Rushmore Estate

By Kind Permission of Mr W. J. Gronow Davis

Wessex Silvicultural Group March 25th 2015

Woodland Details

- ***Total Woodland Area:*** **833 ha (2058 acres): 69% broadleaved, 26% coniferous, 6% avenues, launds**
- ***Area within Cranborne Chase & Rotherley Downs SSSIs*****: 434.8 ha (52% of Total Woodland Area)**

  83% of woodland area is on Ancient Woodland Sites. 51% is Ancient Semi-natural Woodland. 58% is dominated by native species.
- ***Average Annual Timber Production to 2013:*** **1900 cu.m. softwood; 1100 cu.m. hardwood plus on-rotation underwood**
- ***Timber production 2014 following windblow:*** **6700 cu m softwood; 500 cu m hardwood**
- ***Current Species Composition:***

	Main	*Secondary*	*Minor*
Conifer	**Norway spruce, Douglas fir**	**larch**	**western red cedar, yew, western hemlock**
Broadleaves	**ash, oak**	**beech, sycamore, sweet chestnut**	**Norway maple, whitebeam**
Underwood	**hazel, birch**	**field maple**	**whitebeam**

- ***Yield Classes:*** **NS 14-16; DF 18; AH 8-10; OK 6**
- **UKWAS Certified under Tilhill Group Certification Scheme since August 2000**

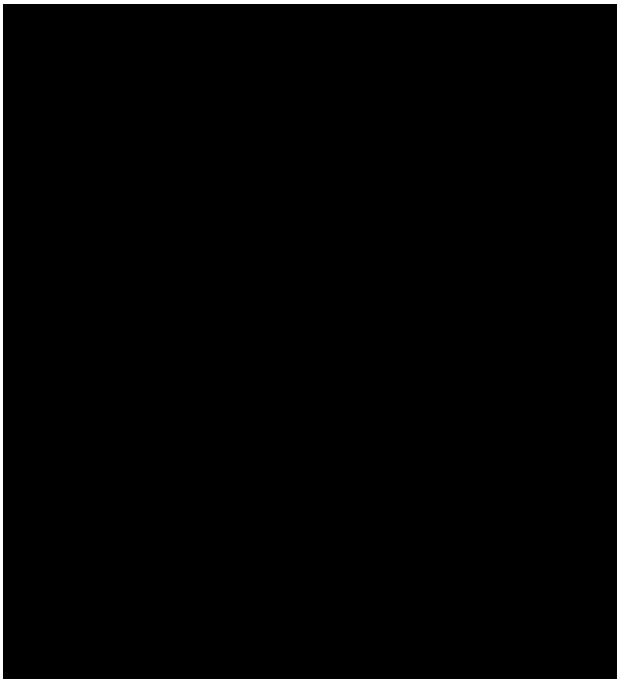
Site

The woodland lies wholly on the dip slope of a large area chalk upland, largely on the mid to upper part of the slope between 100 and 180 m above sea level but extending to the top of the escarpment at 260 m. The dip slope is deeply dissected in places but the woodland lies mainly on the plateaus between these deeper dry valleys and across shallower valleys. There is no surface water within the woodlands.

The depth of soils above the chalk is very variable and are related to topography (see diagram below). The soils fall within three broad groups:

- **Deep, rather acid, clay loam soils derived from 'clay-with-flints' and other superficial deposits occurring on the plateau areas.**
- **Thin soils derived directly from in-situ chalk occurring on parts of the plateau and on steeper slopes.**
- **Deeper, colluvial deposits at the bottom of shallow valleys derived from material higher up the valley sides.**

A thin surface layer of loess may also be present.



Where these soils have had a long woodland history the top horizon has become de-calcified and no 'free chalk' is present. On valley sides on ancient woodland sites soil creep leads to low amounts of free chalk.

***Annual rainfall averages around 1050 mm per annum*. Water is available within the chalk and is accessible to trees by capillary action. Despite the lack of surface water the woodland soils are *not* drought-prone.**

On ancient woodland sites with a horizon of chalk-free soil, *a wide range of species are suitable for timber production.* Thinner, stonier soils are less suitable for oak and Douglas fir. Thin soils with a history of cultivation will be unsuitable for conifer species.

Current Woodland Classification

Stand Type			*Area*			
			ha		*%*	
Semi-natural Broadleaved Woodland	Irregular High Forest	Moderate Stocking	103.4	137.1	12.4	16.5
		Low stocking	33.7		4.1	
	Transitional High Forest	Large tree size dominant	18.4	88.3	2.3	10.6
		Pole-stage dominant	69.5		8.3	
	Pole-stage High Forest			35.2		4.2
	Closed	Due for treatment	33.2	102.0	4.0	12.3
		Currently managed as Limited Intervention	68.8		8.3	
	Coppice	Hazel dominated	93.4	115.3	11.2	13.9
		Birch dominated	21.9		2.6	
Non Native Broadleaves	Partially Irregular High Forest			17.0		2.0
	Regular High Forest			101.9		12.2
Mainly Coniferous	Partially Irregular High Forest			62.1		7.5
	Regular High Forest			134.6		16.2
	Partly Windblown from winter 2013/14			21.0		2.5
Open Ground				18.1		2.1
Total				832.6		100.0

The key points regarding stand composition are:

- **The complexity of stands types.**
- **The high proportion of broadleaves and the relatively small size of the coniferous resource.**
- **The large area of irregular, broadleaved high forest and the high proportion of these stands with low to moderate stocking.**
- **The significant area of coppice.**
- **The dominance of ash across the broadleaved high forest stands and the dominance of Norway spruce, and to a lesser extent, Douglas fir within the coniferous high forest.**

Draft Working Circle Allocation at 1/4/2015

Working Circle		*Area*		
		ha	*%*	
Continuous Cover Semi-natural High Forest		**291.4**	*35.0*	*36.3*
Restoration to Semi-natural High Forest by Thinning		**7.5**	*0.9*	
Restoration to Semi-natural High Forest by Selective Felling		**3.1**	*0.4*	
Coppice-with-Standards	**Hazel dominated**	**93.5**	*11.2*	*13.8*
	Birch dominated	**21.9**	*2.6*	
Old Growth High Forest & Special Features		**106.2**		*12.8*
Continuous Cover Mixed High Forest	**Coniferous Dominated**	**210.1**	*25.2*	*33.5*
	Broadleaved Dominated	**69.0**	*8.3*	
Amenity		**30.0**		*3.6*
		832.7		***100.0***

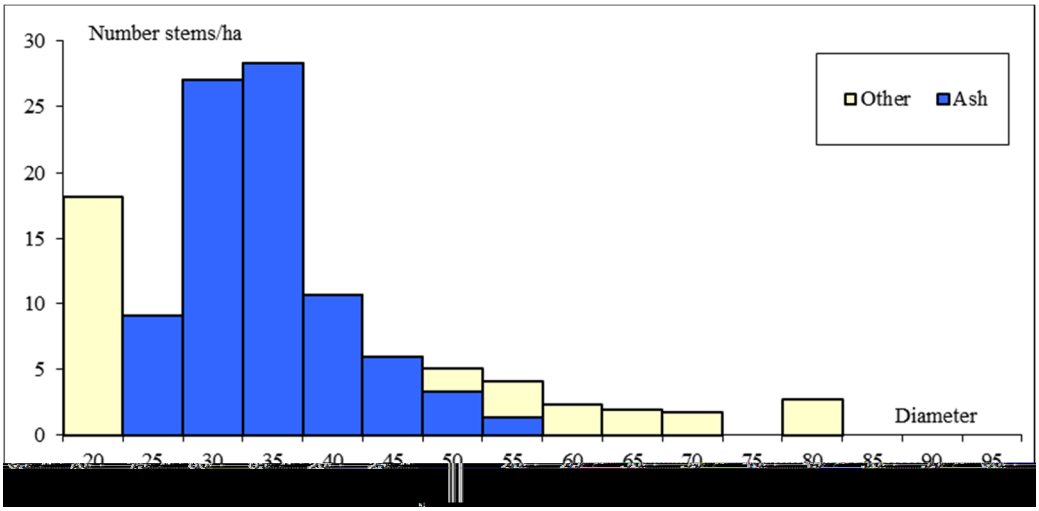
STOP 1 Half Hide Wood

Cpt Details	Management History
F4 2.61 ha **AH//OK/Hazel/Bl** **Semi-natural CC High Forest Working Circle**	**Selection Felling: 2010** **Next Intervention: c.2019 + Install permanent racks**
F2/3 west 3.12 ha **Hazel/Birch/Ash** **Coppice-with-standards Working Circle**	**Underwood Restored: 2003** **Underwood Cut 2014**
F2/3 west 2.7 ha **AH//OK/Hazel/Bl** **Semi-natural CC High Forest Working Circle**	**Selection Felling: 2004 & 05** **Next Intervention: 2016 or 2017 + Install permanent racks**

STOP 2 Farnham Woods

Cpt Details	Management History
B22/B1a 6.61 ha **AH/OK/Bl/Haz** **Semi-natural CC High Forest Working Circle**	**Underwood cut c 1986/ Overwood thinned 1988 & 1991** **Selection Felling: B22 2007** **Next Intervention: 2019**
Local Research Stand (Abbreviated AFI): First Measure 03/14	*BA Measure 03/14:* **B22 14.4 sq m/ha; B1a 22.2 sq m/ha**

B22 03/14



Lunch

STOP 3 Chase Woods

Cpt Details	Management History
O18/19 **7.0 ha** **AH/SYC** **Semi-natural CC High Forest Working Circle**	**Cutting of u/ storey /thinning of o/storey 1984-1985** **Deer fenced 1986; very small-scale planting of oak.** **Removal of most of remaining o/storey after 1987/1990 Storms** **Natural regeneration Tended 1998**
	2014/15: 'winners' marked and thinned to (c 120-150/ha)/ permanent extraction racks installed at 28-32 m spacing/ associated u/storey cutting.

STOP 4 Chase Woods

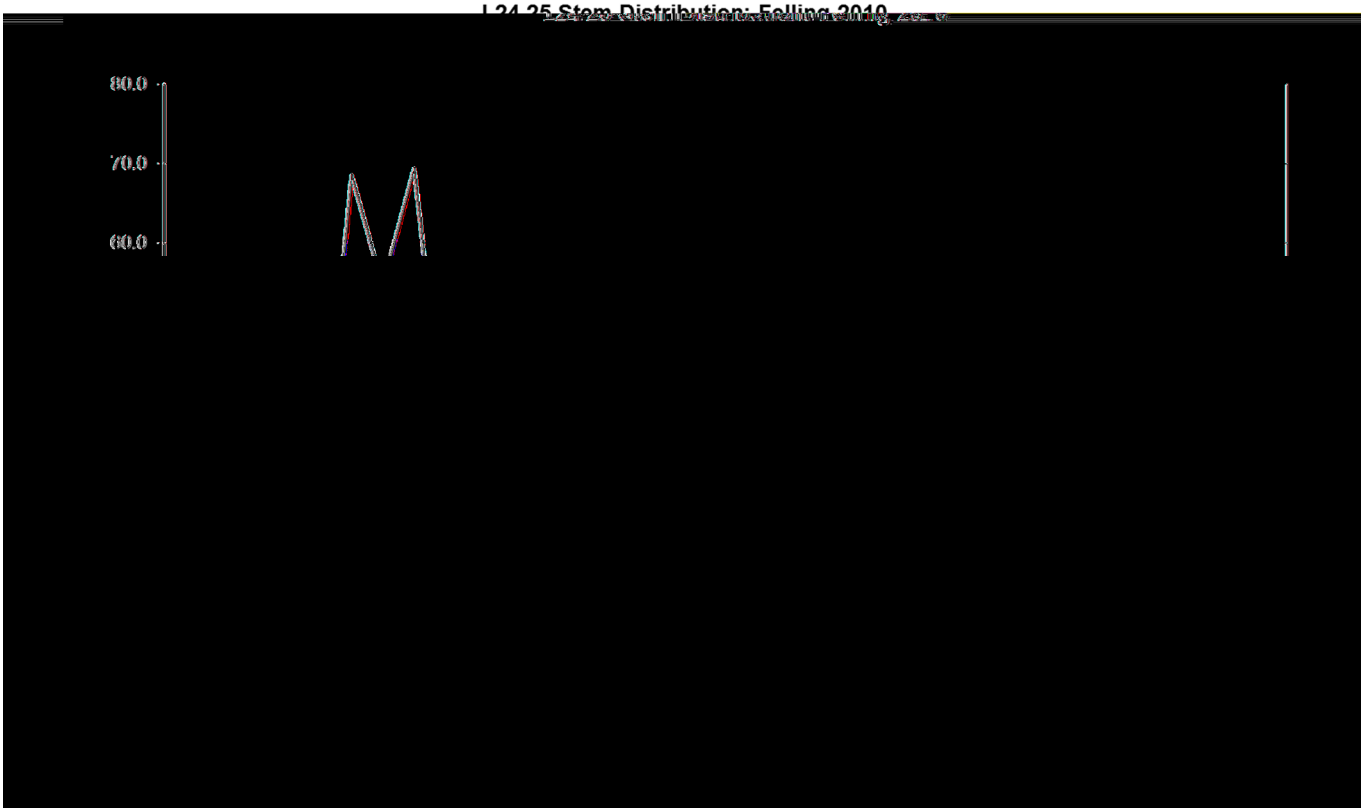
Cpt Details	Management History
N7-11 **9.5 ha**	**Thinned 86,91,95,99,03,07,12 Significant W/blow 14**
NS P61 **YC14/16** **Mixed CC High Forest Working Circle**	**Plant DF/RC, limited nr of NS**

STOP 5 Chase Woods

Cpt Details	Management History
L8/9 **3.6 ha**	**Thinned 87,92,96, 00/01Wb,06,10**
NS/WH P61 **YC14/16**	**00/01: 5 x WH groups felled ; 03; 4 groups planted with DF/RC in 0.6m tubes**
Mixed CC High Forest Working Circle	**Next Intervention: 2016 or 2017 thin**

STOP 6 Chase Woods

Cpt Details	Management History
L 24/25/26 **5.2 ha** **NS/MB (retained) P62** **YC 14/16** **Mixed CC High Forest Working Circle**	**Thinned 81,89Wb,95, 0,05,10,14Wb (minor)**
	2010 Thin BA Measure: **Before 33.8 sq m/ha; After 27.0 (20.2% removed)** *BA Increment 2005-2010* **1.05 sq m/ha.** *2010 Thin Ave Dbh*: **Before 34.8 cm, After 34.1, Removed 37.1.** **Permanent extraction racks installed.**
	Dendroctonus **present.** *Rhizophagus major* **released 2013**
	Next Intervention: 2017 create gaps between racks and plant DF/RC. Some nr NS present.



STOP 7 Chase Woods

Cpt Details	Management History
J15 4.2 ha **NS/ BE/ DF/ MB (retained) P62 YC16** **Mixed CC High Forest Working Circle**	**Thinned 87,92,97,02,07,12, 14 Wb** *BA Measure J15 10/12 (before w/blow):* **27.0 sq m/ha** *Volume Removed Wb 2014:* **97.8 t /ha c 33% of stand volume**
AFI Network Research Stand (with J10): First Measure Oct 2012	**15/16 Plant larger holes DF/RC. NS, RC & DF nr present.**

J15/J10 Before Windblow