FORESTRY COMMISSION

HISTORY

OF

SLINDON

FOREST

SE(E) CONSERVANCY

FORESTRY COMMISSION

HISTORY

of

SLINDON FOREST

1938 - 1951

SOUTH EAST (ENGLAND) CONSERVANCY

HISTORY OF SLINDON FOREST

Contents

HISTORY OF SLINDON FOREST

GENERAL DESCRIPTION OF THE FOREST

Situation

Slindon Forest lies between Chichester and Petworth in the county of Sussex. It consists of two blocks, one near Eartham and one near East Dean.

The nearest main road is A.285 (Petworth to Chichester) which runs quite close to the west boundary of the forest. The Petworth - Eartham secondary road adjoins the south boundary of the block near East Dean, whilst the Petworth-East Dean secondary road is adjacent to part of the north boundary of the same block.

The block at Eartham is well divided by rides and the old Roman road of Stane Street runs right through it. The block at East Dean is not so well divided by rides and these will have to be laid out as the area is planted up.

The nearest main line station is at Barnham Junction on the Bognor-London line. It is about five miles south of the Forest.

Area and Utilisation

The present area held by the Forestry Commission is 1358.151 acres, all of which are leasehold.

It was acquired in two parcels in 1938 and 1950 as shown below.

Statement of Acquisitions

From	By	Date	Acres	Block	Compartments
1. F. J. Wooton Isaacson	Lease 999 years	23.4.38	807.796	Eartham Wood North Wood	1-26
2. Goodwood Estate Ltd.	Lease 985¼ yrs	24.3.50	550.355	Bubholts. Pt. of Chiseldown. Potcomb. Pt. of Selhurst Pk. Droke Hanger.	-
			1358.151		

When the land at Eartham was acquired almost all the area was in a derelict state as the result of fellings in the 1914-1918 war and no

subsequent treatment. In the case of the East Dean block all the timber was removed by the lessor and therefore the land was in a timberless state when handed over to the Forestry Commission.

Statement of Utilization

a.	Plantations		
	Acquired Formed by Forestry Commission	616.5	616.5
b.	In hand awaiting planting		499.0
c.	Nursery		-
d.	Agriculture		187.0
e.	F.W.H.		-
f.	Unplanted Land		.5
g.	Other wood		55.0
			1358.0

Physiography

The area lies between 250 ft. and 700 ft. In the Eartham block the ground rises from the flat plain in the South to the North. In the south-east the slope is reversed.

In the East Dean block the ground rises from the north and the slope is considerably steeper than in the Eartham block.

There are no springs or streams in the area.

Geology and Soils

The underlying geological formation is chalk. The surface soil is a good friable loam tending to a richer proportion of clay in parts and with a high proportion of flints throughout.

Vegetation

When the Eartham block was taken over the vegetation was typical of a derelict woodland. Birch, both maiden and coppice, hazel and ash coppice was prevalent over the greater part of the west side of the area, with a ground vegetation of bramble, bracken and privet. On the east side the land was mainly clear except for patches of ash or birch coppice and a growth of brambles and bracken.

In the East Dean block the vegetation is similar to that in the

Eartham block. There are patches of ash and birch coppice with a ground vegetation of bracken and brambles.

Meteorology

Details of climatic data have been supplied by the Air Ministry and copies of the schedules are attached.

Climatic conditions are mild. Heavy snowfall is rare and frost very seldom severe.

Tangmere is the nearest meteorological station to Slindon for which full climatological records are available.

	Jan.	Feb.	Mar.	Apr.	May.	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Chichester Average Rainfall Period 1881-1915	2.42	2.02	2.01	1.63	1.74	1.87	2.22	2.49	2.28	3.75	3.16	3.16	28.75
Tangmere Temperature F. Averages of mean daily max. Period 1946-1950	45.3	45.4	50.3	56.6	62.0	67.1	70.9	71.0	66.7	59.1	51.8	45.6	57.6
Averages of mean daily min. Period 1946-1950	34.8	35.0	36.8	40.1	44.6	50.5	53.6	53.1	51.6	45.3	40.5	35.5	43.4
Highest Max.	55	59	66	71	82	87	92	91	82	73	61	57	92
Lowest Min. Period 1946-1950	15	13	23	27	29	39	41	39	35	26	21	16	13
Snow													
Average annual number of days with snow falling: 12													
Average annual number of days with snow lying: 5													
Midhurst													
Average date of first frost: November 13th													
Average date of last frost: April 10th													
Highest max.	54	57	65	73	81	85	89	93	87	75	60	55	93
Lowest min. Period 1908-1920	17	17	16	25	32	36	39	42	33	30	25	17	16

Risks

Fire. The fire risk is not considered to be very great in the Eartham block. The public do use Stane Street in the summer months for picnics, but not to any great extent. The risk in the East Dean block is greater. The road running along the south boundary is very popular and a portion of the area adjoining the road is set aside as a car park.

Animals. Rabbits are not a serious pest at Slindon.

Deer are not serious either. Their numbers fluctuate and, accordingly, so does the damage.

Squirrels. At present these are not a serious problem at all, but when the beech get bigger they will probably come in.

Voles. These have done a considerable amount of damage to the Scots pine in particular.

Insects and Fungi. There is nothing particular to report under this head.

Trespass. There is no particular risk of damage by trespass except in the East Dean block, where the public have, apparently, been allowed to wander at will in the past and will presumably continue to do so, thus increasing the fire risk.

Roads

Mention has already been made of this subject. The two blocks are well served by public roads. There are no Forestry Commission roads in the area, but in the dry summer months, Stane Street, in the Eartham block is passable to motor traffic.

Labour

The average labour force at Slindon has been ten to twelve men. In the early years of the Second Great War the numbers dropped to four. At present there are twelve workmen.

There are no houses for workers in the area. The Forester's house was completed in 1950.

SILVICULTURE

Preparation of ground prior to planting. From the commencement of planting operations at Slindon, overhead shelter was left wherever there was any. Preparation of the ground consisted of clearing the undergrowth of privet, bracken, brambles and small coppice. If necessary the overhead cover of the birch was thinned.

The natural drainage of the ground was sufficiently good to obviate the necessity of making any drains.

All areas to be planted had to be fenced against rabbits.

Choice of species. From the very start the idea has been to make the area a beech forest. Under the shelter beech was planted pure and in the open it was planted with a Scots pine nurse.

In a frosty valley bottom, a belt of pure Scots pine has been planted and pure Norway spruce was planted in Compartment 14 where the ground is very open with no shelter and was believed to be a possible frost hollow.

Small areas of pure Douglas fir, European larch, Japanese larch and hybrid larch were also planted.

Planting

(a) Spacing. The spacing for the beech/Scots pine mixtures and the pure beech and Scots pine was 4½ ft. x 4½ ft. and 4½ ft. x 3 ft., the larch, Douglas fir and Norway spruce were planted at 5 ft. x 5 ft.

(b) Types of plants used. A plant of 6 in.- 12 in. was used for planting in the case of beech and Scots pine. Supplies have come mainly from the S.E.(E) Conservancy nurseries, but plants have also been imported from outside the Conservancy.

(c) Method of Planting. Planting has always been done direct into the ground with a Schlich spade.

(d) Annual rate of planting. The annual rate of planting has fluctuated considerably from 23 acres to 78 acres per year (see Appendix III).

(e) Manuring. No manuring has been done.

(f) Success of establishment. Failures have always been considerable, but by no means excessive.

Ploughing. Only one area at Slindon has been ploughed prior to planting. This was done in F.Y.48 in Compartments 16 and 17. Before ploughing, odd bits of scrub - mostly elder and brambles - were removed.

The area ploughed was typical downland with a shallow soil over chalk. It was ploughed at $4\frac{1}{2}$ ft. with a single furrow plough to a depth of 10 in. Planting was done with a Schlich spade on the top of the ridge.

The area was planted with a mixture of beech and Scots pine. The Scots pine are beginning to get away, but the beech is still in check.

Beating Up. No additional drainage was done prior to beating up. In F.Y.42 Scots pine was introduced into P.39 and P.40 pure beech. The Scots pine have grown well. There has been no manuring of beat-ups or interplanting.

It is of interest to note that the Scots pine planted pure in the valley in Compartment 7 in F.Y.40 failed badly and were replaced the following year by smaller ones which took well. Whether their small size was the main factor in the success is uncertain.

Weeding. Very heavy weeding has always been necessary owing to the dense growth of brambles, bracken, privet and fresh coppice. For the first four years after planting weeding of the Scots pine and beech was required. After that for the next two years only the alternate rows of beech were weeded. Cutting back of the coppice has to be done for longer.

Mixtures. Scots pine is the only nurse that has been used for beech. Until 1951 the mixture was always one of alternate rows. The nurse was planted at the same time as the beech. The only case where the nurse was introduced after the main crop was in F.Y.42.

In the alternate row mixtures, the Scots pine has beaten the beech and will soon be suppressing it unless action is taken.

There has been no underplanting of a timber crop. The only underplanting done is the introduction of pure beech under the shelter of birch.

Rates of Growth.

Compt.	Spp.	P. Yr.	Age.	Mean Height of Dominants	Mean Annual Height Increment	Length of Leader in 1951	Remarks
2	Be	39	12	12'6"	12"	19"	In drifts through scrub.
3	Be	41	10	13'8"	16½"	26"	Pure.
9	Be	43	8	10'6"	16"	26"	Alternate rows beech/Scots pine mixtures.
11	HL	45	6	17'	34"	43"	
12	DF	46	5	10'6"	25"	39"	

Further indications of the rate of growth of beech at Slindon is given by the results to date of the shade experiments in Compartment 6.

Compt.	Spp.	P. Yr.	Age	Mean Height of Dominants	Mean Annual Height Increment	Length of Leader in 1951	Remarks
6	Be	41	10	122"	12"	22"	) Full Cover.
				134"	13½"	24"	)
				126"	12½"	28"	) Partially Thinned Cover.
				114"	11½"	28"	)
				130"	13"	22½"	) All cover removed.
				155"	15½"	21"	)

Past Treatment of Established Plantations. There are no plantations on the area old enough to require treating. The only treatment so far given them has been the removal of honeysuckle and the thinning of the overhead shade.

Conclusions

Two facts are obvious from the experience gained at Slindon in the growing of beech.

The first one is that at Slindon the growing of beech with a Scots pine nurse in alternate rows, is not desirable. There is evidence at Slindon that the Scots pine is outgrowing the beech. It will have to be cut back in order to give the beech more room. From this, it is evident that three pure rows of beech alternating with three pure rows

of Scots pine or even small groups of pure beech in a matrix of Scots pine would be preferable.

The other conclusion to be drawn from experience at Slindon is that great care must be taken in the treatment of the overhead shade. Too much overhead shade begins to slow down the rate of growth of the beech. It would appear that frequent light thinnings of the birch cover is desirable.

APPENDIX I

Notes of Inspection and Remarks

25.11.37. Sir Roy Robinson, Chairman.

"It was agreed that the area would be expensive to establish as in addition to the heavy cost of clearing the scrub, advance planting of a nurse crop would be necessary on the higher land.

It was decided that beech should be the main crop grown, with ash in the places where the soil is deeper and the risk of frost is not too great."

27.2.41. Mr. A. P. Long, Assistant Commissioner.

A heavy failure in the P.40 area of beech due to the drought in the summer of 1940 was noted.

The P.39 beech was patchy and the plants were only growing well under overhead shade.

2.6.43. Mr. F.C. Best, Divisional Officer S.E.(E).

On P.44 area it was decided only to fill in the gaps between groups of birch and ash. These to be cleared where necessary.

3.7.45. Mr. F.C. Best, Divisional Officer S.E.(E).

P.44 beech looking rather yellow from not enough shade, but not defoliated as in heavily shaded areas.

Douglas fir doing extremely well.

7.7.45. Sir Roy Robinson, Chairman.

P.39, 40 and 41 beech has too much cover. Birch cover should be ringed if felling impracticable. Promising ash poles to be left even if of coppice origin.

11.4.46. Mr. F.C. Best, Conservator S.E.(E).

Planting of bare ground to be done with conifers and beech to be put in old coppice areas. Douglas fir to be avoided wherever there was privet.

12.10.46. Mr. C.A. Connell, Conservator State Forests

Canopy over P.41 and 43 beech to be reduced.

8.10.47. Mr. A.L. Felton, Conservator S.E. (E).

Future treatment of St.Mary's Woods. "It was decided that the best treatment was to thin heavily and underplant with beech. About 300 stems per acre, preferably birch as far as possible, should be marked for retention. The marking should be done so as to leave as uniform a canopy as possible."

14.11.47. Mr. O.J. Sangar, Director (E).

In Compartment 5 (P.44 beech) unusually good growth was noted in what would be classed as a frost hollow. The beech appeared to have suffered no frost damage.

Compartment 3, P.40 and 41 beech. It was considered that these beech had reached a stage when overhead shade was no longer required. The Director instructed that an experimental area should be dealt with and a comparison made with an untreated area.

The Director also instructed that an experiment should be set up to see what difference there was between planting on the side and on the top of the plough furrow in Compartments 16 and 17 on the Plain.

APPENDIX II

Supervision

Divisional Officers

1938 - 1939	Mr. A.L. Felton
1939 - 1946	Mr. F. C. Best

Conservators

1946 - 1947	Mr. F.C. Best
1947 - 1949	Mr. A.L. Felton
1949 -	Mr. R.H. Smith

State Forests Officers

1946 - 1948	Mr. R.H. Smith
1948 -	Mr. J.M. Ross

District Officers

1938 - 1939	Mr. W.A. Muir
1939 - 1940	Mr. C.A.J. Barrington
1940 - 1941	Mr. M.F. Adams
1941 - 1945	Mr. T. Clear
1945 - 1946	Mr. C.A.J. Barrington
1946 - 1947	Mr. J.F. Goodwin
1947 - 1951	Mr. J. White
1951 -	Mr. A.J. Spencer

Foresters

1938 - 1939	Mr. Marston
1939 -	Mr. G.S. Davies

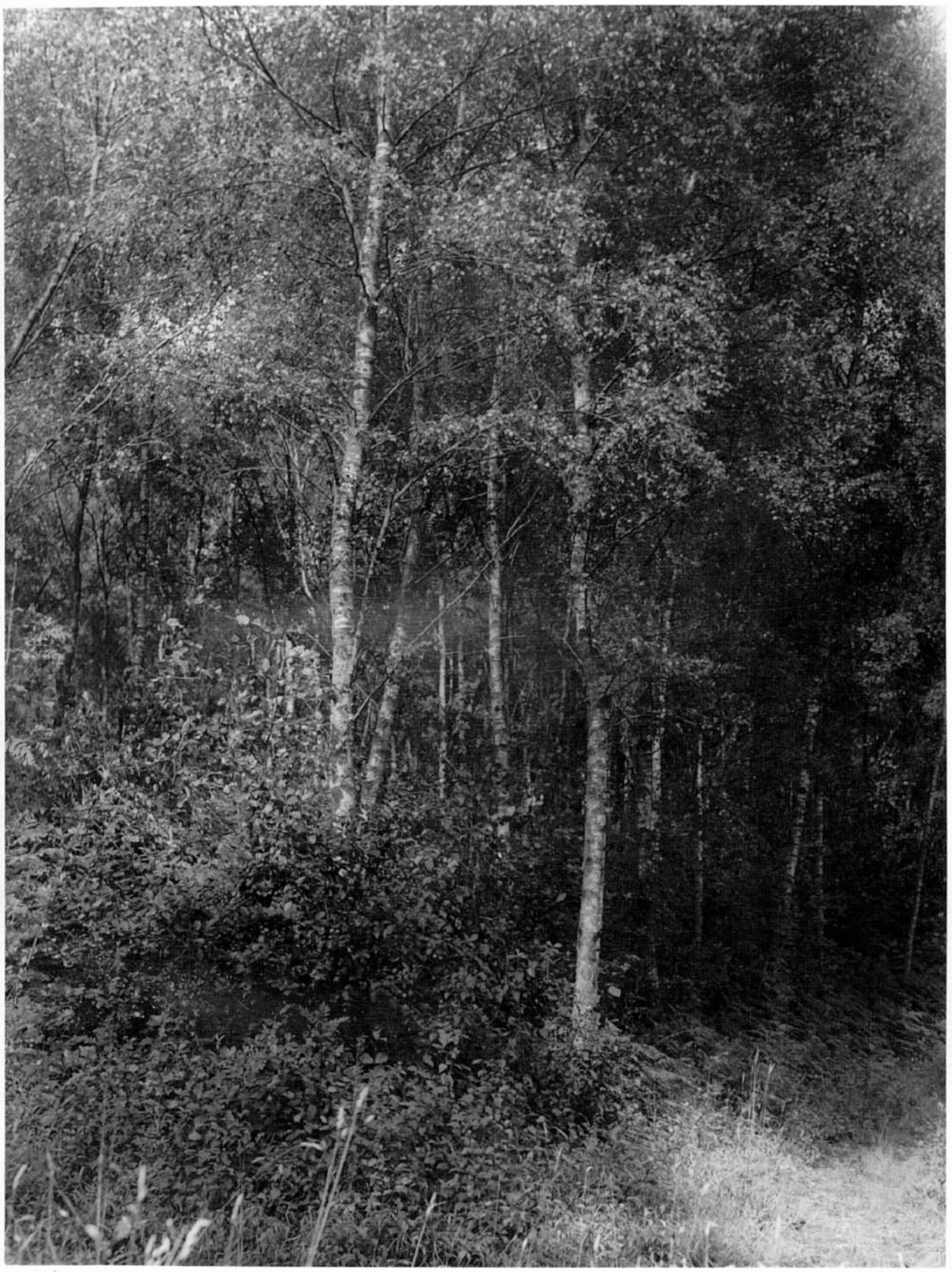
APPENDIX III

Tabular Statement of Areas Planted

P. Year	Cpt.	Afforested			Re-afforested			Total for year	Remarks
		Con.	Hdwd.	Spp.	Con.	Hdwd.	Spp.		
1939	1					38.0	Be.		
	2					22.0	Be.	60	
1940	2					17.0	Be.		Some Nothofagus procera planted along boundaries of C.7 and C.8.
	7				5.25		SP.		
						29.5	Be.		
	8				2.25		SP.		
						9.75	Be.	63.5	
1941	3					14.0	Be.		
	6					38.5	Be.		
	8					6.0	Be.	58.5	
1942	8				10.0		SP.	)	
						10.0	Be.	)	SP. and Be. in
	9				5.25		SP.	)	alternate rows
						5.25	Be.	30.5)	
1943	5					8.0	Be		
	9				6.5		SP	)	SP. and Be. in
						10.5	Be.	)	alternate rows
	10					32.5	Be.	57.5	
1944	5				1.0		DF.		DF. planted in
						16.0	Be.		open places on
	11				1.0		DF.		deeper soil.
						12.0	Be	30.0	
1945	11				1.0		J.L.		1.5 Norway
					1.0		EL.		maple were
					3.0		HL.		planted along
						23.0	Be.	28.0	ride sides.
1946	12				10.0		DF.		
						24.0	Be.	34.0	
1947	12					3.0	Be.		
	13					4.0	Be.		
	14				14.5		NS.		
						7.5	Be.	29.0	
1948	13					3.0	Be.		
	16	5.5		SP.					SP. and Be.
			5.5	Be.					in alternate
									rows.
	17	4.5		SP.					
			4.5	Be.				23.0	
1949	13					4.0	Be.		
	14				11.0		NS.		
	15				17.0		SP.		SP. in valley
						20.0	Be.		bottom. 10 acres
									pure Be. 9 acres
									Be./SP.
	16				2.5		SP.		Pure
						12.0	Be.	66.5	

P. Year	Cpt.	Afforested			Re-afforested			Total for year	Remarks
		Con.	Hdwd.	Spp.	Con.	Hdwd	Spp.		
1950	4					19.0	Be.		
	17				3.0		SP.		
						15.0	Be.		
	18					21.0	Be.	58.0	
1951	3					19.0	Be.		
	4					27.0	Be.		
	Selhurst				13.0		CP.	74.0	
						15.0	Be.		

Slindon



SLINDON

Compartment 6

Beech under Birch cover

SLINDON

Compartment 10

Beech under shade - Older than C.6.

SLINDON
Compartment 9

P.42. SB/Be. Showing overtopping of Beech by Pine.

SLINDON
Compartment 10
As taken over by Forestry Commission

Slindon Compartment 11 P.45 H.L.

SLINDON Compartment 11 P.44. D.F.

SLINDON - Compartment 13

Beech about 130 years old.

SLINDON

Compartment 13

Beech about 130 years old

SLINDON FOREST

1
Slindon: Compartment 6. Beech under Birch cover.

2
Slindon: Compartment 10. Beech under shade – older than C.6

3
Slindon: Compartment 9. P.42. S.B/Be. Showing overtopping of Beech by Pine.

4
Slindon: Compartment 10. As taken over by Forestry Commission.

5
Slindon: Compartment 11. P.45 H.L.

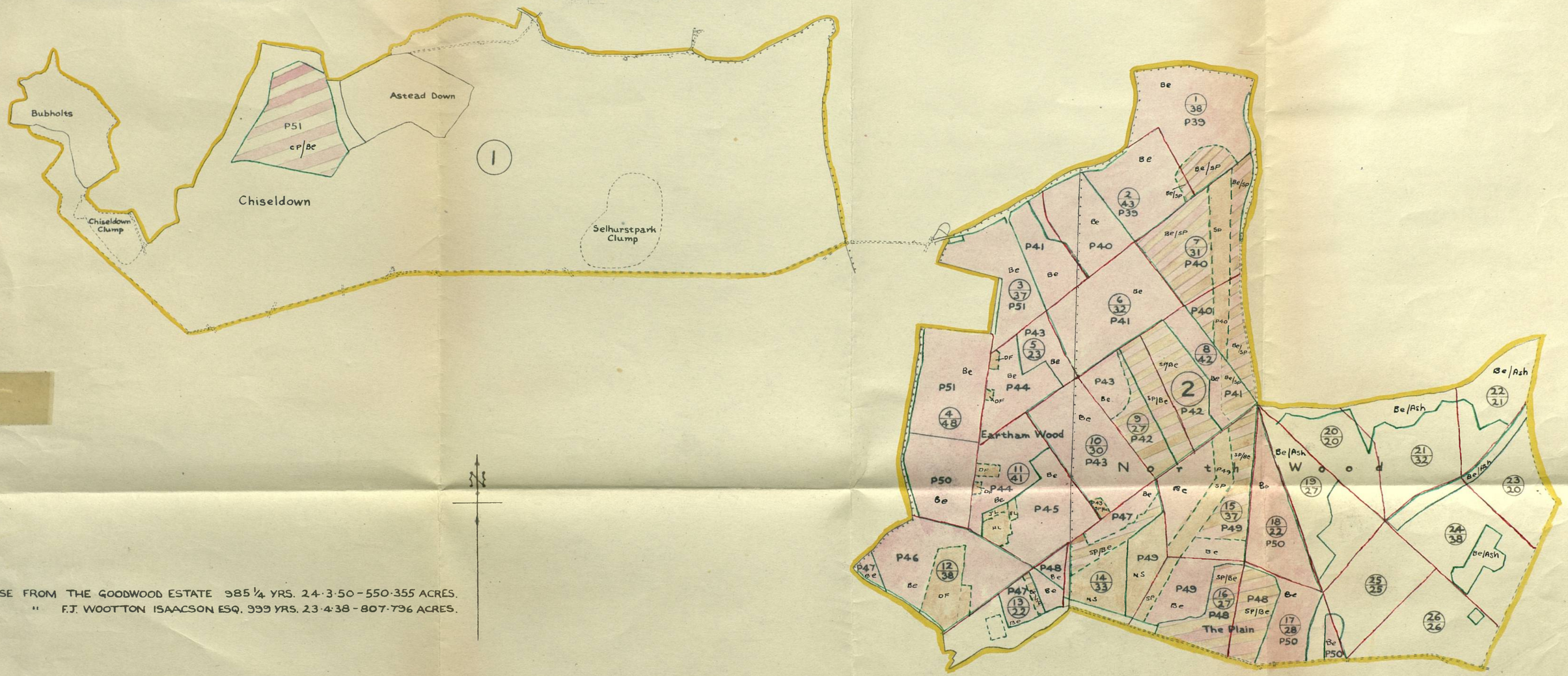
6
Slindon: Compartment 11. P.44 D.F.

7
Slindon: Compartment 13. Beech about 130 years old.

8
Slindon: Compartment 13 Beech about 130 years old.

SLINDON FOREST

SUSSEX. XLIX. N.W.



1. LEASE FROM THE GOODWOOD ESTATE 985 ¼ YRS. 24·3·50 – 550·355 ACRES.
2 " " F.J. WOOTTON ISAACSON ESQ. 999 YRS. 23·4·38 – 807·796 ACRES.

SCALE :- 6" = 1 MILE

FORESTRY COMMISSION
(S.E.) ENGLAND

	Line		Colour	
	Int/s	Date	Int/s	Date
Drawn by	[illegible]	29·7·52	[illegible]	5·8·52
Checked by	[illegible]	29·7·52	[illegible]	5·8·52