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# FORESTRY COMMISSION

# HISTORY

of

SLALEY FOREST

<u> 1930 - 1952</u>

NORTH EAST (ENGLAND) CONSERVANCY

# HISTORY OF SLALEY FOREST

.

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# HISTORY OF SLALEY FOREST

# COMMENTS BY CONSERVATOR

Slaley is one of those moorland areas where, inevitably the Forestry Commission had to learn the technique of afforestation, and as such has been valuable. Had planting started in 1951 instead of 1931, results would be very different.

As it is, the lack of cultivation on the dominant <u>Calluna</u> moorland at a high elevation has resulted in very slow growth, some of the first plantations still being in check, with groups of trees still fighting the heather. Beating up has been exceptionally heavy and weeding prolonged.

The Sitka spruce in mixture with the Scots pine on the moorland has failed, for the same reason, (lack of cultivation) and also due to the fact that being in a one row mixture with the pine, initial check due to heather has now been succeeded by suppression by the pine closing over the checked spruce.

Corsican pine is everywhere heavily diseased and dying.

The lessons that Slaley has to give have been learnt there and elsewhere, and a similar area could now be tackled with confidence. There is no doubt that Slaley itself will slowly grow up into a reasonable forest.

> C. A. Connell 12th February, 1952.

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## HISTORY OF SLALEY FOREST

## GENERAL DESCRIPTION OF THE FOREST

#### Situation

Slaley Forest, which is 6 miles south of Hexham and 21 miles from Newcastle, comprises some 1,200 acres of forest land. The forest lies in the Parishes of Slaley and Shotley High Quarter in the County of Northumberland and is bounded on the eastern edge by the main Hexham to Blanchland County Council road.

In 1946 an additional area was leased. This is Stotsfold Plantation and it lies 3 miles from the main block in a westerly direction.

The forest is named after Slaley Parish. The name Slaley is the modern spelling of the word Slauele, one Gilbert de Slauele (or Slaveleia) being in possession of the area towards the end of the 12th century.

#### Area and Utilisation

The total area purchased in 1930 was 1431.717 acres. In 1937 0.210 acres was sold to a Mrs. Eastcott for the building of a cottage.

In 1946, 48.008 acres was leased from R.B. Charlton. This addition was Stotsfold Plantation (Felled 1941). Cocklake Farm and Trygill Farm were disposed of to Ministry of Agriculture on 11.11.50 and 13.5.51 respectively.

The total area of the forest is now 1,319.294 acres.

From	By	Date	<b>Plantations</b> Acquired	Plantable excl. col.4	Nurseries	Agriculture	F. W. H.	Unplantable excl. col.4	Other land Desoription	Årea	Total
(1)	(2)	(3)	(†)	(5)	(9)	(2)	(8)	(6)	(01)	(11)	(12)
Capt. Percy Lloyd Huntin											
and	Purchase	28.3.30	15.483	1250.4	1	142.902	J4- 932	8.000	3	I	717.1241
Mrs. W. Simpson of Slaley Hall	_										
				As per convey	yance dated	<b>28.</b> 3 <b>.</b> 30					
Roy B. Charlton	Геазе	9.9.46	Ţ	48.008	1		1	1	1	I	48.008
				As per conve	yance dated	9• 9• 46					
										Total	1479.725

TABLE I

At the time of writing (January 1952) the distribution of area is shown below in Table II.

		TABLE	II	
a)	Plantations			
	Acquired		7.0	
	Formed by Comm	nis <b>sion</b>	<b>1244.</b> 8	1251.8 acres
ъ)	In hand awaitin	ng planting	-	
	Blanks after f	Celling.	-	
	Burnt areas		-	
	Other land		-	-
c)	Nurseries		-	-
a)	Agriculture. N	No. of Tenancies	- 1	35.476
e)	F. W. H. N	lumber	- 4	14 <b>.</b> 99 <b>3</b>
f)	Unplantable lar	nd in hand		16.505
g)	Other land (Foresters Ho	ouse and surround	a)	• 730
	Transferred to	Ministry of Agr	iculture in 1951	160.221
			Total	1479.725 acres

The area was previously utilised as a grouse moor which produced between 1930 and 1940 an average annual bag of forty five to fifty brace, but as a result of planting operations the grouse have now disappeared and the average bag is now three or four pheasants with an occasional partridge and woodcocks. The shooting was leased on 2.2.30 for 60 years at a rental of £5. per annum.

The three acquired farms were originally sheep farms but as the area was planted up the husbandry changed and the remaining land is now used for grazing dairy cattle.

# Physiography

Elevations range from 700 ft. to 1170 ft. above sea level with most of the area forming a plateau 1000 ft. to 1100 ft. high. To the north moderate slopes fall to the Flothers, Strothers and Stoney burns. The western area of the forest, Dukesfield Fell is severely exposed to the west. Coalpits

Fell is moderately exposed and the northern section by comparison is sheltered.

#### Geology and Soils

The formation is Lower Carboniferous of the Palaeozoic series with Millstone Grit being found over large portions of the forest. The resulting soil is mainly sandy but with patches of heavy clay. On the moorland from 2 in. - 8 in. of mineralized peat forms the soil covering and there is a hard but discontinuous pan.

#### Vegetation

Over the entire upper part of the forest the vegetation is practically pure <u>Calluna</u> with occasional <u>Deschampsia flexuosa</u>, <u>Erica tetralix</u>, <u>Erica</u> <u>cinerea</u> and <u>Molinia caerulea</u>.

There are occasional moor flushes where the <u>Calluna</u> decreases and gives way to a vegetation of grasses and mosses. Such grasses as <u>Holcus lanatus</u>, <u>Deschampsia caespitosa</u>, <u>Molinia</u> and <u>Nardus stricta</u> are common in this type with occasional <u>Scirpus caespitosus</u>. In the wetter flushes <u>Polytrichum</u> and <u>Juncus</u> are found.

On the moorland area bogs occur displaying the usual type of vegetation e.g. <u>Scirpus caespitosus</u>, <u>Eriophorum vaginatum</u>, <u>Molinia caerulea</u>, <u>Calluna</u> <u>vulgaris</u>, <u>Erica tetralix</u>.

The northern part of the forest consists of grass slopes on which the vegetation is variable and the following species are found in varying frequencies: - <u>Holcus lanatus</u>, <u>Deschampsia caespitosus</u>, <u>Molinia caerulea</u>, <u>Festuca spp</u>. and <u>Nardus stricta</u>.

Occasionally bramble, heather and gorse are found with gorse dense in some localities.

#### Meteorology

#### Rainfall

There is no exact meteorological record of rainfall in the immediate vicinity but it is probably in the region of 35 in. to 40 in. per annum. The following figures were obtained from Hexham Urban District Council but since Slaley is 800 ft. higher than Hexham they are probably much lower than the precipitation in the forest.

Year	Rainfall (inches)	Year	<u>Rainfall</u> (inches)
1923	<b>2</b> 0.26	1936	29.50
24	21.96	37	26.58
25	31.26	38	25.45
26	32.01	39	29.79
27	<b>35.7</b> 0	40	27.04
28	21.62	41	26.22
29	21.06	42	20.00
30	29 <b>.</b> 96	43	27.26
31	28.46	44	30.39
32	26.03	45	22.34
3 <b>3</b>	21.88	46	25.78
34	28.47	47	30.23
35	28.12	48	30.45

Average Annual Rainfall (1923-48) = 26.84 in.

# Frost

Frosts are occasionally severe. The following figures were recorded

# in Hexham for 1951.

<u>Month</u>	Days of Frost	Maximum degrees of Frost
January	15	170
February	17	100
March	18	150
April	4	11°
May	5	20
June	_	-
July	-	-
August	-	-
September	-	
October	2	10 <sup>0</sup>
November	1	4°
December	7	13 <sup>0</sup>

# Snow

At this elevation snow lies for considerable periods during the winter months.

# Wind

The prevailing and storm wind is from the south-west.

# Temperature

There are no temperature figures for the area and again the figures given below were recorded in Hexham in 1951.

Month	<u>Mean Temperature</u>	Hours of Sunshine
	(FO)	
January	37.03	44
February	36.5	62
March	37.0	.81
April	42.55	144
May	47.16	110
June	54.88	158
July	60.96	138
August	58 <b>.03</b>	86

<u>Mean_Temperature</u> (F <sup>0</sup> )	Hours of Sunshine
56.61	112
49.46	96
45.11	50
36.42	49
	<u>Mean Temperature</u> (F <sup>0</sup> ) 56.61 49.46 45.11 36.42

# <u>Risks</u>

## Fire

The chief danger to the forest is fire. Due to the young plantations (all P.31 - P.49) the forest is at a vulnerable stage. The danger is further increased by the fact that the area is bounded on the eastern edge by a main road and there are rights of way across the moor. There is always a certain amount of danger from moor burning on adjoining estates. The area has now been well divided up by fair weather roads and the Fire Brigade is within easy call.

# Weather

Damage from the elements has not been serious though slight damage has been done by snow to Scots pine.

# Insects

In the earlier years, due to the felling of old standing timber, there was an increase in the Pine Weevil population and trapping was carried out. In recent years there has been little weevil damage.

# Fungi

Corsican pine is suffering severely from fungal attack. The fungus is believed to be <u>Brunchorstia</u> and specimens of diseased twigs have been sent recently to the Research Branch for investigation. Canker has caused a certain amount of damage to European larch planted in 1931.

# Trespass

The rights of way through the forest are used frequently by hikers but little damage has been done to the crop.

# Vermin

During the early years rabbits and roe deer were numerous but there is now no evidence of any damage caused. At present there are few rabbits on the area but Douglas fir planted in 1951 under a P.31 European larch crop has recently been damaged by roe deer.

#### Roads

The forest is bounded on the eastern edge by the main Hexham to Blanchland tar macadam road. There are also two partly metalled roads intersectin and adjoining other portions of the property. During the summer of 1949 a network of fair-weather roads was constructed in the forest. These fairweather roads (about 25 ft. wide) which cost approximately £124 per mile, act as fire breaks and will be of immense value when thinning commences.

# Labour

The labour force of four is regarded as being sufficient for the time being but with the advent of thinning, scheduled to start in F.Y.53, the labour force will have to be increased. Labour will probably be available in the district when required. On occasions labour from Widehaugh has augmented the local squad.

#### SILVICULTURE

## Preparation of Ground

The only ground preparation before planting was burning of heather and screefing of the soil. By the time operations commenced in this forest the desirability of planting on turves had been realised with the result that all Sitka spruce on unploughed ground has been turfed.

Temporary fences were erected as the ground was resumed but the area is now completely planted and only boundary fences have to be maintained.

# Choice of Species

In the first year's planting (P.31) Corsican pine was the main species used, with <u>Pinus contorta</u> and Sitka spruce to a lesser extent. Sitka spruce was planted on the non-<u>Calluna</u> ground. Beech and sycamore were planted about this time for shelter belts but conditions were unsuitable and they failed and were replaced with conifers. From P.32 - 34 a 50/50 mixture of Scots pine and Corsican pine was used on the <u>Calluna</u> ground and from P.35 -P.37 pure Scots pine.

In 1937 it was decided that the remainder of the area, being similar in character to that already afforested - i.e. <u>Calluna</u> moor - would be planted largely with Scots pine. However, the Chairman on his inspection of 4.2.37 (See Appendix I) expressed the opinion that snowfall would be heavy at this

elevation and Scots pine would suffer as a result. To minimize damage he instructed that a 50/50 mixture of Scots pine and Sitka spruce be planted on ploughed ground despite the <u>Calluna</u> vegetation.

Pure Scots pine or Sitka spruce has been planted where ground conditions permitted but apart from that, the bulk of the area from P.37 to completion has been planted with a mixture of Scots pine and Sitka spruce.

Both European larch and Japanese larch have been planted but due to lack of cultivation they have not been too successful. One area of diseased European larch has recently been heavily thinned and underplanted with Douglas fir.

#### Planting

#### a) Spacing

Spacings have not varied greatly and the table given below shows the spacings adopted for the various species.

Scots pine	4 ft.	6 in x 4 ft. 6 in. (usual) with 5 ft. x 5 ft. on R. L. R. ploughing.
Corsican pine	4 ft.	6 in. x 4 ft. 6 in.
Pinus contorta	4 ft.	6 in. x 4 ft. 6 in.
Sitka spruce	5 ft.	x 5 ft. (usual) 5 ft.6 in. $x 5$ ft. 6 in. (Stotsfold area).
European larch	5 ft.	x 5 ft.
Japanese larch	5 ft.	x 5 ft. (usual) or 4 ft. 6 in. x 4 ft. 6 in.
Beech	5 ft.	x 5 ft.
Sycamore	4 ft.	6 in. x 4 ft. 6 in.

## b) Type of plant

A large proportion of the plants used have come from nurseries within the district e.g. Widehaugh, Chopwell and Hamsterley, but there have also been importations from nurseries throughout the country. The following types of plants have been used.

```
Scots pine2 + 1, 2 + 2, 1 + 2, 1 + 1, 1 + 1 + 1.Corsican pine2 + 2, 2 + 1 + 1, 2 + 1 + 2.Pinus contorta2 + 2, 2 + 1 + 1, 2 + 1 + 2.Pinus contorta2 + 2, 2 + 1, 1 + 1.Sitka spruce3 + 0, 3 + 1, 2 + 2 + 1, 3 + 1 + 1, 2 + 3.European larch2 + 1Japanese larch2 + 1Beech1 + 1Sycamore1 + 1, 1 + 2.
```

#### c) Method of planting

The method of planting has usually been notching with garden or Schlich spade. Pit planting has been done in special cases.

## d) The annual rate of planting.

The annual rate of planting has varied considerably from year to year. The following table shows, to the nearest acre, the areas planted from 1931 to completion in 1949.

P. year	Area Planted (acres)
27	192
32	116
33	92
フフ 34	75
35	100
36	93
37	147
38	89
39	112
40	74
41	44
42	34
43	15
44	20
40 ), Q	50
47	

## Annual Average = 80 acres

#### e) Manuring

Basic slag has been used in this forest but it is impossible to tell from available records where this was done and what quantities were used.

f) <u>Establishment</u> has generally been extremely slow particularly on the unploughed ground. The beating up records show that great difficulty was experienced in forming a crop in the P.31 area. After the introduction of shallow ploughing (1933-34) growth seems to have improved and the majority of the plantations were established in four to five years. With R.L.R. ploughing in 1949 the amount of beating up has been reduced and establishment will undoubtedly be faster.

#### Ploughing

Light ploughs have been used since 1933 but it was not until 1949 that the R.L.R. plough was employed. The procedure on the moor has been to burn the heather in the spring, plough during the summer and the autumn, and plant the following spring. It is not too clear from the available records what type of plough was used in the earlier years but it was probably a Ransomes Solotrac hauled by D 2 tractor, ploughing to a depth of 8 in. to 9 in. Furrow spacing has usually been  $4\frac{1}{2}$  ft. but in a portion of the P.40 area, this was increased to 7 ft. as a wartime emergency measure.

Various sizes and ages of transplants have been used on the ploughed ground and the method of planting has usually been notching - Scots pine in the furrow and Sitka spruce on the side. Establishment on the shallow ploughing, though superior to those areas where "flat planting" was done, has not been too good and Sitka spruce in particular is largely in check.

#### Beating up

Beating up at Slaley has been intense and prolonged. In the P.31 - 33 area it has been done annually eight to ten years after the original planting. Generally a plant one or two years older than the original has been used.

Beating up of pure Corsican pine areas has been very heavy. Scots pine was the main species used and the result to-day is that those areas appear as a Corsican pine/Scots pine mixture. After the introduction of Scots pine and Sitka spruce on shallow ploughed ground, beating up has not been so heavy, while on the R.L.R. ploughed areas it has been normal.

## Weeding

Due to the very slow growth at Slaley it has been necessary to weed often particularly on the moor where <u>Calluna</u> is dominant. On the northern grass slopes two to three years weeding has been enough to see the crop clear of weeds. Bracken has generally been cut at least twice in the first and second years.

# Mixtures

Due to heavy beating up many of the plantations have the appearance of mixtures. There are, however, three types of mixtures which were planted as such.

- a) European larch in mixture with beech
- b) Scots pine " " " Corsican pine
- c) Scots pine " " " Sitka spruce

The beech in the European larch/beech mixture failed and was replaced with conifers. In the other mixtures (b and c) the two species were planted at the same time, by the same method and are one row mixtures.

# Scots pine/Corsican pine mixture - P. 32.

On a recent inspection it was noticed that the Scots pine is tending to suppress the Corsican pine, the latter showing poor growth and suffering severely from "die-back" disease.

### Scots pine/Sitka spruce mixture - P.38.

This mixture was planted on ploughed <u>Calluna</u> ground. The majority of the Sitka spruce is in check, but last year's growth, probably due in part to the wet season, has been good, and in places the Sitka spruce is competing successfully with the pine. It was realised at the time of planting that Sitka spruce would probably check on <u>Calluna</u> ground, but it was felt that pure Scots pine at this elevation would suffer severely from snow-break.

Douglas fir was planted in 1951 under a crop of heavily thinned European larch. This is the only instance of underplanting at Slaley.

### Rates of Growth

All species which were planted flat or in shallow ploughing have grown extremely slow. It is rather early to forecast what the result will be on R.L.R. ploughing as this was only done in 1949, but there is every reason to believe that growth will be superior.

Scots pine although very rough in some areas is the most promising species with <u>Pinus contorta</u> a good second. Corsican pine has grown slowly at this altitude and has been severely attacked by <u>Brunchorstia</u>. Sitka spruce has grown slowly but steadily on grass and bracken ground but on the moor it is, with a few exceptions, severely in check. European larch has grown very slowly and is badly cankered, but a belt of Japanese larch planted on the northern slopes is growing reasonably well.

The following table gives samples of measurements, taken throughout the forest, and shows the height growth of various species.

Compt.	Spp.	P.year	Age	Vegetation and soil	Mean Ht. (fe <b>e</b> t)	M.A.I. (inches)	C.A.I. during last 5 yrs. (inches)	Remarks
1	C. P.	31	20	<u>Calluna</u> on sandy soil with shallow peat.	19	11	14	Unploughed
4	(C. P. ( (S. P.	32	19	ti 11 H	<b>15</b> 19	10 12	10 14	l row mixture unploughed.
35	S. P.	35	16	11 II II	19	14	12	Pure on shallow ploughing.
8	P. C.	31	20	11 17 11	18	11	9	Unploughed ground
7	(S.S.1 (S.S.2	31	20	<u>Calluna</u> dominant Bracken area	8 20	5 12	5 12	Unploughed ground turf planted.
12	S. S.	35	16	<u>Celluna</u> dominant on sandy soil	13	10	11	Ploughed ground.
39	( <b>S.</b> P. ( ( <b>S.</b> S.	38	13	<u>Calluna</u> on sandy soil with shallow peat.	15 8	14 7	11 11	l row mixture shallow ploughed. Sitka spruce grown well in '51.
8	E.L.	31	20	Grassland with <u>Calluna</u> frequent.	20	12	14	Unploughed ground.

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# Past Treatment of Established plantations

Although the oldest trees in this forest are 20 years of age, the only post-establishment operations have been brashing inspection paths. Diseased larch have been heavily thinned but the thinning programme is not scheduled to start until F.Y.53.

#### Research

There have been five local experiments at Slaley but from the records it would appear that they were of a "look-see" nature and any results obtained would be of doubtful value. Furthermore it is now impossible to locate three of these with any degree of accuracy. The remaining two have been located and assessed, one by Research Branch, and the results are given below:

1) Experiment No. 3. P. 35. Compartment 26.

<u>Object</u>: "To ascertain if intensive ploughing would be beneficial to plant growth."

Species: Scots pine notch-planted with garden spade.

<u>Treatments</u>: (One  $\frac{1}{2}$  acre plot of each).

A - Complete ploughing - planted in furrow.

- B Ploughed 4 ft. 6 in. and cross-ploughed 4 ft. 6 in. planted where lines cross.
- C Ploughed 4 ft. 6 in. and cross sub-soiled planted where lines cross.
- D Normal ploughing planted in furrow.

# Assessment 22.1.52.

<b>Treatment</b>	Mean Height of Dominants
A	18 ft.
В	20 ft.
C	17 ft.
D	16 ft.

2) Experiment No.4. P.36. Compartments 27, 21,20.

<u>Object</u>: "To ascertain the effect of wide spacing on pines". <u>Species</u>: Scots pine, Corsican pine, <u>Pinus contorta</u> - notched in furrow. <u>Assessment by Research Branch 15.10.49</u>.

Species Species	3 ft.	4 <del>1</del> ft.	6 ft.	8 ft.
Scots p <b>in</b> e	11 ft.	12 <sup>1</sup> / <sub>2</sub> ft.	10 ft.	10 ft.
Corsican pine	10 <u>1</u> ft.	ll ft.	9 ft.	9 ft.
Pinus contorta	13 ft.	13 ft.	7 <del>2</del> ft.	12 <u>1</u> ft

i) Mean Heights (strip average - 96 trees measured in each spacing)

# ii) <u>Survival %</u>

Spacing Species	3 ft.	4 <u>1</u> ft.	6 ft.	8 ft.
Scots pine	91	98	100	100
Corsican pine	65	95	85	94
Pinus contorta	90	88	81	100

## Conclusion.

"At this stage spacing has had little effect on height growth". "<u>Comments</u>: Low stocking in the 3 ft. x 3 ft. Corsican pine due to "red-brown" die-back disease. Small height growth of 6 ft. x 6 ft. <u>Pinus</u> contorta due to exposure".

#### Conclusions

# 1. Species

Corsican pine which has been extensively planted is suffering from "die-back" disease and is unsuitable for Slaley. The altitude and the lack of soil cultivation have probably both contributed to its downfall. Specimens of diseased twigs have been sent to the Research Station at Alice Holt and when investigation is complete it is intended to carry out a survey to assess the area involved and the amount of repair work necessary. Scots pine though rough is perhaps the most promising species, though at this elevation it has suffered from snow damage.

<u>Pinus contorta</u> has done reasonably well and could no doubt have been used to a greater extent in boggy ground in mixture with Sitka spruce.

Sitka spruce has grown fairly well when planted on wet grassland and on the <u>Calluna</u> ground would have done better with increased cultivation.

The larches, European and Japanese, have not been too successful but Japanese larch planted on moderate <u>Calluna</u> ground with deep ploughing would probably have succeeded.

# 2. Ploughing

It is fairly certain that with R.L.R. ploughing most of the species at Slaley would have done much better. The R.L.R. ploughing done in 1949 has given rise to good growth and has greatly reduced weeding and beating up. Though this was done on the northern part where <u>Calluna</u> is not so much in evidence it would have had a similar effect on the moor.

#### 3. Management and Proposals

There have been two frequent changes in local supervision at this forest and this has undountedly had an adverse effect. With the relatively small amount of work to be done in the future this small forest does not require the full time services of a forester and it is intended that it be managed by the nursery forester at Widehaugh with an ex-school ganger or foreman stationed at Slaley.

# History of Slaley Forest

## APPENDIX I

#### Notes from Inspection Reports

Very few inspections of this forest have been made by officers from Headquarters. The following notes have been extracted from the Inspection reports available.

# Inspection by Chairman, Sir Roy L. Robinson - 4.2.37.

On this inspection it was noted that Corsican pine had grown very irregularly on the unploughed ground and Scots pine had grown more steadily but was in check in certain areas. It was seen that the pines had developed far better on the ploughed ground.

The Chairman considered that at the elevation of the majority of the area (1000 ft. - 1100 ft.) there was considerable risk of snowbreak with Scots pine and that this risk should be counteracted by planting Sitka spruce in mixture with the pine in spite of the <u>Calluna</u> vegetation. In certain localities it was felt that more draining could have been done and Sitka spruce should have been planted on the wetter ground (Compartments 23 and 24 - P.33).

# Inspection by A/Assistant Commissioner, Mr. A.P. Long - 1.11.40.

The A/Assistant Commissioner remarked that Slaley would appear to be unsuitable for Corsican pine and noted the outstanding difference between growth of crops on ploughed and umploughed ground.

# Inspection by Director England - 20.8.46.

On this visit the irregular condition of the P.31 area which consisted of Corsican pine (Ursuline type), <u>Pinus contorta</u>, Sitka spruce and Scots pine was noted. Growth was seen to be slow and the number of species used testified to the difficulties experienced in establishing a crop. It was noted that an adequate stocking had been obtained by beating up with Scots pine in the later years. The Corsican pine affected by "die-back" was inspected and the Director instructed that about one acre should be made rabbit and deer proof and other species tried out in case the

Corsican pine failed extensively and had to be interplanted. This experiment has now been handed over to Research Branch.

# Inspection by Silviculturist (N), Mr. J.A.B. MacDonald - 20.2.48.

Silviculturist (N) did not think the Corsican pine disease was spreading very fast but having seen Corsican pine wiped out elsewhere by this disease he would not be surprised if the rate of spread and intensity were to increase considerably.

He suggested the following treatments for badly diseased areas:

- (a) Removal of one or two lines of trees and plough furrows opened.
- (b) Sitka spruce on turves or ploughed ground should be the main species used in replanting.
- (c) <u>Pinus contorta</u> (which he noted was doing well at Slaley) should be mixed with the Sitka spruce especially where surface conditions are on the poor side - as indicated by a thick layer of humus or peat and less vigorous heather.

Judging by the performance of Scots pine at Slaley Mr. MacDonald did not think it should be used in repairing the die back areas.

# Visit of Lord Radnor and Mr. O. J. Sangar, Director (E) - 7.6.50.

On this visit the Director showed where "wolfing" and pruning of double leaders could be carried out to benefit the crop. Mr. Sangar pointed out to Lord Radnor that the early plantations, P.31 - P.35, had suffered from the lack of technical knowledge in dealing with the type of ground.

# History of Slaley Forest

# APPENDIX II

# Record of Supervisory Staff

The supervision at Slaley, as far as can be ascertained, has been :-

# Conservators:

R. E. Fossey (acting)	1946-47
G.J.L. Batters	1947-50
C. A. Connell	1950 to date.

# Divisional Officers:

A.	D.	Hopkinson		1931-40
R.	E.	Fossey (a	acting)	1940-46

# State Forest Officers:

R.	E. Fossey	1947
₩.	Forsyth	1948-50
$P_{\bullet}$	F. Garthwaite	1950 to date.

# District Officers:

G.J.L. Batters	1930-37
W. Forsyth	1937-42
J. H. Edwards	1942-43
M. F. Adams	1943 <b>-</b> 49
S. Forrester	1949-52
T. C. Mitchell	1952 to date.

# Foresters

te.



- SLALEY W.P.-Purchase From P. Hunting & Mrs W. Simpson 28-3-30 - 1431 717 acres P.Gr. Map P41 202 56 PIS COGKIAKE 57 55 P41 Spring Houses P44-LIBRARY 801538 P44. 902 (410.38 52 54 200 estry Commissio 43 P35 234 23 24 246 235 P41 9/17.0 47 25 133 92 8 43 44 26 37 17 25.0 P.38 P.40. P38 P.39. 2.37 45 38 27 24:8 18 250 P38 46 39 - 250 250 P41 P34 750 <u>736</u> 94 5) 40 Dukesfield 20 250 22 P37 P35 P.30 41 250 21 P38 P. 39 P3E 42 22 28.0 R37. 31 250 13 208 P.34 32 P.40. 20.0 33 34 Final Area of Farms & F.W.H. 167.260. (Washed Blue) Area of Plantable Land 1264.457 Total 1431 717 acres. Scale: Six Inches = One Mile

