

Great Pen Wood Forest Plan

South England Forest District

Date of Commencement of Plan: **1 February, 2014**

Approval Period: **1 February 2014 to 31 January 2024 (10 Years)**

Summary of Activity within Approval Period:

Forestry Activity (<i>Option 2 in italics</i>)	Area (ha)			
	Conifer high forest	Broadleaf natural regeneration or replanting	Mixed natural regeneration or replanting	Open
Clearfell in period 2014-2024	4.8	0	4.8	0
Clearfell in period 2025-2034	0	0	0	0
Management of areas under Low Impact Silvicultural Systems (LISS)	77.4			
Management of areas under a Coppice System	2.9			
Management of old stands or for long-term retention (included in LISS total above)	0			
Management of permanent open space	0.5			
TOTAL AREA	85.6 (includes 0.5 Ha for car park)			

FOREST ENTERPRISE Application for Forest Plan Approvals

Forest District: **South England Forest District**

FC Geographic Block No: **82**

Woodland / Property Name: **Great Pen Wood**

FE Plan Reference Number: **304/05/13-14**

Nearest town or village: **Newbury, Berkshire**

OS Grid Reference: **SU 447 620 (Centre of Site)**

Local Authority: **Basingstoke & Deane District Council**

I apply for Forest Design Plan approval for the property described above and in the enclosed Forest Design Plan.

I undertake to obtain any permissions necessary for the implementation of the approved Plan.

Signed: 

Michael Seddon, Deputy Surveyor, South England FD

Date: **2 April 2014**

Approved: 

PP, Forest Services Area Director

Date: **2/4/14.**

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Forest Planning

Forest Plans define the long term vision for a woodland or a collection of woodlands, usually looking 50 to 100 years ahead. It sets objectives and illustrates how management will move towards achieving this vision over the initial 10 to 30 years.

This plan represents the first major review of the Great Pen Wood Forest Design Plan that was originally consulted upon and approved in 1995 and subsequently amended in 1997. The revised FP has been prepared following a review of the original plan undertaken by FC staff, and in consultation with stakeholders and the public. It has incorporated developments in policy and local initiatives that have occurred in the intervening years.

Consultation & Approval Process

At key points throughout the Forest Planning process, we will seek the views of external stakeholders, including local communities and organisations involved with nature conservation, public recreation and the timber industry. Through this consultation process we can ensure that an appropriate balance of objectives is achieved. Details of the Consultation Strategy for this Forest Plan can be found in Appendix A.

Approval of the Forest Plan is granted by the regulatory arm of the Forestry Commission known as Forest Services. This regulatory approval is usually valid for 10 years and grants a 10 year felling license.

The approved Forest Plan will be reviewed at year 5 to ensure proposals are still relevant, suitable and in line with current policy and guidance. This will also be an opportunity to evaluate the success of management over the 5 year period and engage any amendments to the Forest Plan that may be required.

Forest Plan Maps

Nine maps are presented with this Forest Plan. Where appropriate the maps are annotated to describe issues on the site.

Location

Aerial and AONB

Ancient Woodland and Semi-Natural Scoring

Long Term Vision

Illustrates the long-term structure of the woodlands and other habitats consistent with the Forest Plan objectives. While there is no fixed time scale for the habitat transformations depicted, an indicative term of 10 to 100 years depending on the habitat objective is assumed.

Current Structure

An overview of the current makeup of the woodland.

Habitat Restoration and Felling

Shows the management proposals in the shorter term, usually up to 30 years. These proposals are the initial stepping stones towards achieving the long term vision.

Regeneration Plan

Shows the proposed restocking pattern and woodland structure resulting from the operations associated with the habitat restoration and felling proposals.

Intended Structure at Year 10

An overview of the woodland structure at year 10 following management detailed on the Habitat Restoration & Felling Map and Regeneration Plan.

At this map scale (1:5000), it is difficult to show detail of small-scale unplanted areas or retentions. A detailed restocking plan will be produced as part of an operational site assessment for the woodland nearer to the time of implementation. Some small groups or individual character trees may be retained at the time of felling, especially if they add to the amenity of the woodland or contribute to nature conservation value. Any veteran trees or standing dead trees will be retained and protected (except when a potential safety risk to the public).

Statistics

The plan is supported by charts illustrating relevant statistics about the woodland. Some statistics will also be linked to the monitoring and indicators of success for this Plan.

Production Forecast

The 20 year Production Forecast illustrates the timber volume which would theoretically be extracted from the woodland over the period of this design plan and beyond based on these proposals. This is subject to change as informative data is collected and updated during the period of this Plan.

Objectives for Great Pen Wood

- Maintain and enhance native species and semi-natural features within ancient semi-natural woodland.
- Continue restoration of planted ancient woodland sites to native and honorary native woodland.
- Take opportunities to increase the nature conservation value of other existing habitats, in particular the riverine habitat through the woodland with associated wet woodland areas.
- Maintain sustainable access and the provision for recreation within the woodland.
- Maintain the diversity of age structure and appropriate species mix within the woodland.
- Provide a regular supply of quality timber to support local employment and local timber processing industries.

Current Context

Location

Great Pen Wood is situated approximately 1 mile south of Newbury at the junction of the A34 and A343.

Tenure

Forestry Commission is the owner of the freehold for the woodland.

Landscape

Great Pen Wood covers an area of approximately 86 hectares and is visible by motorists travelling on the A34 and A343 in either direction. However, lying on relatively flat countryside no panoramic views are available.

The woodland is in the North Wessex Downs AONB, sitting within the Highclere Lowlands and Heath Character Area of the Lowland Mosaic Landscape Character Type¹. Issues identified within this area, relevant to woodland include:

- Lack of appropriate management of woodlands particularly ancient and semi natural woodlands formerly managed by coppicing and areas of wood pasture.
- Climate change - potential impacts on habitats including drying out of wet heathland and increased fire risk on dry heaths. Requirement for irrigation of arable land - including construction of reservoirs and intrusive infrastructure. Potential impacts on woodland and parkland include an increase in non native species and tree loss (drought/windthrow).
- Loss of tranquillity, resulting from a combination of [increased traffic on the road network, potential future demand for aggregate extraction and development pressures].²

Key management requirements noted by the NWD AONB for this area include the conservation and enhancement of ancient and semi-natural woodlands.³

In accordance with the European Landscape Convention, these aspects have informed this Forest Plan.

1. Source: The North Wessex Downs Management Plan 2009-2014; About the Land. Page 19

2. Source: The North Wessex Downs Management Plan 2009-2014; About the Land. Page 27

3. Source: The North Wessex Downs Management Plan 2009-2014; About the Land. Page 27

Current Woodland Structure

Approximately 9% of the woodland area (~7.7ha) is classified as ancient semi-natural woodland (ASNW) and approximately 51% (~44ha) classified as plantation on an ancient woodland site (PAWS). There is significant conifer component throughout the woodland including Corsican Pine, Western Hemlock, Larch, Scots Pine and Douglas Fir. Broadleaved species present include Oak, Alder, Beech, Aspen and Birch with a minor presence of Ash.

The age class of canopy trees ranges from 20 years to 160 years old with some newly replanted areas.

Where conditions are suitable, some significant natural regeneration of multiple broadleaved and conifer species occurs.

Biodiversity and Conservation

Areas of ancient woodland are the main points of nature conservation interest within Great Pen Wood.

The woodland has been designated as a Site of Interest for Nature Conservation (SINC) by Hampshire County Council due to the ancient woodland status.

3 tertiary rivers and a secondary river flow through the woodland before eventually joining the River Enborne.

There are no statutory conservation designations on this site.

During management interventions, opportunities for ride widening and glade enhancement will be taken to increase the eco-tone of the woodland and provide connecting habitats and food sources, for example heather, for invertebrates and other associated species such as woodland birds. Decisions about which rides to improve in this way and where woodland glades could be introduced to expand and connect such habitats will be taken at the operational stage.

There are several veteran trees within the woodland including Oak and Birch.

People

Great Pen Wood is used informally for recreation by many local people for walking and dog walking. The woodland is dedicated for open access under the Countryside and Rights of Way Act (2000). A car park for around 10 cars is situated on the eastern side of the woodland.

Public use is likely to increase in the coming years, particularly with the Sandleford Park development planned just south of Newbury.

The woodland is occasionally used for more formal events such as off-road motorcycling. This occurs about once a year.

Third party access is also granted to a telecoms company for access to a radio mast.

The 2002 Village Design Statement for Highclere and Penwood said of Great Pen Wood that '[the] primary concern of residents is to preserve the open spaces that lead to a variety of wildlife habitats.'

Open junctions and vistas increase the experience of a walk around Great Pen Wood. There are also a number of striking individual trees. During management interventions opportunities to enhance the visual impact of rides and individual trees will be taken by selecting trees for retention based on character as well as ride widening.

Historic Environment

There are no scheduled or un-scheduled monuments recorded within Great Pen Wood.

Soils

The soils of Great Pen Wood are characterised as Gleys. Gley soils are characterised by permanent or seasonal waterlogging and are among the most common forest soils.

Water

3 tertiary rivers and a secondary river flow through the woodland before eventually joining the River Enborne.

In recent years parts of these have been expanded to include ponds and some conifer removal has occurred along stream sides.

The river Enbourne currently has a quality status of 'good'. However, it has been identified as at risk from the impacts of diffuse pollution. Forestry operations have the potential to mobilise sediment by disturbing ground and creating pathways for sediment movement into watercourses. This should be considered when undertaking felling or other

management operations in proximity with watercourses.

Climate Change

Climate change presents one of the greatest long-term challenges facing the world today. Conventional forest management systems have developed in a climate that has

undergone fluctuations but remained relatively stable since the end of the last ice age (around 10 000 years ago).

However, the average global temperature is now rising, there is evidence that rainfall patterns are changing. There is also likely to be an increase in the incidence of extreme weather and the frequency and severity of summer drought. This is likely to represent the greatest threat to woodlands from climate change in the UK over the coming decades. UK forest management needs to respond to these threats in two principal ways: through mitigation, including ensuring management is sustainable and adaptation, including species diversification.

Tree Diseases and Pests

Throughout southern England, established and newly recognised tree pests and diseases have been causing significant concern in recent years. Of particular concern at the present time in the locale of Great Pen Wood is the spread of *Dothistroma* (red band) Needle Blight on Corsican Pine, and *Phytophthora ramorum* on Larch. The limited Ash presence minimizes the impact that *Chalara Fraxinea* (Ash Dieback) may have on the woodland, but ongoing monitoring for this and Acute Oak Decline will take place in line with Forest District guidance. Guidance and action plans regarding plant health are constantly evolving to adapt to plant health threats. The sudden emergence of a disease can result in the need to clear fell a coupe earlier than planned or alter restocking plans. We will continue to monitor for diseases as required and take any action required. Any changes to the Forest Plan will be notified or agreed with Forest Services in accordance with relevant guidance.

Mammal browsing is also a threat to the sustainability of the woodland by having the potential to limit regeneration. Deer will be managed in accordance with the South England Forest District Deer Management Strategy.

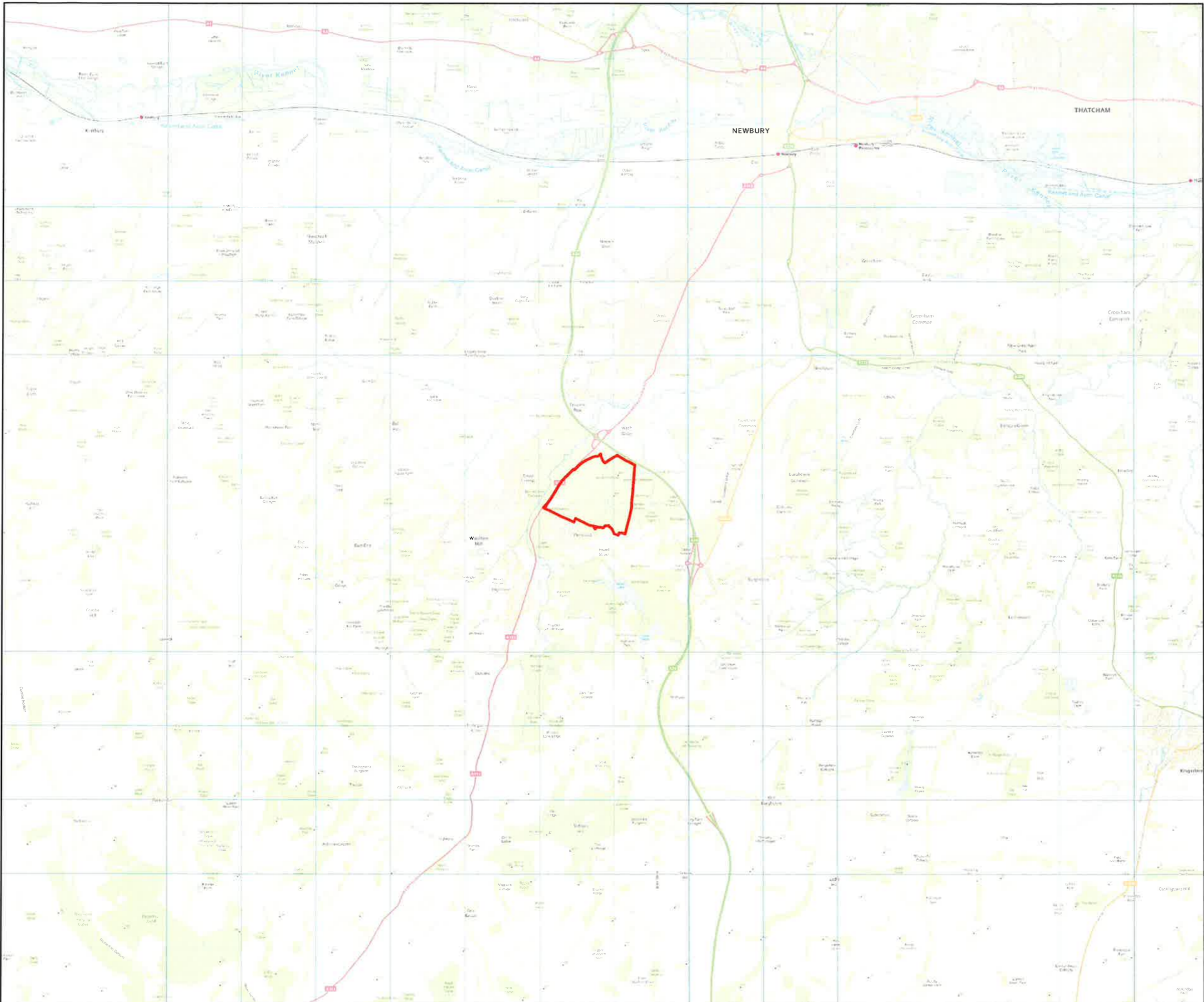
There is a large proportion of Rhododendron throughout the woodland, with bamboo and Parrot's Feather also present. Such invasive non-native plant species pose a threat to native flora and will be monitored and managed in accordance with policy and guidance.

Timber Production

Over the last 5 years, through the natural growth of the trees, Great Pen Wood has produced an increase in standing timber volume of approximately 855m³ per year¹ or an approximate total of 4275m³. During this time, timber harvesting has removed approximately 4420²m³. This is around 103% of the total growth increment over the past 5 years. This figure is buoyed by recent clearfelling of areas in line with the previous Forest Design Plan. Traditional clearfelling methods create a spike in productivity rather than the more gradual production seen when managed with lower impact silvicultural systems.

Within Great Pen Wood, sustainable timber harvesting helps to deliver the objectives of this Forest Plan by: creating space within the woodland for young trees to flourish, thus encouraging genetic diversity and longevity of the woodland; generating dynamic transitional habitats which are vital for local wildlife; delivering a sustainable timber resource to local timber markets and supporting employment across a number of sectors.

1. Source: FC Sub-compartment database,
2. Source: FC Sales Recording Package.



Forestry Commission

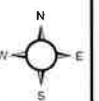
South England Forest District

Great Pen Wood Location

KEY

 Great Pen Wood

1:50,000

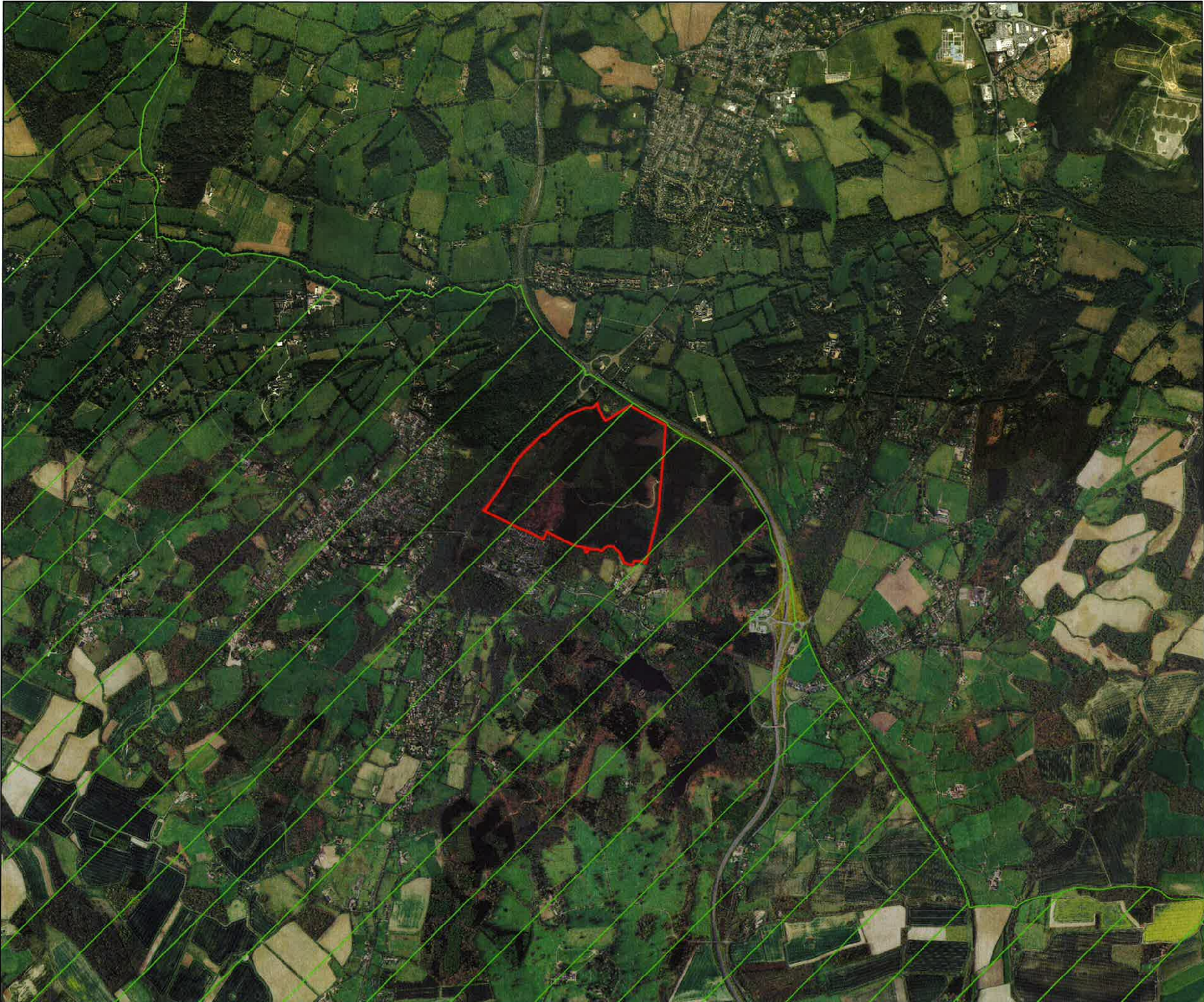


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Stewardship Code.






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South England Forest District

Great Pen Wood

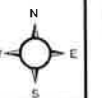
Aerial & AONB

KEY

 Great Pen Wood

 North Wessex Downs Area of Outstanding Natural Beauty

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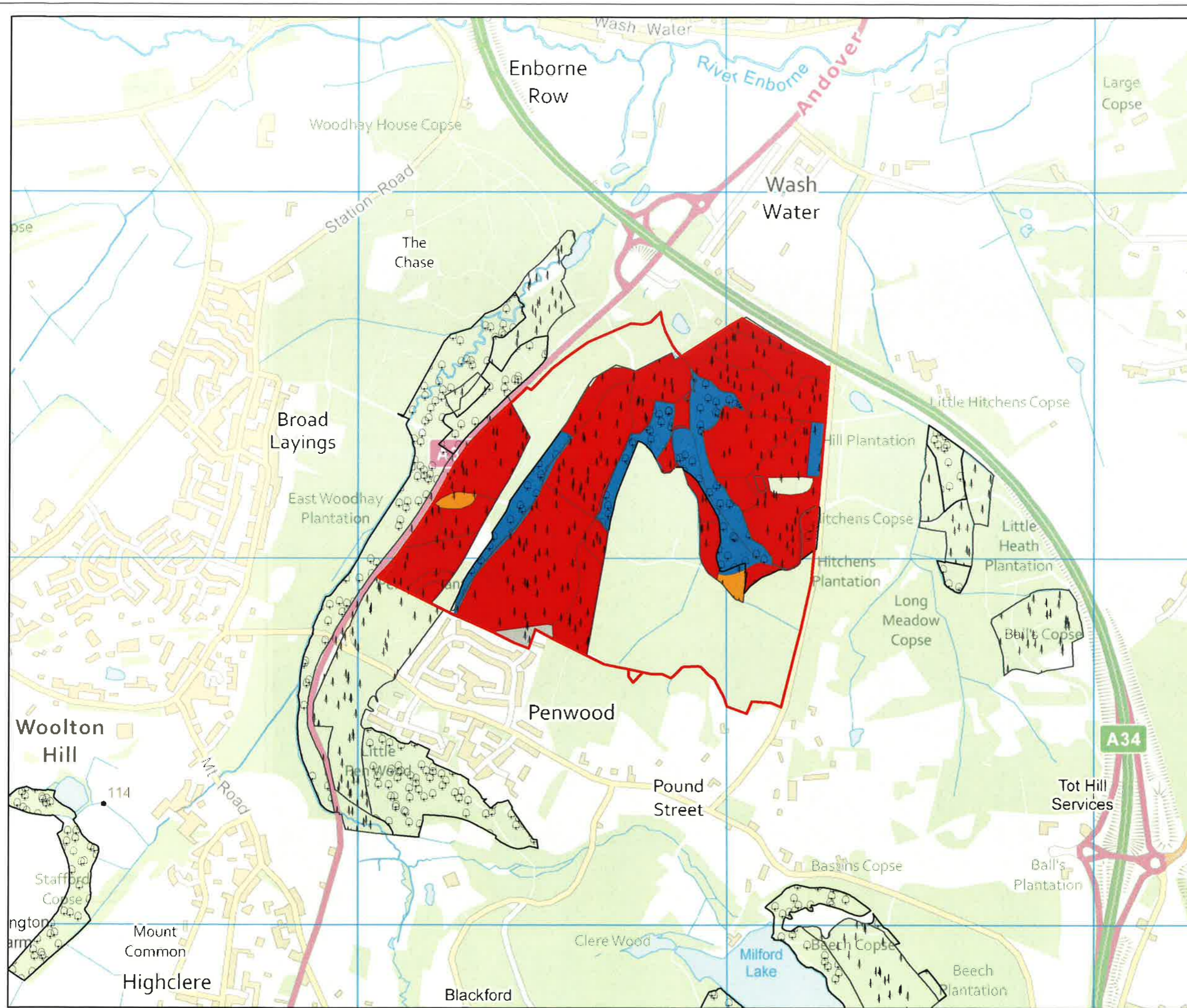
South England Forest District

Great Pen Wood

Ancient Woodland (NE) & Semi-Natural Scoring

KEY

-  Great Pen Wood
-  Ancient Semi-Natural Woodland (ASNW)
-  Planted Ancient Woodland Site (PAWS)
-  1 - Over 80% native
-  3 - Between 20% and 50% native
-  4 - Less than 20% native
-  No Score



27/11/2013 1:10,000



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South England Forest District

Great Pen Wood

Long Term Vision (~100 Years)



These areas have a high proportion of conifer naturally regenerating. This will slow down the conversion to broadleaf.

These areas have a lower proportion of conifers and so thinning to the best native tree is much more possible.

This area is choked with large, dense rhododendron

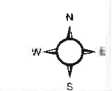
Remnants of wet woodland remain in the form of Alder stools, mosses and rush grass

Key

- Native and honorary native broadleaved woodland.
- Mixed woodland. Native and/or non-native broadleaves and/or conifers.
- Wet Woodland
- Riverine Habitat
- Woodland Glade
- Car Park/Picnic Area

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Date: 23/01/2014



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Forestry Commission
England

South England Forest District

Great Pen Wood
Current Structure

Key

-  Predominantly Broadleaved Woodland
-  Mixed Woodland
-  Predominantly Conifer Woodland
-  Open Glade
-  Riverine Habitat
-  Ponds
-  Car Park

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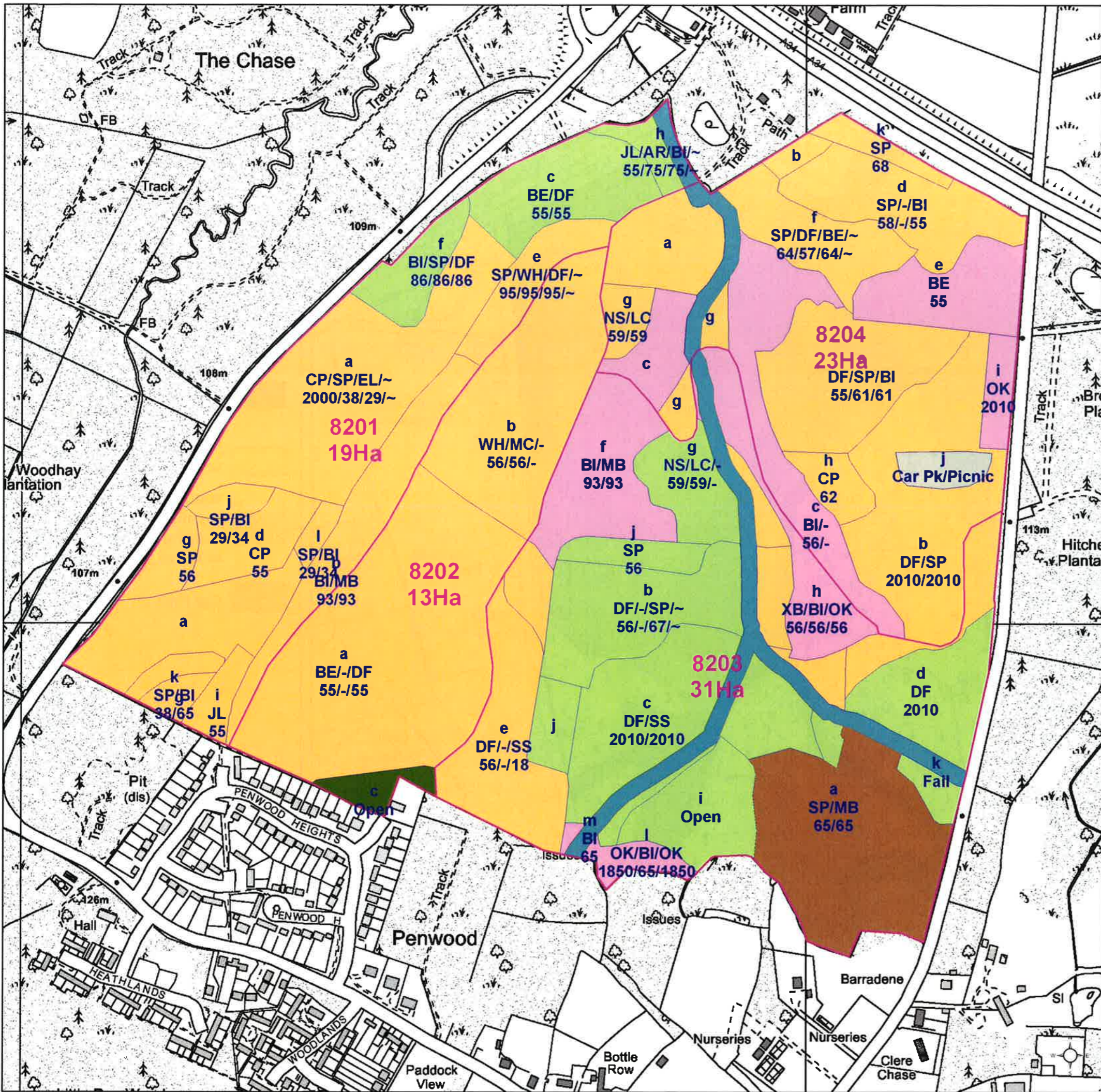
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Great Pen Wood

Habitat Restoration & Felling



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Key

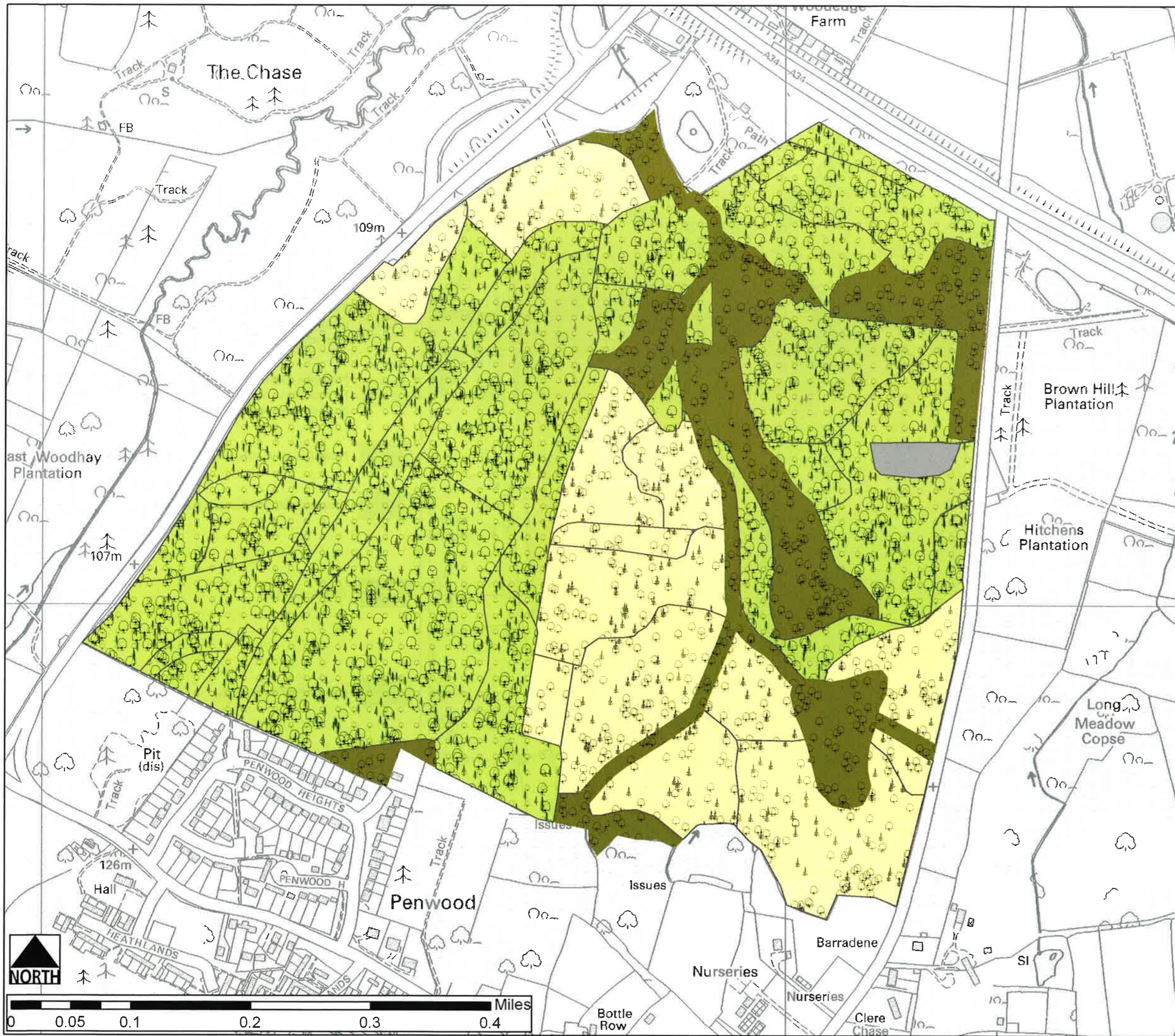
- Broadleaved Woodland Management. Manage under an appropriate shelterwood system, favouring best native tree and focussing on the production of quality timber.
- Manage under an appropriate shelterwood system. Favour best native tree, focussing on the production of quality timber and the gradual reduction of non-native species to 20% of the canopy or less.
- Manage under an appropriate shelterwood system. Favour best tree, focussing on the production of quality timber and species diversity.
- Manage as a rotational woodland glade.
- Riverine habitat management.
- 2012 - 2016
- Car Park/Picnic Area
- Compartments
- Sub-compartments

Date: 06/02/2014

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Forestry Commission
England

South England Forest District

Great Pen Wood
Regeneration Plan

Key

-  Natural regeneration of predominantly native broadleaved species
-  Natural regeneration or replanting of mixed species
-  Natural regeneration of mixed woodland. Subsequent thinning will favour retention of native broadleaved species
-  Car Park

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Date: 21/10/2013



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Forestry Commission
England

South England Forest District

Great Pen Wood

**Intended Structure
at Year 10**

Key

-  Predominantly Broadleaved Woodland
-  Mixed Woodland
-  Predominantly Conifer Woodland
-  Wet Woodland
-  Riverine Habitat
-  Open Glade
-  Car Park

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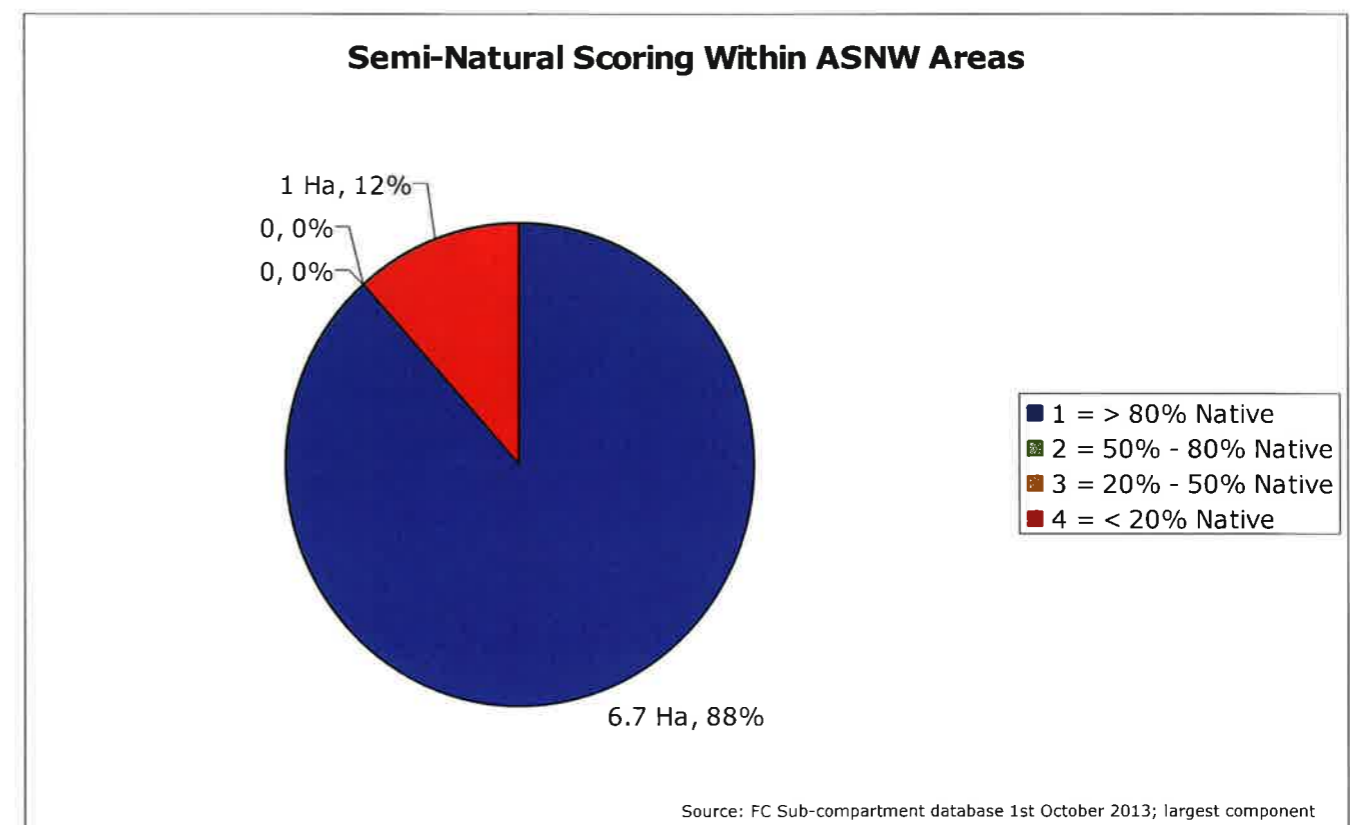
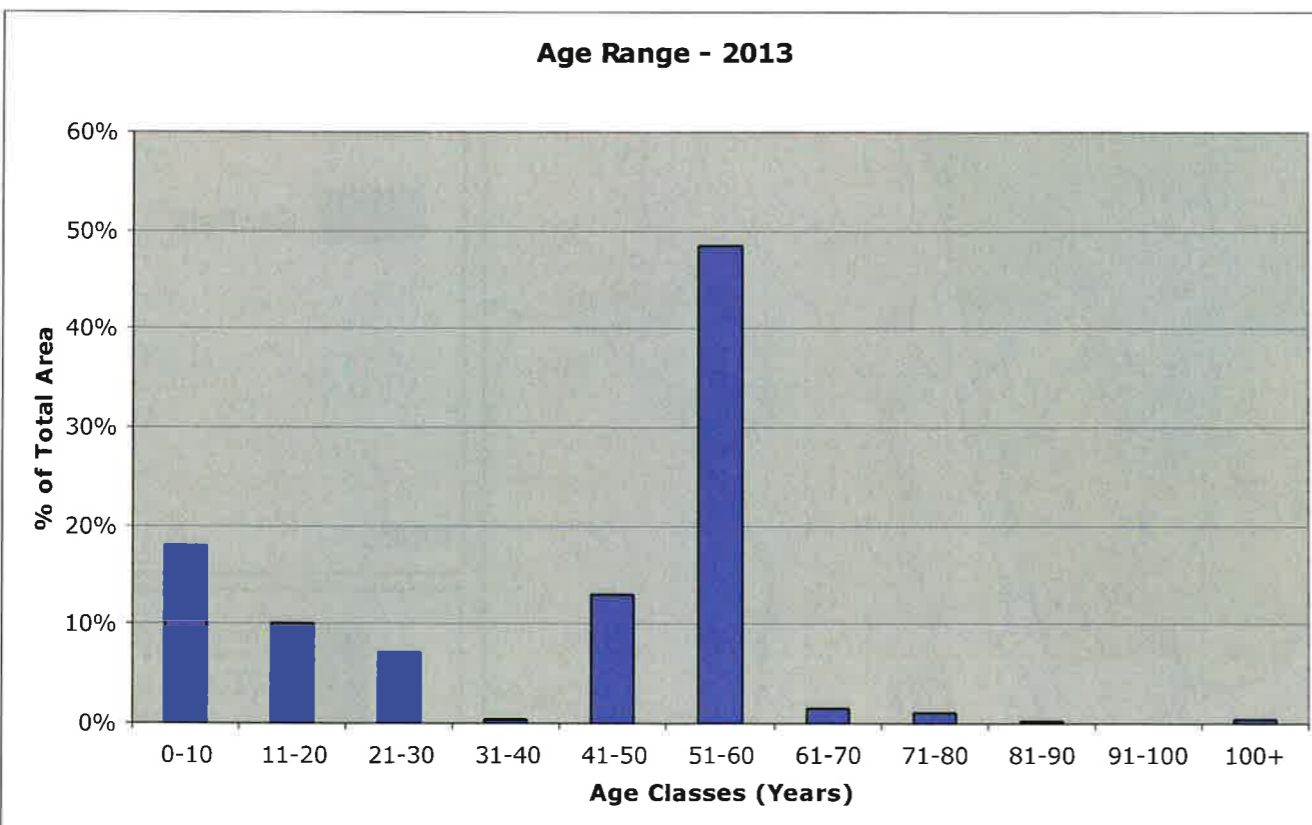
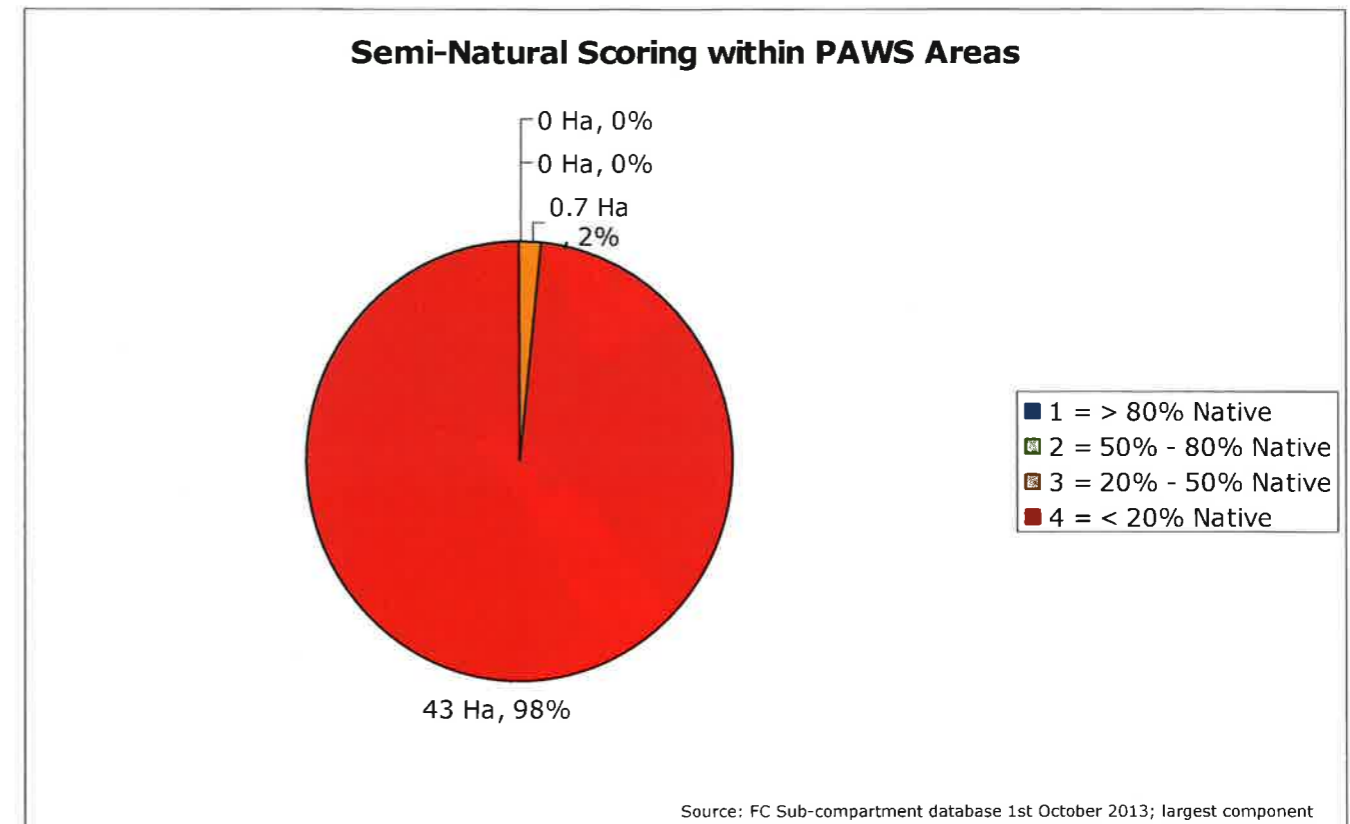
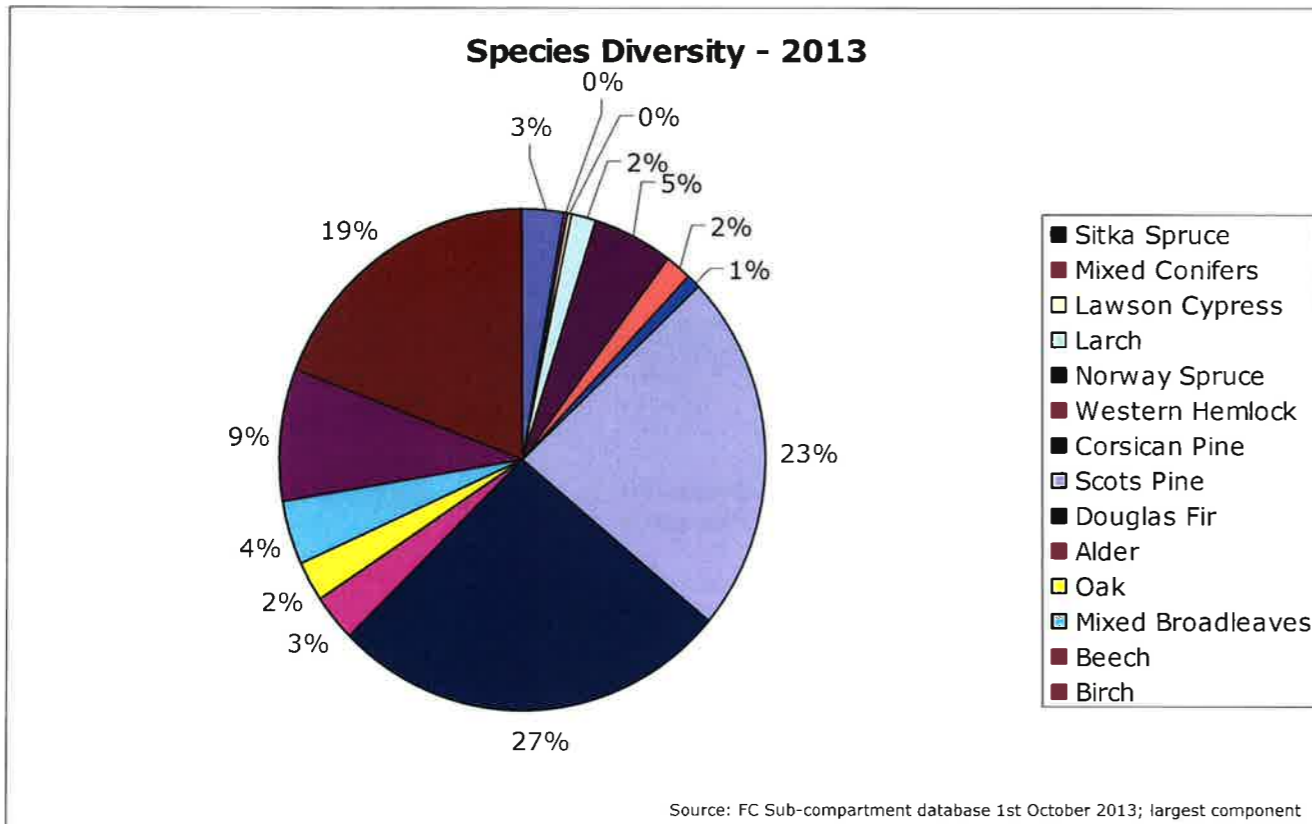
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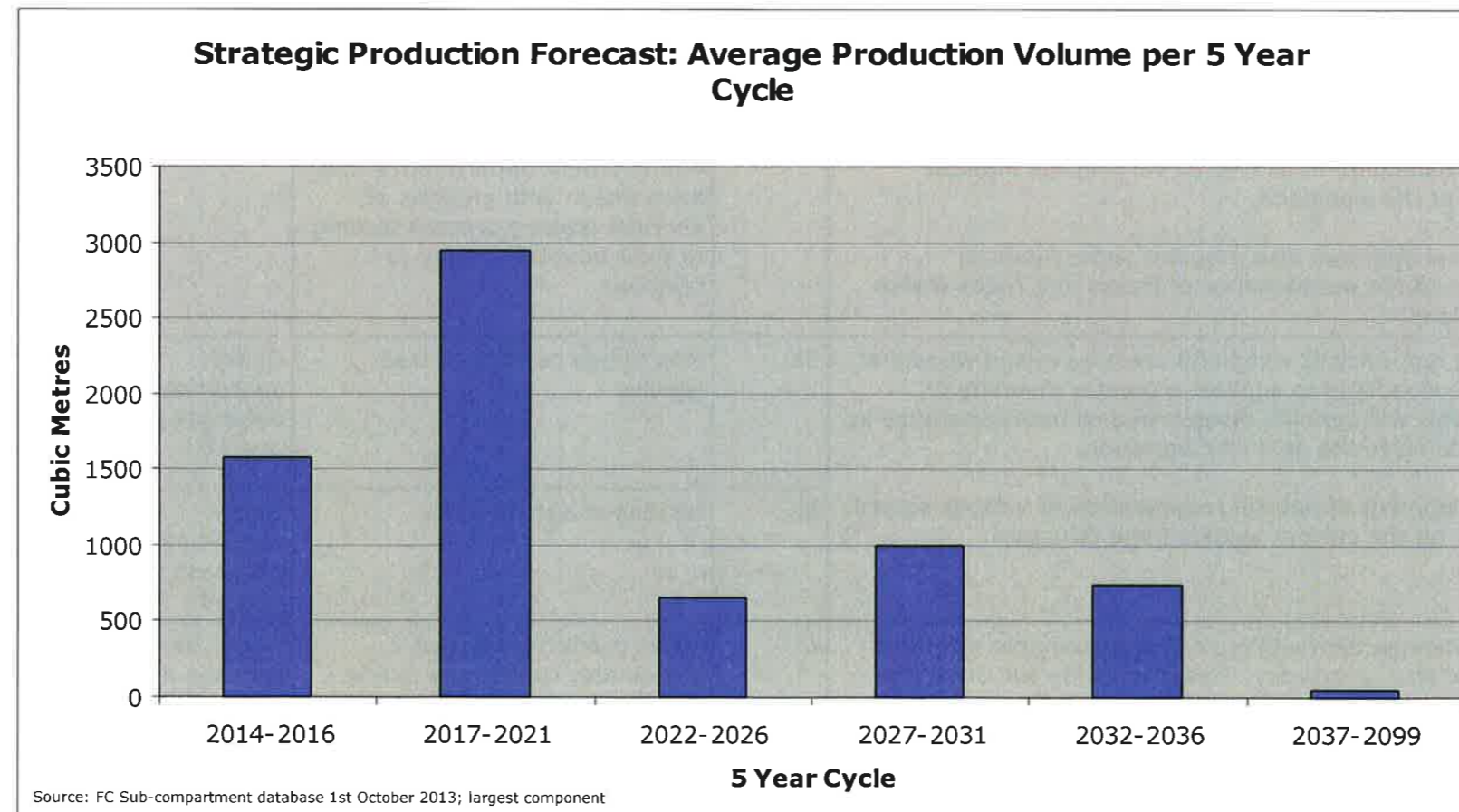
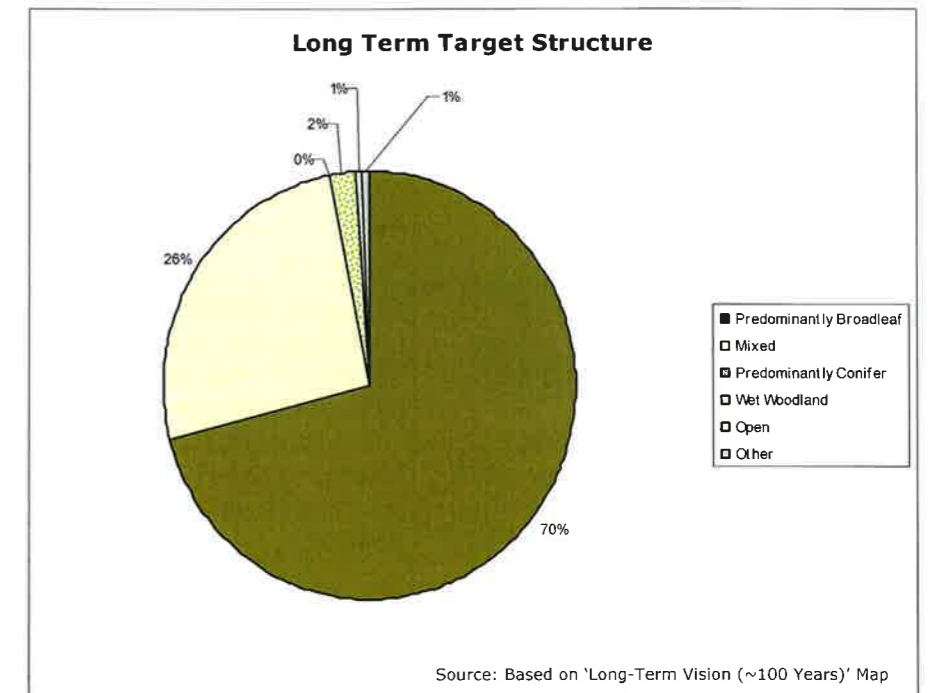
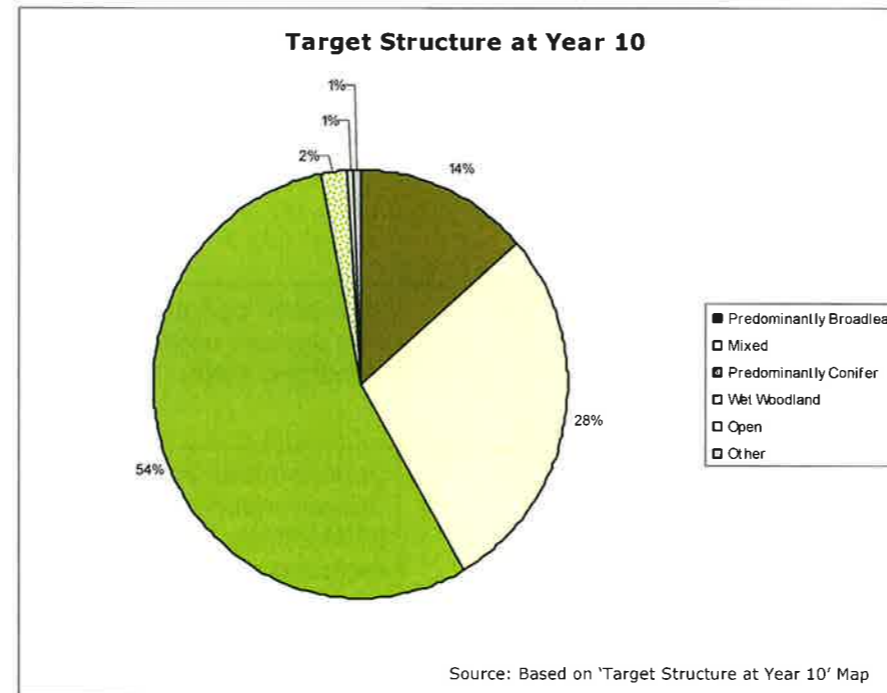
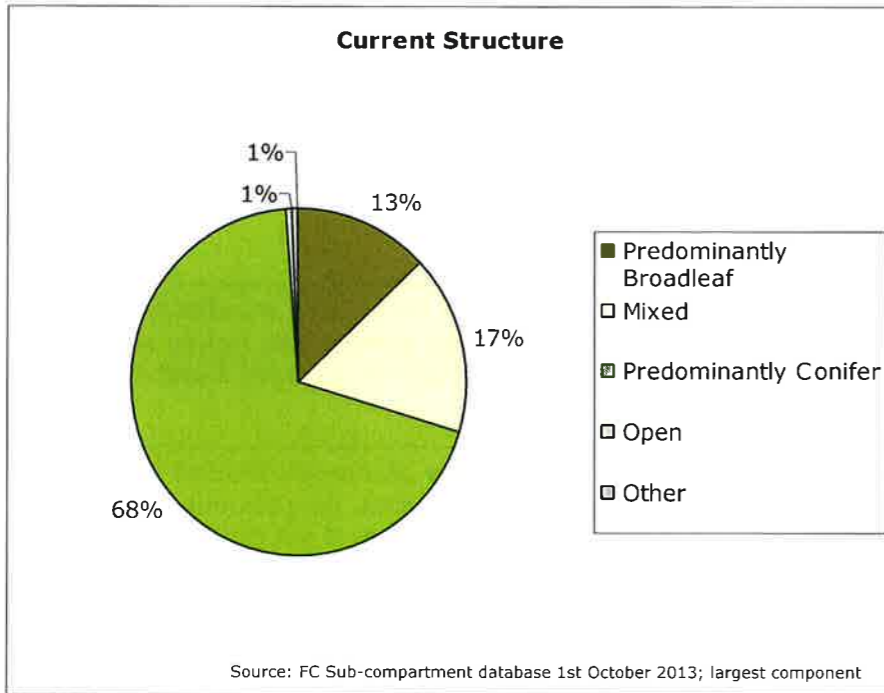


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Objective	Proposed Actions to Meet Objective	Ref.	Output by year 10	Monitoring	Indicators of Success
Maintain and enhance native species and semi-natural features within ancient woodland.	Favouring native broadleaves during management and the use of shelterwood systems will enhance ASNW. Invasive and non-native species will be monitored and managed accordingly to ensure the quality of ASNW is not degraded.	1	Maintained percentage of native tree species within ancient woodland sites	Semi-natural scoring via subcompartment database at years 5 and 10	Ancient semi-natural woodland areas will show a more native semi-natural score at years 5 and 10
Initiate restoration of planted ancient woodland sites to native and honorary native woodland.	Managing PAWS areas under a shelterwood system, favouring the retention of native broadleaves will increase nativity of these areas as well as increase opportunities for natural expansion of associated ground flora.	2	Increased percentage of native tree species within ancient woodland sites	Semi-natural scoring via subcompartment database at years 5 and 10	Planted on ancient woodland areas will show an increasingly native semi-natural score at years 5 and 10
Take opportunities to increase the nature conservation value of other existing habitats, in particular the riverine habitat through the woodland with associated wet woodland areas.	Managing the river corridor with regular coppicing and thinning to vary light levels on the water will enhance this habitat. Road and ride edges will look to provide high value invertebrate habitat as a result of the proposals which will have a positive impact on associated species such as birds and bats. Management will offer opportunities for identification and mapping of conservation and heritage features which will benefit future planning and operations.	3	Opportunities are identified at Operational Site Assessment (OSA) stage, acted upon and recorded within this Plan	OSA checks at implementation stage	A record of identification of opportunities, assessment of feasibility and fulfilment if appropriate
Maintain sustainable access and the provision for recreation within the woodland, taking opportunities to enhance the experience where appropriate.	Management will offer opportunities for public engagement in forest management as well as varying the internal structure of the woodland. Regular management also provides some financial assistance to the maintenance of tracks and roads within the woodland.	4	Record of recreational improvement opportunities that have arisen with analysis of decision making process leading to their adoption, delay or rejection.	Records	A strategic approach to decision making can be seen over time.
Maintain the diversity of age structure and appropriate species mix within the woodland.	Managing non-ancient woodland areas as mixed woodland allows the woodland to support a greater diversity of species. This will benefit disease and climate resistance as well as adding to the aesthetic variation.	5a	Maintained number of tree species	Query subcompartment database at years 5 and 10	At least the same number of different tree species present at year 10
	The development of natural regeneration at various stages, will break up the current lopsided age structure.	5b	Increased age diversity	Query subcompartment database at years 5 and 10	Improved age diversity at year 10
Provide a regular supply of quality timber to support local employment and local timber processing industries.	Regular management will provide a sustainable supply of wood products to industry. This production will drive the changes necessary to fulfil objectives 1 to 5.	6	Wood products supplied sustainably to industry in line with the production forecast	Query Sales Recording Package at year 5 and year 10	Wood products supplied to industry in line with production forecast while fulfilling other objectives as well

Reference	Comments Year 5	Success?	Comments Year 10	Success?
1				
2				
3				
4				
5a				
5b				
6				

Ancient Woodland Site

The site appears to have been woodland for several centuries (and thus probably for millennia), and is certainly unlikely to have been converted to farmland in the last couple of centuries.

Ancient Semi-Natural Woodland

The trees and other plant species within an ancient woodland site appear to have arisen naturally rather than having been planted and are predominantly (>80%) native to the site and surrounding area.

Clearfell

Woodland management system where tree cover is removed. This traditionally occurs when the growing canopy reaches its point of maximum mean annual increment, i.e. the trees' rate of growth then starts to decline. The management area is then prepared for either replanting or allowed to regenerate naturally using the seed source already present in the soil.

Mixed Woodland

Woodland consisting of a fairly even mixture of broadleaf and conifer species.

National Vegetation Classification

A UK wide classification system used to attribute standardised descriptions to plant communities.

Native (and honorary-native)

The trees making up the woodland are part of England's natural (or naturalised) flora. Determined by whether the trees colonised Britain without assistance from humans since the last ice age (or in the case of 'honorary natives' were brought here by people but have naturalised in historic times); and whether they would naturally be found in this part of England.

Natural Regeneration

The process of allowing a cleared area of woodland to regenerate naturally through the germination and development of seeds found within the soil on site. These areas may still require some protection from overbearing plant species and mammal browsing. Some enrichment planting may also be necessary or desirable in areas where natural regeneration is showing limited success or in order to diversify the species range of the woodland.

Plantation on an Ancient Woodland Site (PAWS)

The trees within an ancient woodland site appear to have been planted. These species may or may not be native to the site and surrounding area.

Shelterwood System

Woodland management system whereby the forest canopy is maintained at one or more levels without clear felling, generally being no single interruption of tree cover of more than 0.25 hectares with a maximum of 2 interruptions of this size per hectare. Opportunities to enhance existing areas of natural regeneration will be taken along with increasing woodland edge habitat by scalloping ride and road edges for the benefit of biodiversity.

Yield Class

The maximum average rate of volume increment which a particular stand can achieve per hectare.

This Forest Plan has been influenced by various key policy statements and guidance documents as highlighted below.

Government Forestry and Woodlands Policy Statement – January 2013

This document sets the direction of travel for forestry policy within England and is the reference point around which main aims and objectives of forestry and woodland management are designed.

The Statement sets out the following key objectives, in priority order:

Protecting the nation's trees, woodlands and forests from increasing threats such as pests, diseases and climate change.

Improving their resilience to these threats and their contribution to economic growth, peoples' lives and nature.

Expanding them to increase further their economic, social and environmental value.

Strategic Plan for the Public Forest Estate in England

This Plan sets out the direction and goals for the Public Forest in England and indicates the actions we will be taking to achieve these between now and 2020. Our ambitions are long term and we will use a normal cycle of review over 5 years to embed these in local Forest Plans and ways of operating.

Our Mission for the Estate

To work with others to keep the Public Forest Estate as a special place for wildlife, people to enjoy and businesses to thrive - and achieve this by adopting a strategy that integrates all the three drivers of sustainable land management; economy, people and nature.

Our Vision and Overall Goal

"To secure and grow the economic, social and natural capital value of the Public Forest Estate for the people of England"

South England Forest District Strategic Plan

The Strategic Management Plan is a Forest Enterprise District level document that informs local Forestry Commission staff about the management direction of the Public Forest Estate and the associated policies. The Forest Plans are a key mechanism for delivering policies on the ground.

Open Habitat Policy

This is Government policy on how to decide when to convert woodland to open habitat in England.

Keepers of Time

This Policy Statement celebrates the importance of our native and ancient woodlands and sets out a basis on which to achieve the following vision.

"Ancient woodlands, veteran trees and other native woodlands are adequately protected, sustainably managed in a wider landscape context, and are providing a wide range of

social, environmental and economic benefits to society."

United Kingdom Forestry Standard

The UK Forestry Standard (UKFS) is the reference standard for sustainable forest management in the UK. The UKFS, supported by its series of Guidelines, outlines the context for forestry in the UK, sets out the approach of the UK governments to sustainable forest management, defines standards and requirements, and provides a basis for regulation and monitoring.

UK Woodland Assurance Standard (UKWAS)

An independent certification standard for verifying sustainable woodland management in the United Kingdom.

Managing ancient and native woodland in England: Practice Guide

This Practice Guide has been produced to help practitioners translate what measures and practical action can be taken to protect and enhance our ancient and native woodlands and guides implementation of the approaches to management and restoration trialled in woods around the country.

Managing deadwood in forests and woodland (2012)

Choosing stand management methods for restoring planted ancient woodland sites (2013)

European Landscape Convention

As a reflection of European identity and diversity, the landscape is our living natural and cultural heritage, be it ordinary or outstanding, urban or rural, on land or in water. The European Landscape Convention - also known as the Florence Convention, - promotes the protection, management and planning of European landscapes and organises European co-operation on landscape issues.

North Wessex Downs AONB Management Plan

This document is the statutory Management Plan for the nationally designated and protected landscape of the North Wessex Downs AONB, as required under the Countryside and Rights of Way (CROW) Act 2000. It is a plan for all those that have a responsibility to look after this precious and treasured landscape.

Living Landscapes: Basingstoke and Deane Natural Environment Strategy 2010

Basingstoke & Deane Green Infrastructure Strategy 2013–2029

Highclere and Penwood Village Design Statement, 2002

The Identification of Soils for Forest Management

Disclaimer

To comply with General Data Protection Regulations, pages 24 – 29 have been removed from this document.

Forestry Commission (Forest Services and Forest Enterprise) should agree baseline tolerance thresholds for operations in each District beyond which exchange of letter/map or formal amendment is required. Unless otherwise specified or agreed by the Forestry Commission, amendment will be by formal revision of the plan.

	Adjustment to felling coupe boundaries (1)	Timing of Re-stocking	Changes to species	Windthrow clearance (2)	Changes to road lines (3)
FC Approval normally not required	0.5 ha or 5% of coupe - whichever is less	Up to 2 planting seasons after felling	Change within species group e.g. evergreen conifers; broadleaves	Up to 0.5ha	
Approval by exchange of letters and map	0.5ha to 2ha or 10% of coupe - whichever is less			0.5ha to 2ha - if mainly wind-blown trees > 2ha to 5ha in areas of low sensitivity	Additional felling of trees not agreed in plan Departures of >60m in either direction from centre line of road
Approval by formal plan amendment	> 2ha or 10% of coupe	Over 2 planting seasons after felling	Change from specified native species Change between species groups	> 5ha	As above, depending on sensitivity

Notes on Tolerance Table

1. There are circumstances in which changes - of less than 0.5 ha for example - could have a dramatic visual effect. The above model does require a sensible approach to be taken by Forest Enterprise in notifying Forestry Commission when such cases arise. Local staff need to be sensitive to issues which may influence the situation (bearing in mind that small adjustments to felling coupes will not appear on the Public Register).
2. It is important that Forest Enterprise keep the FC informed about windblow clearance, which can be problematic in cases of public complaint, and in FC compliance monitoring. In some cases a modification of the proposals for the remaining area of the Plan may need to be submitted and approved. Clearance of blow should not require approval but will be needed for related standing trees.
3. It is recognised that roading proposals as marked on Road Plans are necessarily somewhat indicative, in that actual roading operations require to take account of features not always apparent at the time of roadline planning. Accordingly some leeway is acceptable to account for this.

Background

During development of this Forest Plan, two main management options were considered for sub-compartment 8203a. 8203a consists of P65 (planted in 1965, usually 2 years old when planted) Scots Pine and P65 mixed broadleaves. The area is completely infested with tall, woody rhododendron which is having a number of negative effects on this part of Great Pen Wood including: reduced opportunities for wildlife and ground flora; timber values will be reduced due to the complexities of working such a site; recent restocked areas (8203 b and d) are threatened by rhododendron seed spreading from 8203a which bears a management cost as well as an effect on growth potential of trees and beneficial ground flora within these areas.

Option 1

Proposes the early clearfelling of 8203a in 2014-2016 with subsequent restocking by natural regeneration and enrichment planting of mixed species.

Option 2

Proposes thinning 8203a rotationally until 2027-2031 when the trees will reach their optimum felling period in terms of timber volume production.

OPTION 1

Costs

- Loss of final years increment prior to clearfelling. Scots Pine and mixed broadleaves within 8203 a have an average yield class of 10.5. Felling in 2014 as opposed to the latest date currently planned based on maximum mean annual increment of 2031 (based on the Scots Pine being yield class 14) would mean a theoretical loss of incremental timber volume of 53.55 m³ per year, totalling 910.35 m³.
- Following clearfelling, remnant rhododendron will need to be removed. The most cost effective method is mechanical excavator at a cost of around £1000/ha, totalling approx. £5500
- A rhododendron seed bank will still exist within 8203a as well as 8203b and d which will continue to need management in the form of chemical weeding for around 5 years at an approximate cost of £250/ha totalling approx. £11,375 (est. 9.1ha per year)

Estimated total cost = £14,250 + lost revenue due to lost incremental growth

(although thinning is unlikely during the intervening years due to the rhododendron infestation, which would also stunt increment between 2014 and 2031)

Benefits

- Clearfelling early allows earlier intervention to rhododendron clearance which threatens sub-compartments 8203b and 8203 d as well as 8203 a where it is currently rife.
- Clearfelling early accelerates the conversion to mixed and wet woodland by allowing removal of rhododendron and enrichment planting with mixed species. Without enrichment planting it is likely that the majority of natural regeneration will be Scots Pine as in neighbouring sub-compartments.
- Because of the level of rhododendron infestation, clearfelling will be costly and timber prices will be below average for the crop type. The benefit of clearfelling early is that the areas affected by rhododendron is currently known, whereas in 2031 it is likely to be much more extensive, affecting timber values and biodiversity interest of a wider area within the woodland.

OPTION 2

Costs

- Following clearfelling, remnant rhododendron will need to be removed. The most cost effective method is mechanical excavator at a cost of around £1000/ha, totalling approx. £5500
- A rhododendron seed bank will still exist within 8203a as well as 8203b and d which will continue to need management in the form of chemical weeding for around 5 years at an approximate cost of £250/ha totalling approx. £11,375 (est. 9.1ha per year)
- Ongoing chemical weeding will be needed within 8203b and d annually, totalling approx £13000 over the 13 year period in addition to the above costs.

Estimated total cost = £29,875

Benefits

- Clearfelling at the age of maximum mean annual increment theoretically allows the crop to gain as much timber volume as possible prior to felling.
- Potential 'adjacency' issue is avoided in terms of UKFS. However, due to the wide species and age diversity within Great Pen Wood, adjacency is not considered an issue.

Conclusions

The cost implications alone are not enough to decide which option is correct. The balance of costs and benefits of each option falls in favour of option 1 and so it is proposed to clearfell compartment 8203a early and begin the process of rhododendron management sooner rather than later. Benefitting not only this sub-compartment but also neighbouring sub-compartments which are suffering.

One potential issue is the UK Forestry Standard Guidelines: General Forestry Practice reference point 15:

In forests characterised by a lack of diversity due to extensive areas of even-aged trees, retain stands adjoining felled areas until the restocking of the first coupe has reached a minimum height of 2m.

Great Pen Wood has less than 10% of its area containing trees of under 10 years old. Although neighbouring sub-compartments do contain trees of less than 2m, across the woodland as a whole, age diversity is good. The rhododendron in 8203a is having such an effect on these neighbouring sub-compartments in terms of seeding and the need for chemical control that growth of these areas is actually impeded. Early felling, it is hoped, will enable more effective management of these areas and so release these trees to grow more successfully and at a lower financial cost.

Maps for Option 2 can also be found within this appendix.



Forestry Commission
England

South England Forest District

Great Pen Wood Habitat Restoration & Felling Option 2

Key

- Broadleaved woodland management. Favour best native tree, focussing on the production of quality timber.
- Manage under an appropriate shelterwood system. Favour best native tree, focussing on the production of quality timber and the gradual reduction of non-native species to 20% of the canopy or less.
- Manage under an appropriate shelterwood system. Favour best tree focussing on the production of quality timber and species diversity.
- Wet Woodland. Favour best native tree, focussing on those species associated with wet woodland
- Rotational coppicing of mature Alder
- Allow young Alder to develop and manage as a rotational coppice
- Open - Manage as rotational woodland glade
- Car Park

1:5,000

Date: 14/10/2013

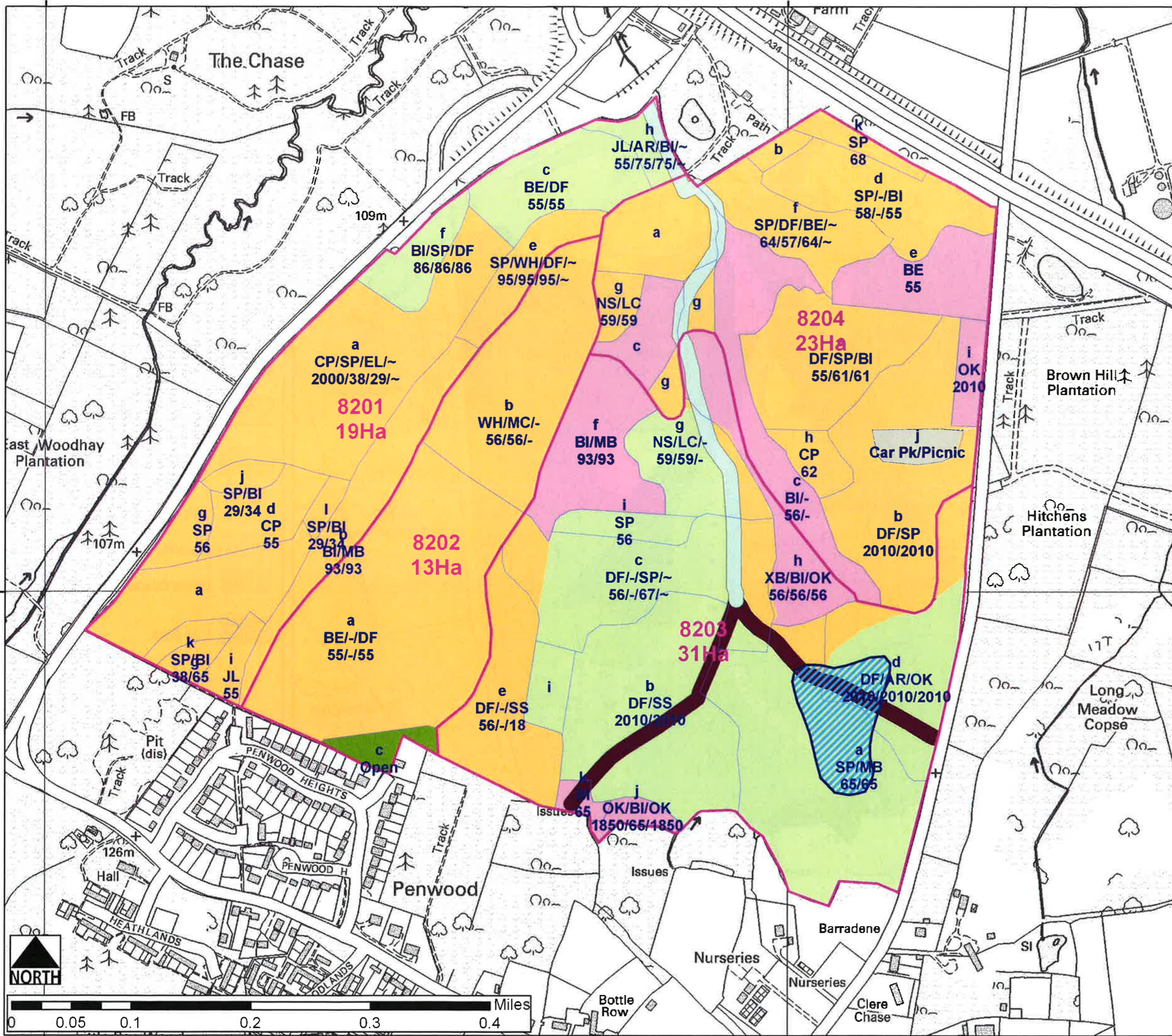


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Primary Sustainable Forest Management www.pefc.org

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Forestry Commission
England

South England Forest District

**Great Pen Wood
Intended Structure
at Year 10
Option 2**

Key

-  Predominantly Broadleaved Woodland
-  Mixed Woodland
-  Predominantly Conifer Woodland
-  Wet Woodland
-  Riverine Habitat
-  Open Glade
-  Car Park

1:5,000

Date: 14/10/2013

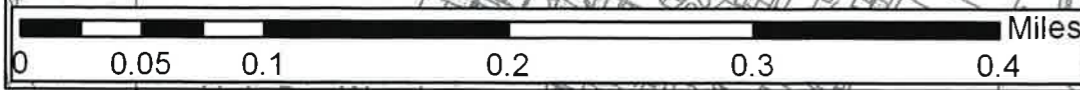


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