Fox Rough, Patching

Management Plan

Date:	**01/04/2011**	**to**	**01/04/2026**
Owner / tenant:	**Sarah Goodall & Ian Tooth**		
Agent / contact:	**Sarah Goodall or Ian Tooth**		

1. BACKGROUND INFORMATION

1.1 Location

Nearest town, village or feature	Patching, West Sussex
Grid reference	TQ0705.4798
Total area (ha)	13.76

1.2 Description of the woodland(s) in the landscape

Fox Rough is a young oak plantation, located within the South Downs National Park, 7 miles East of Arundel and 6 miles to the West of Worthing. Access can be gained from the West side of Selden Lane, approximately 200 metres North of the A27.

The woodland is nestled amongst the rolling Sussex hills and populates a South facing hillside and valley floor situated at between 170metres to 470metres above sea level. To the base of the valley floor a winterbourne stream is present and the undercanopy is species rich with ancient woodland vascular plants (AWVP).

The woodland itself is not eligible for ancient woodland status, however a habitat corridor connects the Northern boundary to the Angmering Park Estate's ancient woodland.

1.3 History of Management

Well wooded from the early 19th century, the area lies immediately West of Patching village.

Historically owned and planted by the Angmering Park Estate the oak plantation is now into its second rotation.

In 1942 Fox Rough was planted with oak and norway spruce and since this time it has been subject to several thinnings and was underplanted with more oaks during the 1970's.

The norway spruce was largely destroyed during the 1987 storm along with a sizable quantity of the older oak trees. Further oaks were then planted to compensate and in 2005 the remaining p42 oaks were further thinned and 959 tonnes extracted and sold for firewood.

The plantation now comprises of approximately 5% p42 oaks, with 20-40 year old oaks making up the remaining 95%.

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2. WOODLAND INFORMATION

2.1 Areas and features

2.1.1 Designated Areas	In Woodland	Adjacent to Woodland	Map
Special Areas for Conservation (SACs)	N		
Special Protection Areas (SPAs)	N		
Ramsar Sites (**see note on Guidance)**	N		
National Nature Reserves (NNRs)	N		
Sites of Special Scientific Interest (SSSIs)	N		
Other designations eg: National Parks (NPs), Areas of Outstanding Natural Beauty (AONBs), Local Nature Reserves (LNRs)	Y NP & AONB		
Details Sussex Downs AONB (until 31st March, thereafter the South Downs National Park take responsibility for managing the newly designated area.			

2.1.2 Rare and important species	In Woodland	Adjacent to Woodland	Map
Red Data Book or BAP species	N		
Rare or threatened species	N		
Details			

2.1.3 Habitats	In Woodland	Adjacent to Woodland	Map
Ancient semi-natural woodland (ASNW)	N		
Other semi-natural woodland	N		
Plantations on ancient woodland sites (PAWS)	N		
Semi-natural features in PAWS	N		
Woodland margins and hedges	N		
Veteran and other notable trees	N		
Breeding sites	N		
Habitats of notable species	N		
Unimproved grassland	N		
Rides and open ground	Y		Map 1 – Aerial map
Valuable wildlife communities	N		
Feeding areas	N		
Lowland heath	N		
Peatlands	N		
Others	N		
Details			

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2.1.4 Water	In Woodland	Adjacent to Woodland	Map
Watercourses	Y	N	Map 3 – constraints map
Lakes	N	N	
Ponds	N	Y	
Wetland habitats	N	N	
Details Winterbourne stream runs through middle of wood (East to West) filled from pond on adjacent land East side of Selden Lane on Eastern boundary. (refer to map 1)			

2.1.5 Landscape	In Woodland	Adjacent to Woodland	Map
Landscape designated areas	N	N	
Landscape features	N	N	
Rock exposures	N	N	
Historic landscapes	N	N	
Areas of the woodland prominent from roads	Y		
Areas of the woodland prominent from settlements	N		
Details Site has frontage of approximately 300m to Selden Lane.			

2.1.6 Cultural Features	In Woodland	Adjacent to Woodland	Map
Public rights of way	N	Y	
Prominent viewing points	N	N	
Permissive footpaths	N	N	
Areas managed with traditional management systems	N	N	
Details Perpendicular footpath opposite woodland entrance on Selden Lane.			

2.1.7 Archaeological Features	In Woodland	Adjacent to Woodland	Map
Scheduled monument	N	N	
Historical features	N	N	
Details			

2.2 Woodland resource characteristics

The canopy consists mostly of oak, with numerous ash and occasional birch, sweet chestnut, beech and pine. The canopy ranges from closed to open and some birch are now apparent in the sub-canopy. To the Northwest corner a magnificent mature beech specimen can be found. The shrub layer has evidence of occasional coppice stools scattered throughout. These are predominantly hazel with several tall neglected stools, but most have been coppiced and now growth is suppressed at stool height by roaming deer. Other shrub species found within the woodland are holly and hawthorn with field maple, elm and blackthorn to the boundaries.

The ground flora is rich in species and although dominated by bramble and bracken, other species include honeysuckle, bluebell, ivy, grasses, barren strawberry, wood anemone, yellow arch angel, wood sorrel, field rose and butchers broom.

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2.3 Site description

Fox Rough lies on the Western edge of Patching parish and has a Southerly aspect. The woodland is predominantly oak of varying ages with most being between 20-40 years old.

There is evidence of internal rides with an under storey displaying sporadic hazel and hawthorn, all of which is surrounded by brambles and bracken. The ground is generally clay over chalk.

2.4 Significant hazards, constraints and threats

- Trees to roadside and adjoining track network to be regularly assessed.
- Overhead electric line is SE corner to boundary – trees in proximity to be regularly assessed.
- Deer pressure remains constant and this must be managed into the future if the under wood management and biodiversity is to be continued to be promoted.
- Care must be exercised during periods of wet weather so as not to cause compaction or to allow rutting damage to the soil profile (which has a very rich fertile top soil).
- Several young sycamore have been located within the wood. These must be removed before they reach reproductive maturity.
- Regularly risk assess trees in proximity to footpath to proposed eco cabin (see constraints map for location).
- Regularly risk assess trees in proximity to hard standing parking area (see constraints map for location).

3. LONG TERM VISION, MANAGEMENT OBJECTIVES AND STRATEGY

3.1 Long term vision

With the support of the Forestry Commission and other relevant conservation bodies, we would like to site a small information building, which will be constructed using materials sourced from within the wood and milled with our sawmill. Select groups of children accompanied by carers will then be invited to visit the woodland and the “eco cabin” to learn about the forest through play. Bivouac building and interactions with mini-beasts are planned and as further components of the management strategy are implemented, the visits to the wood could be adapted to highlight the benefits of the varying habitats within the woodland environment and the creatures and plants that reside there.

The eco cabin would be sited within a central area within the wood that is to be managed by minimum intervention, with a long term aim of establishing an entirely natural woodland for the future.

The conditions found within Fox Rough are potentially suitable for bryophyte and lichen habitats as a lowland stream runs through the wooded forest floor. Over time the high forest canopy will close, causing the less dominant trees to decline and die. This management approach will encourage suitable habitats for the whole saproxyclic complex of species dependant on dead wood to evolve (these include the bryophtes and lichens as previously mentioned, as well as fungi, frogs, toads, newts, stag beetles, ground and rove beetles, centipedes, woodpeckers and all other manor of insect eating birds).

Adopting a minimum intervention approach however could lead to a loss of open space habitats, and a track network will therefore be installed around this area to combat this. Six glades will also be sited around this track to maximise wildlife opportunity and make the wood as structurally diverse as possible (each glade will have multiple junctions to assist with animal migration)

Seven 1.5 acre coppice compartments will also be positioned just inside the outer edges of the wood. These compartments will be planted with ash, where one cant will harvested each year in rotation using

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a chequer board pattern over a 7 year cycle. This will again strengthen the structural biodiversity of the wood as the newly cut compartment will encourage vigorous forest floor growth around the cut stools from surrounding flora and fauna (now enjoying the addition of light), whilst the other cants, each being at a different stage of development, will yield a different amount of coppice growth. This variation will provide a variety of different habitats with the wood.

The ash itself will also be utilised and each year one compartment will be harvested. The wood will be used predominantly for manufacturing charcoal, although some of the product may also serve as firewood.

Ash specimens are already evident throughout the wood and we are confident that this species is well suited to the ground conditions present. It is also an excellent burning wood, having high calorific properties and will support a good yield as ash grows vigorously, with 7-year-old coppice stools producing approximately 4”-6” diameter stems. This size is perfect for charcoal burning as well as for fuel (as no splitting would be required).

All in all the growing properties and high performance of this wood make ash the perfect coppice species for this project.

3.2 Management Objectives

No	Objective
1	Manage the woodland in compliance with UKWAS and to protect and maintain the ecological integrity of the woodland in the long term.
2	Establish an effective ash coppice rotation.
3	Improve structural diversity.
4	Control/exclude deer to ensure effective re-growth of ash coppice.
5	Control grey squirrel population in order to preserve and enhance dormouse population (if present).
6	Control invasive ground flora.

3.3 Strategy

The strategy is tied in with the objectives and can be summarised by the following points:

- Erect deer fence to the perimeter to exclude deer.
- Staged clear fell of a 1.5 acre area each year over seven years to create seven cants (18 standards are to be retained per cant for nature conservation purposes).
- After clear fell, plant with ash and one cant to be managed each year in rotation.
- For the first seven years of cant creation, charcoal burning will be undertaken, utilising the arisings from the initial clear felled areas and thereafter using the ash coppice from alternating compartments each year in rotation.
- High forest to be managed on a minimum intervention basis. Over time the canopy will close and less dominant trees will decline, creating a diverse habitat within the standing and fallen dead wood.
- Staged installation of forest glades interconnected by an extensive track network. This will increase biodiversity of habitat and again will be installed over seven years.

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4. MANAGEMENT PRESCRIPTIONS/OPERATIONS

4.1 Silvicultural systems

4.1.1 Harvesting

- Coppice cants will be installed annually to the perimeter area of the woodland over a 7 year period.
- It is envisaged that one perimeter cant will be harvested each year in rotation once stool maturity has been obtained.
- Cants to be cut on a checkerboard pattern to ensure continuity of cover for habitat purposes.
- Coppiced cants must have adequate regeneration before adjoining cants are coppiced.
- A minimum intervention strategy will be applied to the central “high forest” area, with the exception of buildings and areas where human activity is present (see constraints map).
- Roadside trees, trees bordering internal tracks, glades and the cant edges will be managed accordingly for health and safety reasons.
- Cut and poison to control all sycamore found.

4.1.2 Phased felling and restructuring of plantations

Initially each cant will be clear felled of existing oak, although 18 mature standards will be retained per cant for nature conservation purposes.

4.1.3 Establishment, restocking and regeneration

To retain soil integrity, cants will be forestry mulched to remove trip hazards before planting is undertaken.

Each cant will be re-stocked with ash, planted at 3m spacing.

Ash stools cut in 7 year cycles to allow time for suitable regeneration.

4.2 New planting

N/A

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4.3 Other operations

The forest glades and track network will be sectionally installed over the seven years of cant creation. The tracks will be installed to support the access to the cants as and when required during the clearing and planting process. The glades will be created before the track network is extended onto the next subsequent area.

Compartment	Track	Glade	Map
1a	-	-	-
1b	8m wide x 30m long	-	Compartment map
2a	5m wide x 138m long (adjacent to area 3) 5m wide x 100m long (adjacent to area 2b)	710m^2	Compartment map
2b	5m wide x 145m long (adjacent to area 3) 5m wide x 70m long (adjacent to area 2c)	475m^2	Compartment map
2c	5m wide x 124m long (adjacent to area 3)		Compartment map
2d	5m wide x 100m long (adjacent to area 2e)	475m^2	Compartment map
2e	5m wide x 70m long (adjacent to area 3) 5m wide x 70m long (adjacent to area 3)	535m^2	Compartment map
2f	5m wide x 100m long (adjacent to area 2g)	710m^2	Compartment map
2g	8m wide x 76m long 5m wide x 190m long (adjacent to area 3)	570m^2	Compartment map
3	8m wide x 140m long	-	Compartment map

4.4 Protection and maintenance

4.4.1 Pest and disease management

Grey squirrel to be controlled to ensure any dormouse habitat is protected and enhanced.

The ring fence will be inspected regularly to maintain it's effectiveness with searches for signs of deer trespass undertaken with the removal of any beast within the fenced area.

4.4.2 Fire plan

N/A

4.4.3 Waste disposal and pollution

N/A

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4.4.4 Protection from unauthorised activities

The woodland borders Selden Lane which is a fairly secluded lane. Due to the remoteness of the location, fly tipping is an ongoing problem. Installation of a deer fence will hopefully minimise this.

4.5 Game management

N/A

4.6 Protecting and enhancing biodiversity

4.6.1 Management of designated areas

To maintain and open rides and cut ash on rotation to maximise opportunities for biodiversity.

Central area to be managed as a minimum intervention reserve where bryophytes and lichens can prosper along with whole saproxyclic complex of species dependant on dead wood.

4.6.2 Measures to enhance biodiversity

- 18 trees per coppiced cant to be identified and retained as nature reserves.
- The targeted nature reserve area to be managed by minimum intervention has a shady watercourse to the centre, a habitat area ideally suited for lichens and bryophytes.
- Control/reduce grey squirrel population in order to improve habitat for dormouse population.
- Liaising with “badger trust” to use Fox Rough as a possible site to re-house a badger.

4.6.3 Special measures for ASNW and SNW

N/A

4.6.4 Special measures for PAWS

N/A

4.7 Management of social and cultural values

4.7.1 Archaeology and sites of cultural interest

N/A

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4.7.2 Public access
N/A

5. CONSULTATION

Organisation/individual	Comment	Response/action
West Sussex County Council	Tba	
Butterfly Conservation	To seek advice on habitat management for the enhanced track network	Butterfly Conservation have supported purchase of a Quad-X mower that will be utilised to maintain the track network
Forestry Commission	Site visit required	

6. MONITORING PLAN SUMMARY

Objective number, issue or UKWAS Requirement	Indicator	Method of assessment	Monitoring period	Responsibility	How will information be used
Structural diversity	Structure following coppice	Fixed point photography and biodiversity survey	Every 5 and 10 years	Owner and West Sussex County Council	Feedback into planning of coppicing and need for additional regeneration and tending.

7. WORK PROGRAMMES

7.1 Outline long-term work programme (2011 to 2031)

Compartment or area	Activity	Year			
		0-5	6-10	11-15	16-20
1a	Erect fenced wooden enclosure for sawmill and staff rest room. In the short term this will also provide secure storage for additional forestry machinery until storage barn is erected.	✓			
	Install gate and improve access drive for first 30m	✓			
	Erection of permanent woodland boundary deer fence	✓			
1b	Build/erect forestry storage barn.	✓			
	Provide means to access water from bore hole.	✓			
	Provide eco toilets for workers.	✓			
	Create hard standing parking area	✓			
	Erection of permanent woodland boundary deer fence	✓			
2a	Clear and plant cant 1 (Year 3)	✓			
	Create access ride	✓			
	Create glade area	✓			
	Erection of permanent woodland boundary deer fence	✓			
	Maiden cut (Year 10)		✓		
	Coppice (2nd cut) (Year 17)				✓
	Locate charcoal burner	✓			
2c	Clear and plant cant 2 (Year 4)	✓			
	Create access ride	✓			
	Create glade area	✓			
	Erection of permanent woodland boundary deer fence	✓			
	Maiden Cut (Year 11)			✓	
	Coppice (2nd cut) (Year 18)				✓
2e	Clear and plant cant 3 (Year 5)	✓			
	Create access ride	✓			
	Erection of permanent woodland boundary deer fence	✓			
	Maiden Cut (Year 12)			✓	
	Coppice (2nd cut) (Year 19)				✓
2b	Clear and plant cant 4 (Year 6)		✓		
	Create access ride		✓		
	Erection of permanent woodland boundary deer fence		✓		
	Maiden Cut (Year 13)			✓	
	Coppice (2nd cut) (Year 20)				✓
2g	Clear and plant cant 5 (Year 7)		✓		
	Create access ride		✓		
	Create glade area		✓		
	Erection of permanent woodland boundary deer fence		✓		
	Maiden Cut (Year 14)			✓	
	Coppice (2nd cut) (Year 21)				
	Provide access footpath to eco cabin	✓			
2d	Clear and plant cant 6 (Year 8)		✓		
	Create access ride		✓		
	Create glade area		✓		
	Erection of permanent woodland boundary deer fence		✓		
	Maiden Cut (Year 15)			✓	
	Coppice (2nd cut) (Year 22)				

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2f	Clear and plant cant 7 (Year 9) Create access ride Create glade area Erection of permanent woodland boundary deer fence Maiden Cut (Year 16) Coppice (2nd cut) (Year 23)		✓ ✓ ✓ ✓		 ✓
3	Manage central area Maintain central track Build educational eco cabin. Provide access footpath to eco cabin Provide eco toilets for visitors	✓ ✓ ✓ ✓	✓ ✓	✓	✓

7.2 Capital investment programme (2011to 2013)

Compartment or area	Activity	Year				
		1	2	3	4	5
1a	Erect fenced wooden enclosure for sawmill and staff rest room. In the short term this will also provide secure storage for additional forestry machinery until storage barn is erected.	✓				
1a	Create hard standing parking area		✓			
3	Build educational eco cabin.		✓			
2g,3	Provide access footpath to eco cabin		✓			
3	Provide eco toilets for visitors.		✓			
1a,1b,2a,2b,2c ,2d,2e,2f,2g	Erect perimeter deer fencing		✓			
1b	Build/erect forestry storage barn.		✓			
1b	Provide means to access water from bore hole.		✓			
1a, 1b	Provide eco toilets for workers.	✓				
2a	Purchase charcoal burner and locate in woodland adjacent to area 1b (near water bore hole).		✓	✓		
1a	Install gate and improve access drive for first 30m.			✓		
2a	Purchase ash trees			✓		
2c	Purchase ash trees				✓	
2e	Purchase ash trees					✓

8. MAPS

List all maps here and append to plan.

Map No/Title	Description
1	Aerial map
2	Compartment plan
3	Constraints map

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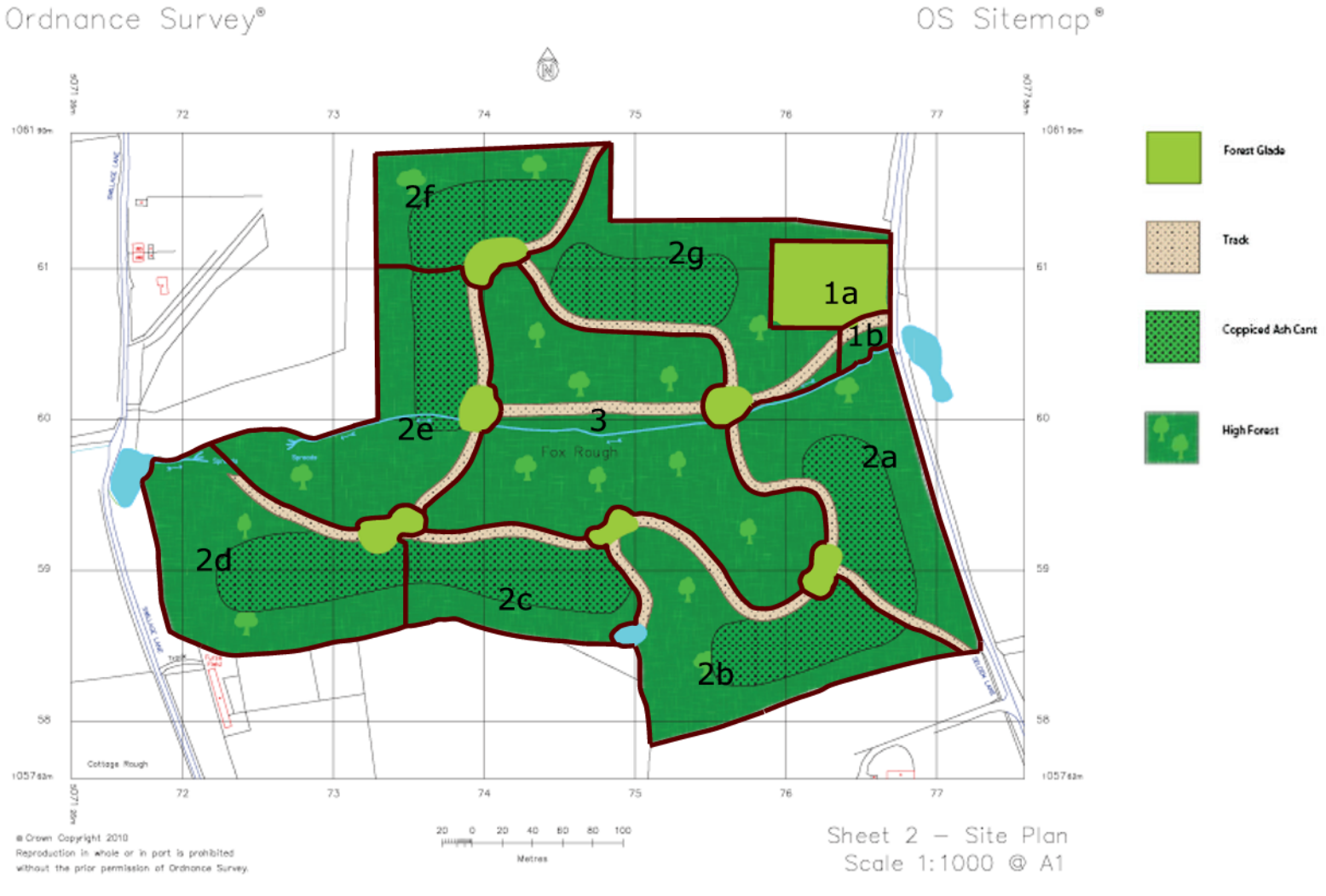
Fox Rough compartment numbers



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