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HISTORY

OF

AMPTHILL

FOREST

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AMPTHILL

FORESTRY      COMMISSION

HISTORY

of

AMPTHILL      FOREST

1920 - 1951

EAST (ENGLAND) CONSERVANCY

HISTORY OF AMPHILL FOREST

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## AMPTHILL FOREST HISTORY

### CHAIRMAN'S COMMENTS

I visited Ampthill on one occasion only (20.3.36) and cannot do better than quote the minute which I made on the Inspection Report (H.Q. file 297/32):

"The condition of the plantations at Ampthill does us no credit. Primarily the cause seems to be lack of weeding in the early stages, which has resulted in very gappy plantations where conifers have been planted in the open and practically failures over large areas where spruce has been planted in coppice.

I understand that cessation of weeding followed a direct instruction by the late Assistant Commissioner to the effect that no more money was to be spent in that direction. I do not understand why such an order should have been given, because I had laid it down from time to time that plantations, and especially spruce plantations in coppice, were to be heavily weeded from the beginning and kept weeded until the trees were able to look after themselves. The effect of not weeding spruce in coppice could, of course, have been foretold with certainty.

Apart from under-weeding there were other signs of neglect, such as the problem of rabbits, upon which the Assistant Commissioner, Mr. Taylor, had commented on a recent visit.

A concise plan to remedy the defects is now required. It should be based on a survey of the existing plantations and what is required to be done in them. The most urgent work should be taken in hand to begin with and pushed to a conclusion. As regards the spruce in the coppice, it is probable that some small portion can be salvaged by immediate cutting out of the coppice. For the rest, the coppice will have to be treated on its merits and without reference to the spruce plantings formerly made in them.

I am not much in favour of filling up the blanks in coniferous plantations with sycamore. What is required are a few big beech in the middle of each gap. They should be carefully pitted in and should be of such a size that it will not be necessary to go back to weed them. Of course, it is no use putting in beech while rabbits

are there to eat them. In areas such as this special steps should be taken to raise locally the special nursery stock required.

R.L.R. 8.4.36."

In spite of reminders little progress was made in 1939 in preparing the "concise plan" which I called for. Apparently there was further neglect or worse during the war. Even now I do not get a clear picture of the condition of the plantations and what is proposed to be done.

R. 22.1.52

HISTORY OF AMPHILL FOREST

GENERAL DESCRIPTION OF THE FOREST

Situation

The area is situated about 1½ miles due south of Bedford and takes its name from the town of Ampthill about 3 miles west of the forest.

Area and Utilisation

Most of the area of 452 acres has been under timber for many years, particularly the northern hardwood section which was well known locally for its slow grown oak timber.

TABLE I

From	By	Date	Plantations acqud.	Plant- able exclud- ing Col. (4)	Nurseries	Agricul- tural.	F. W. H. Unplant- able & other land.	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8-13)	(14)
J.H. Green	Purchase	29.3.20	62	275		123		460
Sale to Ministry of Transport.				-8				<u>-8</u>
								452

TABLE II

					<u>Acres</u>	<u>Acres</u>
(a) Plantations						
Acquired	...	...	...		62	
Formed by Forestry Commission	...	...	...		305.45	367.45
(b) In hand awaiting planting						
Blank after felling	...	...	...		3.0	
Other Land	...	...	...		1.45	<u>4.45</u>
						371.9
(c) Nurseries	...	...	...		8.9	8.9
(d) Agricultural: No. of tenancies	1	...	...		63.773	63.773
(e) F.W.H. Number: 1	...	...	...		7.65	7.65
						<u>452.223</u>

Physiography

The land is undulating and lies between elevations of 220 ft. and 380 ft. above sea level situated at the end of a low-lying ridge. The southern half of the area is more broken with shorter <sup>steeper</sup> slopes but nowhere of any severity. The general aspect is south easterly; easterly and westerly

aspects occur in the southern portion. Exposure is nowhere severe.

#### Geology and Soils

The underlying strata consists of sands and clays of the lower greensand formation and two distinct types of soil are present on the area; the Maulden Wood section of the forest is on a stiff impermeable grey clay derived by drift from the Oxford clay and this merges into a sandy clay on the southern boundary of the section.

The soil of the southern portion of the wood is a light sand derived from the underlying greensand formation. After felling, the water table is very near the surface particularly on the flatter portions of the forest.

#### Vegetation

The heavy clay areas show a typical strong growth of thorn, dog rose, bramble with patches of Juncus, Spirea and Aira flexuosa and coppice willow, aspen and hazel. On the light sands bramble and bracken predominate with some Scilla, Vicia, Lathyrus, Oxalis, Sulvia spp., Agrostis and Aira grasses.

#### Meteorology

Annual rainfall is in the region of 26 in. and the prevailing wind is south westerly.

#### Risks

Present risks are confined to trespass, particularly in the conifer areas in the southern half of the wood. There is a public footpath through this portion which is used a great deal by the people of nearby Maulden village, particularly in the collection of brambles and wild strawberries in the newly planted areas. This will, of course, eventually resolve itself.

The proximity of the area to the main road leads to many cars being parked by the side of the conifer block and trespass is generally heavy during holiday week-ends in summer, leading to vigilance in fire patrols, and near Christmas when many attempts at Christmas tree thefts are made. Small areas near the main road were destroyed by fire in the early years.

Rabbits no longer constitute a major problem but grey squirrels and deer cause periodic trouble.

Myelophilus piniperda has caused heavy damage in the Scots pine plantations in the past but no major pest is now present in the area.

### Roads

The area has always been well served with rides and although no metalled roads existed the proximity to the main road made the area an easy one for exploitation in the past.

### Labour

In the initial stages in the formation of the forest, the labour supply was adequate to enable all necessary maintenance and nursery work to be carried out, but in recent years the supply of labour has diminished and, at present, it is inadequate and only permits essential maintenance and a very much reduced nursery programme to be undertaken.

## SILVICULTURE

### Condition of the Area at time of Acquisition

The whole area was sold to a timber merchant during 1914-18 who cleared the older timber in the most accessible areas. In the southern portion, Pennyfather's Wood, a Scots pine, European larch, oak, sweet chestnut, and sycamore mixture was cleared leaving small patches of inferior Scots pine with European larch 10-15 years old and pockets of sycamore and sweet chestnut coppice. In Maulden Wood the more mature oak, ash and elm timber was cleared except for patches in the valley bottom, previous estate plantings P.05-P.10 of oak, ash and elm with some Scots pine and European larch were left more or less intact.

When the Forestry Commission assumed control in late 1920, apart from the pockets of older oak of reasonably good form where the sand and clay merged, and the estate plantations, the whole area had been cut over with only poor isolated standards of oak, ash, beech and elm remaining.

### Choice of Species

The felled areas were planted up with Norway spruce and European larch F.Y.20 and 21, and a limited amount of Abies grandis was introduced under the older oak. Replanting of the Pennyfather's area was next started in 1923 when European larch, Douglas fir, Japanese larch, Corsican pine and Scots pine were used. Much of the Douglas fir was a complete failure and a certain portion was replanted with black Italian poplar and subsequently beaten up with Scots pine which now forms the main crop with scattered



poplar; other areas were replanted with pure Scots pine. The Japanese larch also failed badly in patches due in part to bad planting. Heavy beating up was done in P.31 with European larch and Scots pine in pure patches. Corsican pine also failed in patches and was beaten up with Scots pine which took successfully.

Coppice from the cut over oak, chestnut and sycamore stools competed strongly with the conifers, adequate weeding was not carried out and heavy beating up over all the conifer area was necessary. European larch suffered particularly. Rabbits were also numerous and little appears to have been done to combat them.

In the Maulden Wood area weeding was quite inadequate and much of the conifer planting was entirely suppressed from an early stage by oak, ash, elm, aspen and hazel coppice.

In 1928-29 some old arable ground was taken in hand; one-year oak was notched which checked badly in the thick thorn, heavy beating up of European larch was done in 1931 as it was thought that the oak crop was very incomplete. An adjoining field was skim ploughed in 1929 and acorns were sown in the furrows. The area was heavily beaten up with two-year seedlings in 1933 and again in 1937. The oak remained in check for many years due to the impoverishment of the soil and really did not move until 10 years after planting.

Planting of arable ground was also done with Scots pine and European larch both were failures and replanting was carried out with Scots pine entirely. Further failures were encountered in the dense thorn which came in, probably due to rabbits, as no internal netting was carried out until 1931. Heavy beating up with Scots pine continued up to 1937.

In certain other parts sweet chestnut coppice was accepted as part of the crop.

#### Maintenance of the plantations

At this time no weeding of the Norway spruce areas was to be carried out except where pure hazel occurred. Later the policy was changed to allow for partly suppressed Norway spruce to be cleaned leaving ash, oak, and elm coppice stool shoots to form part of the crop; where complete suppression occurred the hardwood coppice was to be thinned and accepted as the crop; hazel coppice was to be sold standing.

A small area in Maulden Wood was cleared of inferior standards by fire-wood merchants, and planted with pure Norway spruce and pure oak. Very small conifer plants were used and they did not receive adequate attention and part was completely suppressed by the coppice. This was cleared and replanted with poplar (at 12 ft. x 12 ft.) which checked for 7-8 years in the thorn and coppice. The oak (P.30) appeared to be largely a failure and heavy beating up was carried out with 2 + 2 ash. The area was fully weeded in 1934 and a good oak crop with scattered ash was found to be present.

Patches only of Norway spruce survived in the P.20, 21, plantings and these were gradually freed; where no Norway spruce occurred, thinning of the oak and ash coppice took place to obtain a pole crop.

In the early conifer plantings cleaning of chestnut and oak was necessary in parts up to 1937; European and Japanese larch suffered severely and in some cases meant virtual replanting with Scots pine. Where large gaps occurred in Douglas fir, Corsican pine and Scots pine crops after cleaning out the coppice Scots pine was used in beating up, otherwise, in small gaps, beech was planted. In many cases a wastage of plants occurred in beating up these blanks too heavily and too close to the standing crop.

Where old oak and chestnut had previously been left to form part of the crop these were now (1937) taken in hand, the coppice was thinned out and beech underplanted.

Beating up with Scots pine in the large gaps and beech in the small gaps in Corsican pine and Douglas fir continued up to 1939; large beech only was to be used and planted at closer spacing (3 ft. x 3 ft.) than hitherto.

At this time best growth in conifers was shown by small patches of Corsican pine on the ridges, they were well over 20 ft. and growing vigorously. Scots pine although vigorous enough had a very ragged and open habit and were prone to beetle damage, particularly in plantations adjoining the older acquired conifers. After many failures the Douglas fir had established itself in patches and was making fair growth and killing out the coppice. European larch continued to show poor progress in growth and in form, probably due to bad planting and low quality plants.

In the pure plantings of Scots pine on the old arable the crop was now established in the thorn and growing well although the undergrowth was never completely killed out under the open crown habit of the conifers and briars

and thorn persisted up to the thinning stage in certain parts.

The scattered European larch which persisted from the initial planting showed much better form and growth than in the pure plantings in coppice. For rates of growth of different species see Appendix III.

The pure oak plantings and beat ups were now (1939) making a start, stocking was good and the trees were overcoming the thorn which in this part had been cut hard back for the past two years. The area needed watching but the oak could probably now be left without further weeding.

On the hardwood areas the coppice had been cut hard back where sufficient Norway spruce were present. A scattering of singled out ash, oak, elm, and aspen coppice had been left to prevent windthrow. The coppice was sold in sections where sufficient Norway spruce occurred. Elsewhere the coppice would be thinned out to form the final crop.

The pruning of oak was considered advisable in the acquired oak plantations where selection was limited.

The pure oak, P.30 plantings, after three weedings, were now firmly established; the surviving block of P.28 Norway spruce was beginning to get away among the coppice and briars and was fully stocked, and the small area of poplar was also now growing and getting through the undergrowth.

Generally the policy (1940) with regard to the replanted hardwood areas was that where the Norway spruce were completely suppressed the coppice was to be allowed to grow on to form the main crop, where there were sufficient Norway spruce worth saving clearing of the coppice was to be continued.

In the P.29 oak, which was still very gappy, Norway spruce was planted at 12 ft. spacing where the oak could not easily be found, to facilitate weeding, nurse the oak and provide Christmas trees in a few years' time.

Weeding of the P.30 oak and ash was completed this year.

In the heavy clay area a good system of drains was originally laid out but upkeep was not adhered to until in recent years when a systematic plan of work was made out.

During the war years there appears little doubt that a great deal of bad silvicultural work was done in that coppice was robbed of the best stems to meet orders for local demands for rails, posts, etc., and an enormous quantity of the better spruce were cleared for Christmas trees leaving rubbish coppice to grow up again. The remaining spruce have been systematically cleaned and amazing growth has been put on in recent years,

indicating that a really good crop of this species could have been present on the ground if adequate attention had been given in the weeding and cleaning periods.

#### Underplanting

Small portions of mature timber have recently been felled and planted experimentally either in the open or under a light cover of aspen, ash, etc., with beech, silver fir, Lawson's cypress, Thuja, Douglas fir and Scots pine. So far the Lawson's cypress, Thuja and silver fir have responded quite well. Recently several acres of very poor coppice oak, ash, and aspen were heavily thinned and underplanted with Douglas fir and Lawson's cypress. In the succeeding abnormally wet winter deaths were heavy.

#### Nursery

A five acre nursery was established on the light sandy soil in 1920, and continued in full production until 1947 when, owing to extremely dirty soil conditions, coupled with chafer infestation, it was decided to clear fallow the nursery for a two to three year period.

To compensate for the loss of productive area necessitated by the above action, additional nursery area (4.9 acres) was taken in hand in 1947, but a portion of the extension proved unsuitable and was given over to plantation purposes. The total nursery area is at present 8.9 acres.

In recent years a portion of the old nursery has been under Research Branch control and various experiments, mainly in connection with soil sterilization, have been undertaken.

In general, the nursery is suitable for the production of oak, and also for conifer and hardwood transplants. Intense infestation of the soil with Poa annua rules out the use of the nursery for conifer sowings.

#### Thinning

Thinnings commenced in the acquired Scots pine plantations in Pennyfather's Wood in 1931 and continued at three-yearly intervals up to 1939. The crop was poor and flat-crowned and made little response and was eventually clear felled during the war years by the Timber Production Department for pitwood. Beech was planted pure but failed badly through drought. It was heavily beaten up with Corsican pine and a mixed crop is now getting away.

Thinnings in the planted conifer areas started in 1935 with light thinnings in the advanced portions of the P.23 European larch. No ordered plan of thinnings was laid down. The good Corsican pine areas were first thinned in 1943 and some again in 1947; advanced portions of the Scots pine and Douglas fir were treated from 1947 onwards, only a few acres being done each year.

First plantings of Scots pine showed rough open growth with many misshapen stems due to beetle attack and possibly snow damage and first thinnings concentrated on the removal of these as much as possible. Douglas fir showed varied growth the best being on slopes with an eastern aspect where growth has been fairly good and thinnings normal; elsewhere many main leaders have gone and growth is patchy.

In the Maulden Wood hardwood area thinnings commenced in 1932 in the acquired plantations, no systematic plan was in force and only advance portions of a few acres were tackled as deemed necessary.

A few acres of older oak were clear felled during the war years and replanted with pure oak on a slight slope. The oak has got away well.

### Conclusions

The area shows the fallacy of lack of weeding and cleaning in coppice areas. Of the P.20 and 21 Norway spruce and European larch planting on the felled hardwood area little remains but what is left is now growing amazingly well; elsewhere on the flat heavy clays we have a very poor coppice crop which has the appearance of having been picked over for the better poles. Little was done in the early selection of the better poles in these crops to give them preferential treatment in thinning and pruning, to ensure a final crop of the best available trees.

Drainage was also badly neglected and fencing quite inadequate from the evidence of the growth of the surviving spruce the better policy would have been an oak/spruce mixture with, of course, the necessary attention to weeding, cleaning and drainage.

On the heavy clays ground/<sup>cover</sup> must be maintained, the coppice crop as it now is must be accepted and the best trees favoured by thinning and pruning where necessary with a view to possible underplanting later. Where the clay merges with the sand, growth of the older oak now present is infinitely

better, ash too is of reasonably good form and there is no doubt that these sites are suitable to oak and probably to ash in groups. The present small plots of oak, varying from 80-120 years, are not a true indication of what could be produced as little has been done to improve these stands and there is little that can be done now.

On the sand area Corsican pine is undoubtedly the best species on the evidence to date. Scots pine of the older crops, although vigorous enough, is of poor form (younger plantations show normal growth), and Douglas fir and European larch are too unreliable to warrant persevering with these species, except in the most sheltered valleys and slopes. Here again inadequate weeding led to prolonged beating up and establishment period, so that we now have very irregular plantations of the various species.

No systematic plan of working ever appears to have been in force for the forest.

## AMPHILL FOREST HISTORY

### ADDENDUM

#### Hardwood Area

This area can broadly be divided into hardwoods/Norway spruce, oak standards with natural underwood of mixed coppice, seedling and sucker trees semi-mature and mature timber and plantations. Work has been planned to treat the most promising areas of hardwoods/Norway spruce, and oak standards with coppice, etc., on its merits, where a reasonable number of desirable tree species exist these are being given the necessary thinning treatment.

#### Types of Stands:-

I. Hardwoods/Norway spruce areas containing the highest proportion of surviving spruce, these consist of scattered oak standards with an uneven understorey of coppice, ash, elm, seedling oak and aspen all up to 20 ft. with hazel coppice.

The Norway spruce (10 ft. - 30 ft.) are irregularly distributed throughout. Cleaning has now been completed over half the area (giving a fair return of binders and stakes) and thinning will continue, favouring the best of the conifers and training the ash coppice into high forest. A reasonably good mixed crop of oak, ash and Norway spruce should result.

The conifers have grown remarkably well during recent years (up to 3 ft.), and although they are not expected to last over 50 years on the heavy soil their initial growth is distinctly encouraging and there is no doubt that had adequate and proper attention been given in the past good pole crops would now be on the ground.

The balance of this type of area will be completed the next forest year.

Small areas of pure Norway spruce with some European larch and coppice ash occur up to 30 ft., these are quite promising and the necessary brashing and thinning treatment has been laid down.

II. Scattered oak standards with seedling oak, coppice ash, elm and aspen, with maple and hazel. These areas are treated on their merits - the best oak earmarked for pruning where necessary and the coppice thinned and trained up into high forest - this work is now proceeding.

Small experimental portions of conifer plantings of Lawson's cypress, Thuja, Tsuga, Douglas fir and Corsican pine have been laid down in recent years with a larger area of the worst aspen covered ground heavily thinned and underplanted with Douglas fir.

III. P.20 - a poor crop (20 ft. - 25 ft.) has the appearance of having been overthinned as it tended to flatten out in the crown. Marking of the final trees with pruning will probably be necessary here.

Scattered patches of ash and elm coppice with a few oak standards occur, they are to be thinned to go up with the main oak crop.

IV. Areas of mature and semi-mature timber. Scattered small portions occur mainly where the sand and clay intermix, the trees are of fair quality, 15 ft. - 25 ft. boles, although the ash is dying off.

Patches of poor elm and oak timber occur on the clay and require clearing and replanting.

V. Oak, ash, Scots pine, European larch about P.00 - a small area overthinned during the war for pitwood after no previous treatment, has left an open crop of small crowned trees which may eventually close in; no treatment required.

The only portion of pure ash about this age is a few acres along a stream side. Although about 40 ft. in height, stem form is rough and branching, thinning is to be done this early spring.

VI. P.30 oak/ash about 15 ft. slow but canopy is now closing.

P.28 oak on ploughing. Growth is very irregular, from 4 ft. - 20 ft. the best trees occur in the hollows and patches have closed canopy and cleaned the growth; in other portions the trees are struggling with grass and briars. An overall improvement has been noticed over the past few years and the better portions are gradually extending; the growth is probably correlated with soil texture and past treatment of the ground.

P.28 Norway spruce, 10 ft. - 25 ft. suffered from lack of weeding and cleaning but sufficient remain to close canopy and kill off the coppice. Now growing quite fast and closing up.

P.28 poplar - growing well (up to 40 ft.) but with an impenetrable mass of thorn and coppice underneath. Pruned as required.



For inclusion in the hardwood stands the small portions of sycamore and sweet chestnut on the sand areas can also be mentioned. The chestnut particularly, mainly from coppice, is showing good growth and form, now of small timber size; the necessary thinning treatment is being carried out.

Conifer Areas. P.23 - P.29

On these areas a 4 -year thinning cycle has been laid down. The plantations adjoining the war felling of semi-mature conifers suffered from beetle damage and sudden exposure. Recent thinnings have aimed at removing infected material. The Scots pine are of variable quality, the poorest are on the top of the slopes, the crowns here are very open and coarse, although growth in itself is average.

In the hollows a better quality of tree occurs with more compact crown, and past thinnings have decidedly improved the crop.

Exposure to the south west has a decided adverse effect on Douglas fir and many of the trees in such a position have lost their leaders. Elsewhere in more sheltered conditions growth is normal and good increment is being put on.

Stands of European larch are disappointing, exposure to the south west may be a factor as evidenced by the poor leaders and stunted growth; in certain pockets only the larch attains its normal rate of growth.

Corsican pine on the top of the slopes is growing fast and well and should probably have been persevered with. Second thinnings are due to be carried out this forest year.

In certain places sweet chestnut coppice was not attended to and will have to be accepted as part of the crop.

Beech was put in from 1936 onwards in what then appeared to be gaps in the plantations. In very few cases as it has now proved was this necessary; the beech never got away fast enough, the conifer closed in and the hardwood has been suppressed ever since.

Over most of the area regular thinning will result in fair plantations of conifers with the Corsican pine outstanding.

D. Grant.  
District Officer.

APPENDIX I

NOTES FROM INSPECTION REPORTS

11.5.31 - Assistant Commissioner

Instructions relating to various silvicultural aspects were laid down.

Wherever necessary blanks to be beaten up. European larch to be beaten up with Scots pine on the low ground.

In the coppice areas no underwood to be cut where oak and ash have been planted; where there is oak and ash coppice no underwood is to be cut but it is to be allowed to grow up and form poles; no cleaning of young Norway spruce areas to be carried out except where hazel occurs pure and that to be sold if possible.

8.5.35 - Assistant Commissioner

The poplar, replanted on the failed P.23 Douglas fir area and finally beaten up with Scots pine to be favoured and pruned. In the open Scots pine, European larch, Douglas fir stands with oak and chestnut coppice the coppice to be thinned out to obtain a mixed crop.

Hazel coppice over Scots pine in the older oak stands to be sold but no ash or oak coppice to be cut.

Cleanings of partly suppressed Norway spruce to be done leaving scattered oak, ash, and elm, coppice shoots as part of the crop.

Report on Chairman's Visit to Ampthill

20.3.36

Compartment 16. P.24.

Corsican pine and Douglas fir consists of a very gappy crop. The bigger gaps are to be beaten up as soon as possible.

At the north end of the Compartment coppice of sycamore, oak, sweet chestnut has suppressed the Douglas fir. There is a scattering of natural sycamore coming up. The coppice stools are to be thinned out (or, alternatively, the coppice is to be sold standing and the area replanted).

Compartment 15. P.23.

The valley originally planted with Douglas fir which was a failure has from time to time been beaten up with Black Italian poplar, and has again been beaten up with poplar this year. The hillside facing West was originally planted with Corsican pine which was almost entirely a failure. This was beaten up with Corsican pine and sycamore in P.33 and has again been beaten up with Scots pine this year. On the east slope the Corsican pine is rather gappy and the larger gaps are to be beaten up.

Compartment 14. P.23

North end was originally planted with Japanese larch and was almost a complete failure. The area was beaten up with Scots pine and European larch in P.32, which now form a complete crop.

Compartment 20b. P.31

Planted with Scots pine. There is now a complete crop on the ground average 2 ft. high.

Compartment 18. P.28.

West end planted with oak and beaten up in P.30. The oak well nursed by thorn in the south-west corner is beginning to get away. On the higher ground the oak is very small and is still in check. Natural ash is coming up where the thorn is thick.

Compartments 4 and 2. P.20.

Originally planted with Norway spruce which has now been practically entirely suppressed by dense coppice of ash, hazel, oak and elm and a few natural oak. The coppice stools are to be thinned out leaving the best ash and oak poles to form the crop.

Compartments 1 and 2. P.20.

Originally planted with Norway spruce which has been largely suppressed by the coppice. Wherever patches of Norway spruce appear the coppice is to be cut hard back and kept weeded. A strip along the north side of Compartment 1 where there is a fair amount of Norway spruce is to be cut at once to give the Norway spruce the benefit of this year's growing season. Where there is no Norway spruce the coppice is to be thinned out leaving the best shoots to form the crop.

Compartment 6. P.20.

Planted with Norway spruce. A certain amount of weeding has been carried out in the past with the result that there is a fair crop of Norway spruce on the ground. All coppice is to be cut hard back to give the Norway spruce full light.

Compartment 7

West side contains a mixed crop of oak and ash about 35 years old part of which has been recently thinned.

General

Rabbits throughout the area are to be got rid of.

(Sgd) D. F. STILEMAN

21.3.36

(Intd) W.L.T. 30/3/36

3.4.37 - Sir Alexander Rodger

General inspection of the progress of the plantations. Beech was to be planted in gaps after cleaning of coppice in older conifer plantations.

4.1.39 - Assistant Commissioner

Future treatment of the nursery stock was discussed.

In the beating up of blanks in the older conifer plantations large beech only were to be used and at close spacing in the centre of the gaps.

In the P.28 poplar, beaten up with Scots pine in P.29, the poplar were only to be removed where they were damaging two or more good Scots pine. Corsican pine to be dewolfed as soon as possible.

Where chestnut occurs in definite groups, the coppice to be thinned out to form part of the crop.

In the acquired 30-year oak, ash and elm plantation, pruning of the oak might be advisable after thinning where there is a limited selection of trees.

21.11.40 - Assistant Commissioner

Corsican pine was thought to be the best tree for the light sandy soil in view of the poor development of the acquired Scots pine.

In the P.29 oak Norway spruce should be planted at 12 ft. spacing wherever an oak is not easily found, this will facilitate weeding, help to nurse the oak and provide Christmas trees in a few years' time.

The P.20 spruce areas to be dealt with as at present, i.e. where Norway spruce are completely suppressed the coppice to be allowed to grow on as the final crop; where sufficient spruce are present cleaning to continue as required.

The coppice to be transferred to Timber Production Department on an acreage basis.

APPENDIX II

Supervisory Staff in Charge of Amphill Forest

Year	Forester	District Officer	Div. Officer	Conservator
1920	Henman		W.L. Taylor	
1921				
1922			A.P. Long	
1923				
1924				
1925				
1926			A.L. Felton	
1927		Childs		
1928				
1929	Parker			
1930	J.H. Craft	D. Murray		
1931		D.F. Stileman		
1932				
1933				
1934				
1935				
1936				
1937				
1938				
1939	Crawford			
1940			F.C. Best	
1941				
1942				
1943				
1944				
1945				
1946	L.D. Ingram	R. Carnell		C.A. Connell (1.1.46) A.D. Hopkinson (March 1946)
1947			G.W. Backhouse	
1948				
1949			G.F. Ballance	G.W. Backhouse
1950		D. Grant	A. Paterson	
1951				
1952				

APPENDIX III  
Rates of Growth

Cpt.	Species	P. Year	Age	Geology and Soil	a. Altitude b. Aspect c. Slope d. Exposure	Mean ht. of dominants (ft.)	Mean annual height increment (in.)	Current annual height increments during last 5 years. (in.)
1	N.S. oak	21	30	Middle oolite heavy clay with some small flints	a. 350'	26	10 $\frac{1}{2}$	19
	Ash	10 approx. do.	41 "		b. Not marked c. None d. Slight	26 26	8	6 10
2	Ash	do.	41	do.	a. 330' b. Not marked c. None d. Slight	32	10	10
3	N.S. Oak	21	30	do.	a. 350'	26	10 $\frac{1}{2}$	19
		10 approx. do.	41		b. Not marked c. Mainly flat d. Slight	28	8 $\frac{1}{2}$	6
4	Oak	1880?	70	Heavy clay in N. portion Sandy loam in S. portion.	a. 300'	45	7 $\frac{1}{2}$	2
	" Ash	20 "	31 "		b. SW c. Gentle slope d. Slight	35 "	14 14	8 9
5	N.S. Poplar Oak	28	23	As Cpt.1	a. 320'	23	12	14
		"	"		b. )Gentle slopes on valley sides otherwise flat.	26-36	13-19	20-30
		30	21		c. ) d. Slight	15	9	12
6	Oak	1880?	70	Heavy clay becoming much lighter on lower slopes.	a. 300'	45	7 $\frac{1}{2}$	2
	"	19	32		b. )Gently rolling	44	16	8
	Ash	"	"		c. )with NE and SW aspects on valley sides.	"	"	5
	SC	-	-		d. Slight	45	-	1 $\frac{1}{2}$
EL	00	51			44	10 $\frac{1}{2}$	13	
7	Oak	48	3	Heavy clay in N. Portion. Becoming lighter in S. Portion.	a. 300'	3		6
	S.P.				b. SW & NE	5		12
	NS	00	51		c. Gentle slopes	45	10 $\frac{1}{2}$	"
	EL	00	"		d. Slight	"	"	13
	Oak	05	46			"	12	4
NS	21	30			28	11	14	
8	Oak	12	39	As Cpt.1	a. 320' b. E & W c. Gently rolling d. Slight	32	10	10
9	Oak NS EL	1880?	51	do.	a. 300'	50	12	2
		21	30		b. SW	28	10	14
		"	"		c. Gentle slopes d. Slight	"	"	12
10	SC	10	41	Lower green-sand, light sand.	a. 250'	30	9	4
	Syc.	"	"		b. ) W. part & ) Plateau	"	"	"
	Beech	46	5		c. ) E. part steep slopes mainly E.	5 $\frac{1}{2}$	-	6
SP	48	3	d. Moderate.	4 $\frac{1}{2}$	-	11		

Cpt.	Species	P. Year	Age	Geology and Soil	a. Altitude b. Aspect c. Slope d. Exposure	Mean Ht. of dominants (ft.)	Mean annual height increment (in.)	Current annual height increments during last 5 years (in.)
11	S.P. D.F. EL Beech SP	23 " " 46 49	28 " " 5 2	Lower green sand, light sand.	a. 200' b. ) W. part a c. ) plateau. E. part has steep E. slopes. d. Moderate	32 " " 3½ 3	13½ " " - -	14 8 13 5 12
12	SP Beech	23 46	28 5	do	a. 200' b. ) Plateau in E. c. ) becoming a mod. SE slope in S. d. Moderate	32 5½	13½ -	14 6
13	EL SP SC	23 " "	28 " "	do	a. 200' b. Mainly E. c. Gentle slopes d. Moderate	26-31 30-35 30	11-13 13-15 13	8 16-17 10
14	EL SP CP JL	23 " " 47	28 " " 4	do	a. 250' b. ) Plateau in c. ) E. Slopes W & SW in W. portion. d. Moderate	28-35 32 42 6	12-15 13½ 18 -	8-10 14 18 11 (occ'l only)
15	SP CP Pop. SP	23 " 30? 40?	28 " 21 11	do	a. 250' b. N & W c. Gentle d. Moderate	25-34 38 40-50 10	11-15 16 30 12	14 17 24 19
16	CP SP DF SC JL SP CP	24 " " 10 45 25 "	27 " " 41 6 26 "	do	As Cpt. 15	35  32-40 32 8 30 "	19  14-18 9 - 15 "	18  12-20 4 15 15 "
17	SP EL	28 "	23 "	do	a. 250' b. Not marked c. Flat d. Moderate	25 "	13 "	16 "
18	Oak NS EL	22 N, I 32	29 N. I 19	Heavy clay with some small stones.	a. 300' b. None c. Flat d. Moderate	12 6 16	5 - 9½	8 14 12
19	Oak NS	22 N. I.	29 -	do	a. 300' b. None c. Flat d. Moderate	15 6	5 -	8 14
20	SP	29	22	Sandy loam	a. 250' b. E. c. Moderate d. "	30	16	19





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