed to grazing, in square miles	503.95 ..	513.33
3. Total number of goats in the Island counted for taxation	195,312 ..	186,534
4. Number of goats allowed to graze in the State Forests	8,942 ..	11,307
5. Number of goats allowed to graze in the forests, expressed as percentage of total number of goats	4.58 ..	6.06
6. Total number of sheep in the Island counted for taxation	311,479 ..	291,346
7. Number of sheep allowed to graze in the State Forests	8,210 ..	8,945
8. Number of sheep allowed to graze in the forests, expressed as percentage of total number of sheep	2.64 ..	3.07

APPENDIX 11.

STATEMENT OF FIRE PROTECTIVE WORKS AND FIRE INCIDENCE FOR THE YEAR 1947.

(*a*) FIRE TRACES.

1. Fire traces existing on 1st January, 1947 .. .. 102½ miles
2. No new fire traces were opened during the year.
3. No existing fire traces were cleaned during the year.

(*b*) TELEPHONES.

	Length miles	*No. of instruments*	*No. of switch boards*
1. Existing telephone lines and instruments on 1.1.47.. ..	334 m.	77	6
2. Alterations (71 m. 828 yds. and 7 instruments, additions, and 12 m. 207 yds. obsolescent)	59 m. 621 yds.	7	—
Total	393 m. 621 yds.	84	6

3. Details of expenditure under Head 11B "Forests", sub-head 23 "Telephones" :—

	£	*s.*	*p.*
(*a*) Installation fees (for all lines)	908	14	2
(*b*) Rental paid for Nicosia–Platania line for 1947	168	0	0
(*c*) Maintenance of Telephones and Telephone lines	426	1	4
(*d*) Indent for Telephone materials	1,542	3	7
Total	£3,044	19	4

4. Details of expenditure under Head 38 "Development", sub-head 9 "Forest Telephone System" :—

	£	*s.*	*p.*
(*a*) Construction of concrete telephone poles	1,168	8	5
(*b*) Making and repairing moulds	247	7	1
(*c*) Transport of concrete poles	142	14	0
(*d*) Installation fees	556	12	6
(*e*) Salaries	339	15	2
(*f*) War bonus	535	2	4
Total	2,990	0	0
Grand Total	6,034	19	4

(*c*) FIRE DETECTION.

1. Fire watchers	49
2. Fire watchers' huts on 1.1.47	12
3. Huts repaired during the year	3

(*d*) FIRE INCIDENCE.

Year	*No. of fires*	*Area burned sq. miles*	*Assessed damage* *	*Cost of extinction*	*Cause*
1947 ..	46 ..	0.65 ..	£1,702 ..	£1,340 ..	31 Accidental, 4 Carelessness, 8 Malicious, 1 Lightning, 1 M.L. Gun and 1 Doubtful.

* The figures do not include— cost of reclamation ; cost of deterioration of site ; cost of compound interest on capital value at the time of the fire.

APPENDIX 11.—*contd.*

STATEMENT OF FIRE PROTECTIVE WORKS AND FIRE INCIDENCE FOR THE YEAR 1948.

(*a*) FIRE TRACES.

1. Fire traces existing on 1st January, 1948	102½ miles
2. No new fire traces were opened during the year.	
3. Existing fire traces cleaned during the year	38½ ,,

(*b*) TELEPHONES.

	Length miles	*No. of instruments*	*No of switch boards.*
1. Existing telephone lines and instruments on 1.1.48	393 m. 621 yds.	84	6
2. Alterations (103 m. 22 yds. and 15 instruments, additions, and 22 m. 566 yds. obsolescent)	80 m. 1,216 yds.	15	—
	—	—	—
Total	474 m. 77 yds.	99	6

3. Details of expenditure under Head 11B "Forests" sub-head 32 "Telephones" :—	£	*s.*	*p.*
(*a*) Installation fees (for all lines)	835	19	7
(*b*) Rental paid for Nicosia–Platania line for 1948	168	0	0
(*c*) Maintenance of Telephones and Telephone lines	490	4	6
(*d*) Indent for Telephone materials	1,233	15	2
Total	£2,727	19	6

4. Details of expenditure under Head 37 "Development" sub-head 9 "Forest Telephone System :—	£	*s.*	*p.*
(*a*) Construction of concrete telephone poles	755	10	5
(*b*) Installation fees	314	14	1
(*c*) Repairing and construction of metal moulds	78	13	8
(*d*) Rents	18	0	0
(*e*) Indents for Telephone materials	2,755	11	0
(*f*) Salaries	448	15	0
(*g*) Cost-of-living Allowance	655	19	6
Total	£5,027	4	2
GRAND TOTAL	£7,755	3	8

(*c*) FIRE DETECTION.

1. Fire watchers	45
2. Fire watchers huts on 1.1.48	12
3. Huts repaired during the year	8

(*d*) FIRE INCIDENCE.

Year	*No. of fires*	*Area burned sq. miles*	*Assessed damage* *	*Cost of extinction*	*Cause*
1948	59	·66	£1,466	£1,726	22 Accidental, 18 Carelessness, 18 Malicious, 1 muzzle loaded gun.

* The figures do not include—{ cost of reclamation; cost of deterioration of site; cost of compound interest on capital value at the time of the fire.

APPENDIX 12.

(A) ANALYSIS OF FOREST OFFENCES TAKEN UP BY THE FOREST DEPARTMENT FOR THE YEARS ENDED 31st DECEMBER, 1947 AND 1948.

Category	Cases taken to Court.										
	Imprisonment without option of fine cases	Fined			Cautioned	Bound Over	Acquitted	Withdrawn	Whipped	Total Court cases	
		Cases	Fine	Damages compensation	Cases	Cases	Cases	Cases	Cases	Cases	Persons
			£ s. p.	£ s. p.							
1947 :—											
Damage to forest by fire	—	2	1 0 0	1 10 0	2	—	—	1	—	5	5
Unauthorized possession of forest produce	11	296	422 1 1	187 19 6	22	27	—	4	—	360	390
Unauthorized fellings	3	100	306 11 0	118 13 6	9	7	—	1	—	120	150
Unauthorized grazing	17	652	1,611 16 3	226 13 3	86	69	—	202	—	1,026	1,143
Land encroachments	—	41	67 17 0	6 1 0	8	2	—	1	—	52	60
Miscellaneous	1	14	117 19 0	4 5 0	1	1	—	—	—	17	22
Total	32	1,105	2,527 4 4	545 2 6	128	106	—	209	—	1,580	1,770
1948 :—											
Damage to forest by fire	—	3	7 0 0	—	—	1	—	—	—	4	5
Unauthorized possession of forest produce	26	519	906 0 0	275 3 1	23	54	—	19	—	641	666
Unauthorized fellings	5	118	356 0 0	73 14 0	3	4	—	4	—	134	153
Unauthorized grazing	6	621	1,484 18 0	217 7 7	28	44	—	59	—	758	814
Land encroachments	—	97	127 13 0	6 16 0	1	3	—	8	—	109	109
Miscellaneous	—	13	22 18 0	1 5 0	—	1	—	3	—	17	17
Total	37	1,371	2,904 9 0	574 5 8	55	107	—	93	—	1,663	1,764

(B) ANALYSIS OF FOREST OFFENCES TAKEN UP BY THE FOREST DEPARTMENT FOR THE YEARS ENDED 31ST DECEMBER, 1947 AND 1948.

Category	Cases dealt with departmentally								Confiscated property sold or released		Cases pending from previous year	Cases outstanding at the end of the year
	Total No. dealt with departmentally		Compounded		Warned cases	Cancelled cases	Offenders unknown (undetected)					
	Cases	Persons	Cases	Amount			Cases	Estimated loss	Cases	Amount		
				£ s. p.				£		£ s. p.	No.	No.
1947 :—												
Damage to forest by fire	4	4	4	3 13 0	—	—	—	—	—	—	1	1
Unauthorized possession of forest produce	1,714	1,757	1,659	1,145 1 0	35	20	—	—	64	53 13 2	308	266
Unauthorized fellings	394	426	384	297 11 0	5	5	—	—	1	– 12 0	91	67
Unauthorized grazing	1,659	1,827	1,484	1,762 14 3	45	130	—	—	31	104 11 0	736	543
Land encroachments	62	63	59	13 15 0	3	—	—	—	—	—	59	37
Miscellaneous	28	29	27	6 5 0	1	—	—	—	—	—	2	4
Total	3,861	4,106	3,617	3,228 19 3	89	155	—	—	96	158 16 2	1,197	918
1948 :—												
Damage to forest by fire	4	4	4	3 5 0	—	—	—	—	—	—	1	3
Unauthorized possession of forest produce	1,876	1,978	1,818	989 5 8	48	10	—	—	74	97 8 2	266	293
Unauthorized fellings	638	710	628	318 8 4	8	2	—	—	—	—	67	50
Unauthorized grazing	1,618	1,873	1,339	1,634 14 0	39	240	—	—	4	10 18 0	543	454
Land encroachments	18	18	15	9 12 0	2	1	—	—	—	—	37	19
Miscellaneous	15	16	9	6 2 0	6	—	—	—	—	—	4	9
Total	4,169	4,599	3,813	2,961 7 3	103	253	—	—	78	108 6 2	918	828

APPENDIX 13.

STATEMENT OF FOREST REVENUE COLLECTED IN 1946, 1947 AND 1948.

Item of Revenue	1946 Revenue	1947 Revenue	1948 Revenue
	£ s. p.	£ s. p.	£ s. p.
Permit Fees :			
Fuel Permits	725 17 3	456 0 5	501 6 3
Charcoal Permits	8 6 2	11 4 0	24 4 0
Grazing Permits	44 1 7	76 3 6	84 17 8
Lime Permits	20 0 0	14 0 0	66 6 5
Pottery Permits	—	—	—
Tiles Permits	—	—	—
Bricks Permits	3 0 0	—	3 0 0
Gypsum Permits	4 9 0	—	70 0 0
Total Permit Fees	805 14 3	557 8 2	749 14 7
Sales of Timber, etc. :			
Sale of Standing Trees	31,959 11 3	20,581 14 2	14,827 10 8
Sale of Timber	15,652 8 3	13,263 3 6	10,026 8 0
Sale of Fuel	8,867 13 4	3,380 5 3	8,732 5 2
Sale of Charcoal	21,651 10 4	2,355 15 8	3,065 6 6
Sale of Seeds and Nursery Stock	356 19 2	506 4 3	412 3 2
Sale of Minor Forest Produce	301 4 5	427 19 8	1,072 18 0
Sale of Confiscations	343 15 2	198 11 7	160 4 2
Total Sales	79,133 2 5	40,713 15 1	38,296 16 2
Other Revenue :			
Rents of lands, water, etc.	278 0 2	144 3 3	248 15 6
Rents of Sawmills	135 12 8	221 16 4	187 9 5
Rents of Tractors	545 16 6	249 7 5	40 12 5
Other Revenue	605 4 5	508 19 8	190 4 2
Impounding Fees	121 14 3	66 1 6	118 12 3
Telephone Charges	204 11 8	234 1 1	284 16 6
Protection Fees	35 14 6	51 11 7	36 7 1
Total	1,926 15 2	1,476 1 7	1,106 18 1
GRAND TOTAL	81,865 12 1	42,747 5 1	40,153 9 1

APPENDIX 14.

STATEMENT OF EXPENDITURE FROM FOREST DEPARTMENT VOTES DURING THE YEARS 1946, 1947 AND 1948.

Sub-head	1946	1947	1948
	£ s. p.	£ s. p.	£ s. p.
Personal Emoluments	23,544 2 3	27,532 17 4	47,835 13 2
Travelling	4,657 17 5	5,455 11 1	5,292 14 2
Maintenance and Operation of Motor Transport	5,743 4 2	5,416 5 2	4,913 1 7
Maintenance of Plant, Machinery and Animals	1,694 0 0	1,206 9 4	1,733 16 4
Maintenance of Roads and Bridges	10,155 0 5	9,997 5 4	11,153 14 8
Maintenance and Equipment of Buildings	1,139 7 6	1,430 1 8	1,957 1 3
Maintenance and Upkeep of Stavros Forest Station	—	99 13 0	—
Transport of Materials and Confiscations	27 10 5	27 6 6	—
Fire Protection	3,264 16 2	3,355 13 0	5,071 3 6
Fire Fighting	1,511 3 1	1,366 15 0	1,701 17 0
Forest Protection	45 17 8	14 5 2	—
Telephones	2,247 12 8	3,044 19 4	2,727 19 6
Salvage of Burnt Trees	1,581 15 2	1,218 14 3	1,595 11 0
Supervision of Forest Work	2,064 11 2	2,410 9 7	—
Silviculture	882 9 0	781 1 0	892 0 3
Delimitation, Forest Survey & Working Plans	2,620 8 1	2,512 18 0	2,083 11 4
Tools	215 11 6	33 5 2	381 10 0
Water Supplies	276 14 4	453 15 7	467 7 5
Plantations, Government House Grounds	124 18 7	111 19 5	132 14 7
Rent	456 16 6	554 10 0	644 10 0
Rewards	—	—	7 0 0
Leave Pay to Regular Wages Employees	177 13 2	181 7 8	211 10 1
Uniforms	1,494 0 1	1,214 5 3	1,915 6 0
Library	13 19 5	11 13 7	45 2 1
Refunds	23 10 0	—	872 12 5
Lighting, Heating and Electric Power	234 16 5	211 7 1	299 2 1
Forestry Exhibitions	—	105 7 7	120 19 1
Incidentals	99 19 0	297 5 3	158 6 6
Extraction and Supply of Timber, etc.	—	14,127 5 4	6,199 0 2
Special Expenditure :—			
Maintenance and Upkeep of Stavros Forest Station	99 4 5	—	—
Extraction and Supply of Timber, etc.	16,942 13 7	—	—
Oil Conversion Experiments	—	116 18 1	53 2 6
Purchase of Motor Vehicles	—	5,319 16 8	4,803 11 7
Total	81,339 14 8	88,609 4 2	103,270 0 6
Less : Sales of Timber and Fuel to other Government Departments	2,323 9 0	1,666 12 6	1,507 18 2
Total	79,016 5 8	86,942 11 5	101,762 2 4

EXPENDITURE INCURRED BY FOREST DEPARTMENT FROM OTHER VOTES.

Head No. as in Estimates	Sub-head	1946	1947
		£ s. p.	£ s. p.
1947 :—			
20	Preservation of Moufflon	27 19 4	56 0 0
,,	Compensation and other expenditure for injuries to Government Employees	94 19 1	84 0 0
,,	Introduction of Game Birds	—	23 0 0
37	Reclamation and Reafforestation	32,000 9 7	38,505 0 0
,,	Soil Erosion Works	135 9 7	290 0 0
,,	Village Fuel Reserves	15,083 10 7	9,700 0 0
,,	N.S. Minor Irrigation Works	—	13 0 0
38	Forest Nurseries	—	2,891 0 0
,,	Forest Telephone System	—	2,990 0 0
App. D. Loan Services	Forest Nurseries	—	643 0 0
	Forest Roads	—	5,813 0 0
	Forest Buildings	—	11,641 0 0
1946 :—			
3B.	Improvement and Protection of Agriculture	23 16 7	—
,,	Agricultural Shows	33 16 2	—
2	Village and other Roads and Minor Works	399 19 2	—
11	Allowances and other expenses on Scholarships	16 16 2	—
	Total	47,816 16 3	72,649 0 0

APPENDIX 14.—*contd.*

EXPENDITURE INCURRED BY FOREST DEPARTMENT FROM OTHER VOTES.

Head No. as in Estimates	Sub-head	1947			1948		
1948 :—		£	*s.*	*p.*	£	*s.*	*p.*
36	Reclamation and Reafforestation	38,505	0	0	23,134	4	0
,,	Village Fuel Reserves	9,700	0	0	5,977	13	5
,,	Removal of Dhimata P. Settlement and Welfare Grants	—			3,322	13	5
37	Forest Nurseries	2,891	0	0	3,330	8	1
,,	Forest Telephone System	2,990	0	0	5,027	3	6
App. D. Loan Services	Lowland Forests	—			5,252	10	7
,,	Forest Nurseries	643	0	0	3,438	10	5
,,	Forest Roads	5,813	0	0	11,061	17	4
,,	Forest Buildings	11,641	0	0	8,843	17	6
,,	Village Fuel Areas..	—			4,203	13	4
,,	Soil Conservation	—			410	6	1
3B.	Village and other Roads and Minor Works ..	—			114	9	7
4B.	Improvement and Protection of Agriculture ..	—			49	13	6
5B.	Maintenance of Ancient Monuments	—			35	11	3
19	Compensation and other expenditure for injuries to Government Employees	84	0	0	23	10	3
,,	Preservation of Moufflon	56	0	0	89	9	0
,,	Introduction of Game Birds	23	0	0	43	10	4
28	Road for development of Government land ..	—			1,274	17	6
1947 :—							
37	Soil Erosion Works	290	0	0	—		
,,	M.S. Minor Irrigation Works	13	0	0	—		
	Total	72,649	0	0	75,634	1	1

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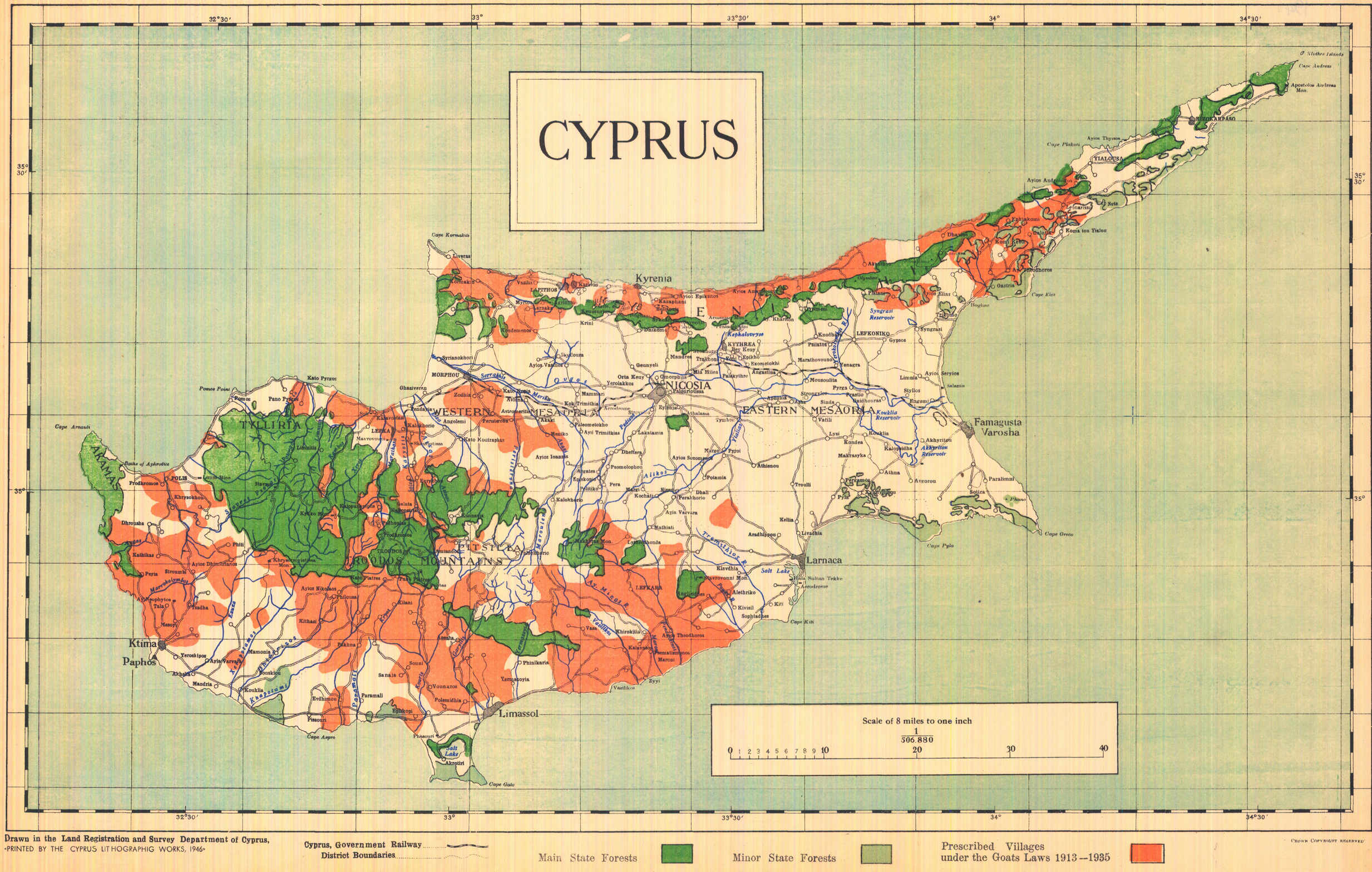

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Cyprus, Government Railway
District Boundaries

Main State Forests

Minor State Forests

Prescribed Villages
under the Goats Laws 1913—1935