Forestry Commission England

Whitwell Forest Plan

10 year review

2016 - 2026

Whitwell Forest Plan

Contents

Whitwell Forest Plan10 year review

This section is a brief review of the current Forest Design Plan, known as "Whitwell Wood – Design Plan 23". This plan was due to expire in 2013 and has been rolled over until 2016 in order to allow for the construction of a new plan and consultation on the review. The new plan will be known as "Whitwell (FP N3)" and will again run for 10 years with a mid-term review at the 5 year point.

The purpose of this 10 year review was to assess the previous plan and set a direction of travel for the new plan; in line with OGB 36 – Forest Design Planning. The proposed plan will continue to adhere to UKFS and UKWAS as well as working toward delivering results in areas identified by SSSI plans and local consultees.

The old plan was a success in its own right, but in the 13 years since it was approved, circumstances and priorities have changed. Whitwell is predominantly made up of Sycamore, Beech, Ash, Pine and Oak and the vast majority of these trees were planted between 1930 & 1950. One of the main issues facing Whitwell is the fact that it is PAWS woodland, predominantly made up of Beech & Sycamore. It has very little age diversity and is facing the threat of *Chalara fraxinea* and the various forms of Oak Death. The new plan needed to balance the desire to remove species such as Sycamore, Pine and Beech against the threat of losing the Ash and Oak to diseases. This was made harder by the limited number of available native broadleaves that could replace them and produce marketable timber. Wider policy seems to be shifting over time towards greater acceptance of Beech, Scots Pine and Sycamore; a positive view has been taken towards these "near natives" in the new plan for the reasons outlined above.

All of this needs to be balanced against the high level of biodiversity recorded in Whitwell and the large quantity of recorded heritage features. There is a lot of data on both of these subjects, gathered by the Forestry Commission, Whitwell Wood Natural History Group and other parties and every attempt has been made to take advantage of this data when constructing the new plan.

The Whitwell Forest Plan Brief

The Whitwell Forest Plan comprises the block of woodland known as Whitwell Wood near the village of Whitwell which lies to the west of Worksop on the A619 in North Derbyshire. The 169 hectares covered by the plan is leasehold, managed by the Forestry Commission on a long term lease which allows for public access.

The woodland is predominantly broadleaf species, mainly Beech, Sycamore and Ash. The majority of the area is Planted Ancient Woodland (PAWS), with a few areas of Ancient Woodland. It also contains a 10 hectare Site of Special Scientific Interest (SSSI). This area has a specific management plan which will be addressed in the full Forest Plan. Whitwell has a relatively high public access (for a woodland of this size) and a healthy level of community interest in its history and management. In addition there are a large number of historic ground features and earthworks.

The approved Forest Plan will provide an operational plan that will deliver sustainable forest management. It has been developed to find the right balance of forest management based on the environmental, social and economic considerations associated with the forest and its surrounding landscape. It will also aim to contribute to our district strategic plan objectives, which are based around the three drivers of sustainable land management; Economy, Nature and People.

Economic Issues

Forestry in the UK constantly faces challenges from various pests and diseases. Many of these are established, existing problems but we are always identifying new threats from outside the UK as well as dealing with recently discovered plant health issues. Couple with this the fact that our climate is changing, it is necessary to increase the resilience of our forests over the coming decades. Continuing to diversify the species we use in the forest, the age classes of stands and the types of silvicultural systems we use, when possible and appropriate, will all contribute to this approach and will all be reflected in the new FP.

Good management helps sustain this diversity and improve the quality of our woodland. Thinning, coppicing and in some cases clear-felling are options we can consider to diversify our woodlands, provide better habitats for wildlife and improve the quality of our timber. This will also help the management of Whitwell and the wider public forest estate to remain sustainable and as well as providing value for the taxpayer. Tree felling has not taken place on this scale in Whitwell recently, but will need to to meet these objectives over the period covered by this plan.

Environmental & Heritage Considerations

Whitwell contains a Site of Special Scientific Interest (SSSI) for the Ginny Spring wet flush habitat. The management prescribed in the plan will need to complement or enhance the condition of this. Whitwell generally has a high conservation and archaeological value and the plan will need to demonstrate how this has been recognised. There has also been long term bird and bat monitoring, the plan should recognise these results and use them to influence future management. The plan should also recognise forestry's importance in the local landscape.

Social Interest and Consultation

There is a relatively high level of public access in Whitwell and an active Natural History Group. As a result there is a lot of interest in the management of the wood and these views will need to be heard and accounted for. This will be achieved through consultation as part of the design plan approval process and by creating a plan that provides a sympathetic programme of management. At the same time it will create opportunities to improve the environmental and heritage status of Whitwell as well as achieving economic returns. To take account of this there will need to be well considered consultation process, to make the proposals made in the plan accessible to all.

Application for Forest Plan Approval

1. Plan area identification

Forest District:	Central England Forest District
Beat:	Sherwood North Beat
Name:	Whitwell Forest Plan
Nearest Town:	Worksop
Total Plan Area:	169 hectares
OS Grid Ref:	Centre of Whitwell Wood: SK 5243 7817
Local Planning Authority:	Derbyshire - Bolsover

2. Designations

Sites of Special Scientific Interest (SSSI). Notable plant, insect and bird species.

3. Date of commencement of plan

As soon as possible after the approval date.

4. Planned operations within 10 year period of the plan

Area (ha)	Conifers	Broadleaves	Total
Felling	**2.3**	**17.8**	**19.7**
Restocking*	**0.9**	**15.7**	**16.2**
Thinning			**218.0**

***Restocking refers to that area that may be under planted if conditions are suitable, as well as that area which has recently been clearfelled.

Signed..... .....

Forest Management Director (FE) Field Manager (FS)

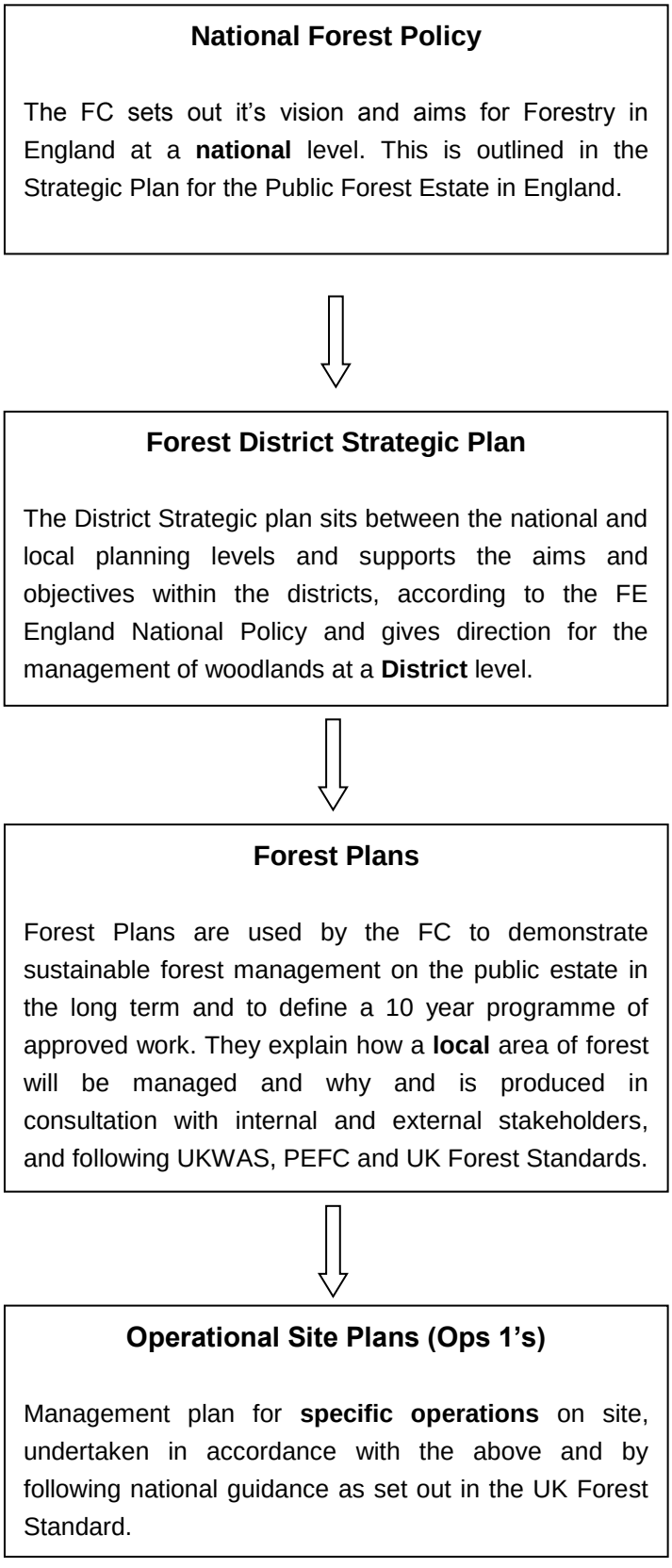
Date ....

Introduction

This plan updates the plan approved in 2003. It sets out our management proposals for the next 50 years and facilitates approval for felling and thinning, both conventional and unconventional, for the next 10 years.

This Forest Plan is guided and directed by a number of policies and strategies, the main points of which are summarised below (Fig.1). Delivering this plan will require the Forestry Commission to be responsive to shifts in our operating environment, and to be increasingly flexible in our approach in order to sustain this responsiveness over decades to come.

Fig 1. Forestry Commission England's Planning Strategy



1.0 Key Characteristics and Survey Data

1.1 Location

- See Location map
- The Whitwell FP area lies just to the north of the village of Whitwell in Derbyshire; just off the A619.
- OS Grid References: Whitwell (Village): SK 5289 7662
  Centre of Forest: SK 5243 7817
  Access Point: SK 5268 7724

The area covered by the Forest Plan amounts to 169 ha of which 167 ha is woodland. Of the planted area, 92% is broadleaved woodland and 7% is conifer (See Fig.2). 2.4ha of the plan area is currently open space; this element will increase and decrease rotationally due to usual clearfelling, thinning and restocking operations and natural regeneration.

1.2 Geology and Soils

- The area is designated as Magnesian Limestone; which is characterised by Limestone and in some cases Sandstone marls; sitting above coal measures. This geology can create limestone crags/gorges; as found at Whitwell and more typically at Creswell Crags.
- Soil pits dug on site and research into local soil types suggest all of Whitwell wood is on a sandy loam rendzina soil, on top of limestone bedrock at about 30cm depth. There is slight variation in soil consistency across the site but the limestone bedrock at a shallow depth remains consistent.

1.3 Aspect and Natural Character Area

- The plan area is a single block of woodland and lies close to the meeting point of Nottinghamshire, Derbyshire and Yorkshire. This region was once defined by the pit heads and tips that came with the coal industry. Now it is rediscovering itself as a predominantly arable landscape interspaced with woodlands, settlements and new industry.
- The woodland lies within a rolling landscape which is predominantly in agricultural use and interspaced with small to medium size settlements. The woodland is primarily deciduous, 110-140m above sea level.
- There are limited views of Whitwell from most directions. However local topography means that Whitwell is only visible from some parts of Harlesthorpe, Whitwell village and Thorpe Salvin. It may be possible to see the wood from the edges of Worksop, particularly Shireoaks and Rhodesia, however they are almost two miles from the northern edge Whitwell.
- Whitwell is situated in the Southern Magnesian Limestone; Limestone Farmlands, Landscape Character area. This assessment by Derbyshire County Council describes: "An open, arable landscape punctuated by the occasional very large plantation woodland, often on ancient woodland sites, with small tree groups around farmsteads and settlement".
- The forest is within the Sherwood National Character Area and is described by Natural England as having a: "Significantly more wooded and heathy character than adjoining character areas". It also describes "views of varying distance within the character area, frequently shaped by wooded skylines or the heads of dry valleys".

1.4 Hydrology

- Perhaps the most notable hydrological feature is that of the Ginny Spring. This is a natural spring that flows from the exposed limestone bedrock in the crag at the north of the wood and feeds a small stream which flows along the northern boundary. The woodland also includes two manmade ponds, constructed in the last 30 years.
- The local area receives an average of 835mm of rainfall per year and it rains on average 132 days per year (according to long term Met Office statistics).

1.5 Archaeology and Heritage

- Whitwell contains a large number of heritage features. These vary from single features such as historic way posts, to areas of historic ground preparation such as ridge and furrow ploughing, to earthworks defining enclosures and historic land boundaries. The area has been subject to detailed archaeological and aerial LIDAR (Laser Imaging Direction And Ranging) surveys to help record features and inform our management of them.
- Nearby is Creswell Crags; which archaeological evidence suggests is the most northern site to have had prehistoric human habitation in Europe. As a result it is a Site of Special Scientific Interest (SSSI), a Scheduled Ancient Monument, Conservation Area, and part of an Area of Local Landscape Significance. Creswell Crags has similarities with the northern end of Whitwell, but Creswell is a much better example and of higher status.

1.6 Designations, Habitats and Species

1.61 Designations

- The northern edge of the site is designated as a Site of Special Scientific Interest (SSSI) for the wet flush habitat it contains. The plant species within this are of high conservation interest and the site is in improving condition. Its habitat type is classified as *Carix dioica-Pinguicula vulgaris mire* or NVC code M10.
- The woodland is also a designated Lepidoptera site for good population size and diversity of least concern species.

1.62 Species of Note

- There are three known Badger (*Meles meles*) sets within the wood. Bats have been subject to monitoring by the local bat group and use bat boxes within the wood.
- There are a large number of recorded bird species and quite a few bird boxes have been installed around the wood. Willow Tits (*Poecile montanus*) are present and are noted for having nested in Whitwells nest boxes.
- Palmate Newts (*Triturus helveticus*), Smooth Newt (*Triturus vulgaris*), Common Frog (*Rana temporia*) and Grass Snake (*Natrix natrix*) have all been sighted within the wood.
- Plant species of note within the SSSI include: Marsh helleborine (*Epipactis palustris*), Green-flowered helleborine (*Epipactis palustris*), Broad-leaved cotton-grass (*Eriophorum latifollium*), fragrent orchid (*Gymmandenia conopsea*), bird's nest orchid (*Neottis nidus-avis*), Common columbine (*Aquilegian vulgaris*) and alder buckthorn (*Frangula alnus*).
- Plant species of note in the wider woodland include: Dogs Mercury (*Mercurialis perennis*), Ransoms (*Allium ursinum*), Bluebells (*Hyacinthoides non-scripta*) and Honey Suckle (*Lonicera spp*).

1.7 Social and Community Interest

- Whitwell is well used by the public and provides access and opportunity for recreation generally and on three marked routes.
- The woodland has high local and community interest. Whitwell Wood Natural History Group has been very active in the wood since the 1970s. They have collected an abundance of data; both on species and archaeology and have gone to great effort to record and educate others on these subjects. A selection of their publications relating to Whitwell is listed in the Publications of Interest section.

2.0 FC Management Objectives

Economic - produce sustainable timber yields, encourage and support new and existing business activity associated to the public forest estate and to make the economic potential of our forests and woodlands more resilient in the face of a changing climate. Growing and diversifying our income from a wide range of sustainable activity on the estate, including non-forestry activities.

Environmental - To increase where possible the environmental contribution made by the Estate to the range of ecosystem services delivered and to protect and enhance its overall biodiversity and heritage value at both the landscape and local level.

Social - Enable everyone, everywhere to connect with the nations' trees and forests so that they understand their importance and act positively to safeguard forests for the future.

3.0 Forest Plan Objectives

3.1 Woodland

Whitwell wood was acquired by the Forestry Commission on a long term lease in 1928 and replanting commenced in 1937 (The woodland had been felled prior to the Forestry Commission taking ownership). Felling and planting has continued throughout this period but was most active between 1930 & 1950. Table 1 shows the breakdown of current species by area and Figure 4 shows the current age classes.

The woodlands will be managed using a variety of silvicultural systems to allow for the production of commercial conifer and broadleaved species. All forest operations will be carried out in accordance with current best practice and will be assessed at the Operational Planning stage. Operations comply with UK Woodland Assurance Scheme (UKWAS), UK Forest Standard (UKFS) and Forest District Strategic Plan to ensure that the woodlands are managed sustainably.

3.11 Current Species, Age Structure and Yield Class

The woodlands within the plan area are predominantly broadleaf woodlands with a small component of conifer. Approximately 99% of the area is planted with 1% being open space. In addition, the cycle of clearfelling and restocking provides rotational open space which will be restocked or naturally regenerate in due course. Of the planted area, 91.7% is Broadleaf and 6.9% is Conifer. See Fig. 2 Current Forest Structure. Table 1 shows a breakdown of species composition.

Fig. 2 Current Forest Structure

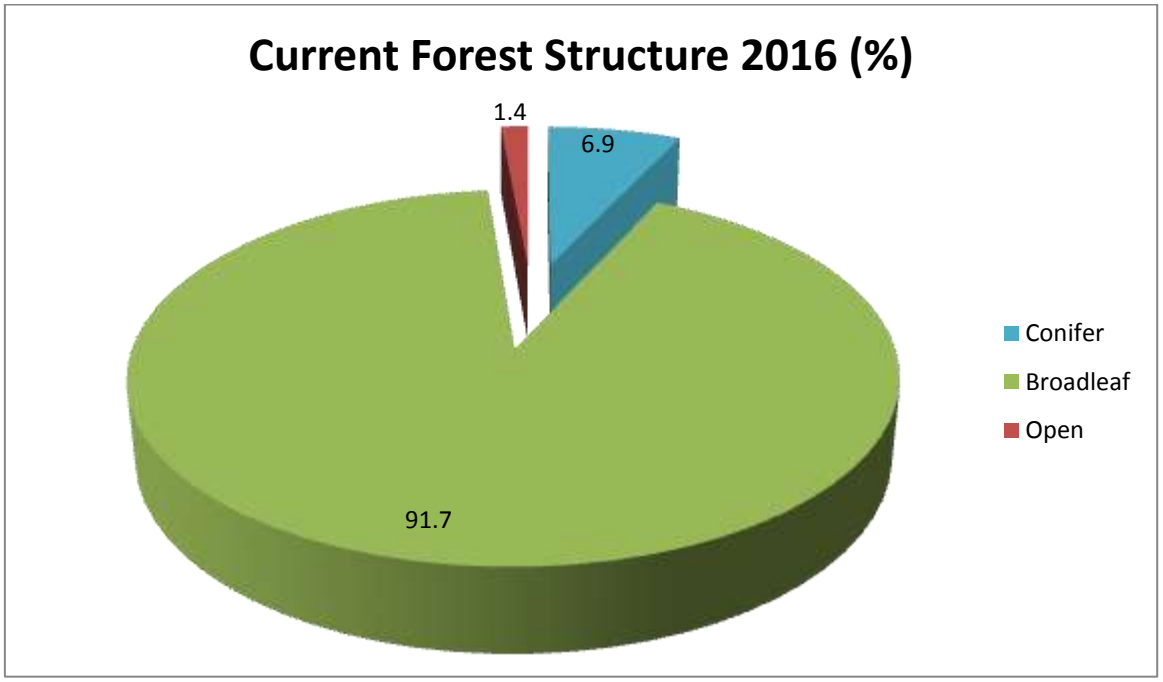


Fig. 3 Current Land Use

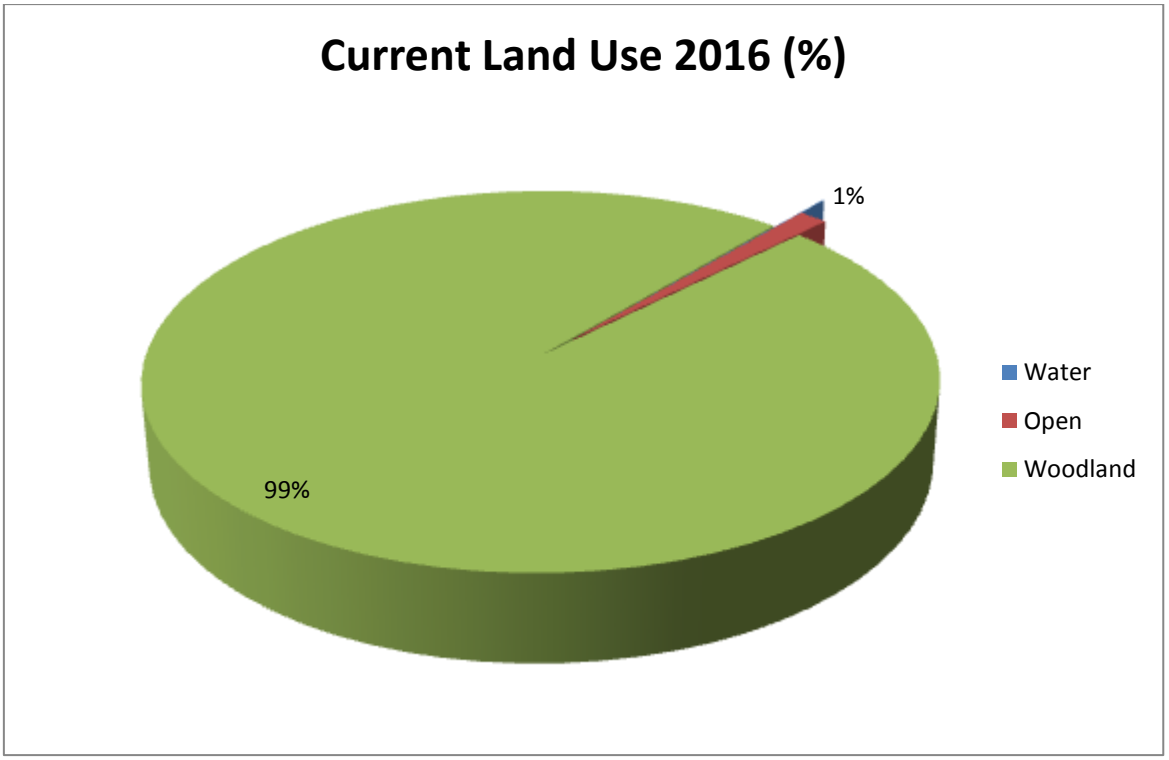


Table 1 – Current Species (as of 2016)

Species	Area (ha)	Percentage of Total Area
Conifer		
Scots Pine	8.7	5.1%
Corsican Pine	1.8	1.1%
Larch	0.4	0.2%
Lawsons Cypress	0.3	0.2%
Other Conifer	0.5	0.3%
Total Conifer	**11.7 ha**	**6.9%**
Broadleaf		
Beech	60.9	36.0%
Sycamore	58.3	34.4%
Ash	26.2	15.5%
Oak	7.2	4.3%
Other Broadleaf	2.6	1.5%
Total Broadleaf	**155.2 ha**	**91.7%**
Open	**2.4 ha**	**1.4%**
Of which Rides @ 3m	0	0
Of which Roads @ 6m	0	0
Total Area	**169.3 ha**	**100 %**

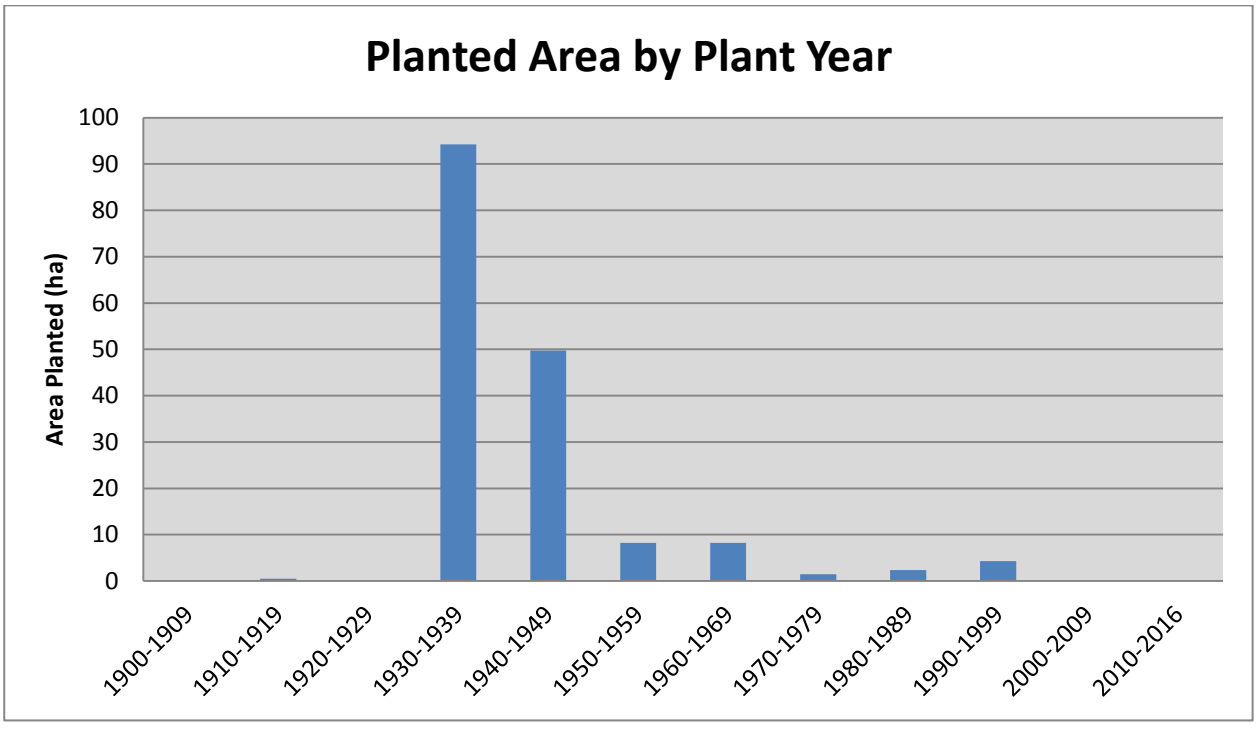
The woodland has been managed sustainably in the past and this will continue. Table 2 shows the current production forecast from the previous plan.

Table 2 – Current Production Forecast

	Period	All Species	All Conifer	All Broadleaf
	2013-2016	512	129	383
Volume	2017-2021	1177	94	1082
To	2022-2026	674	98	576
7cm	2027-2031	1313	96	1217
	2032-2036	551	117	433
	2037-2099	896	109	788

Note: values given are for m^3 per year for each year of that period.

Fig. 4 – Planting Area by Period



- Figure 4 above shows how much area was planted in which time period.
- 9% of the woodland is designated Ancient Semi Natural (ASNW).
- 91% of the woodland is designated Plantation Ancient Woodland (PAWS).

3.2 Environmental

3.21 Retentions

- 21 ha of woodland will be managed as Long Term Retention for structural, ecological and aesthetic reasons. Some of these areas will be retained to the end of their natural lifespan. These areas will provide sinks for biodiversity and will help to provide seed source for natural regeneration of felled areas during the next rotation of felling.
- Deadwood will be retained where appropriate, working towards the Forestry Commission's policy on retention and creation; which is set out in the Forestry Commission's Practice Guide – Managing deadwood in forests and woodlands. This will be achieved through leaving brash on site from felling, thinning and coppicing operations as well as retention of veteran trees.

3.22 Biodiversity

- Proposed management should help to improve biodiversity in the following ways:
- When the felling and thinning of coupes next to the Ginny Spring SSSI takes place; it may be possible to incorporate felling within the SSSI into these contracts (subject to Natural England approval). This approach will enable the work to be subsidised by the possibility for timber extraction; reducing costs and removing the felled timber from the site in line with the SSSI management plan. Open space for wet flush habitat will be increased; helping to achieve the SSSI management plan objectives.
- Whitwell currently falls short of the UKFS 10% open space targets. It was felt during the planning process that creating this much space permanently would change the established character of the wood.

  However this requirement will be met in a number of ways: Firstly, Whitwell is an isolated block of woodland; this in itself provides a large quantity of woodland edge habitat around its perimeter.

Secondly, proposed clearfell coupes throughout the wood will create transitional open space on a rotation throughout the wood. This will consist of felling a coupe in each compartment on an 8 year rotation. This transitional open space will encourage structural diversity and benefit birds, reptiles, mammals, amphibians & lepidoptera; as well as encouraging the food source plants desired by the latter. Felling, thinning and regeneration/restocking will create a variety of different stages of open habitat; creating a succession of habitats throughout the wider woodland.

Finally, key rides will be widened with the main objective varying by location. The main rides will be widened to improve internal aesthetics and to facilitate road/path upgrades to allow access for felling. This will create biodiversity benefits but will also enable us to better maintain the integrity of the track network, without mechanical intervention. Others in the northern part of the wood will be widened with scalloped edges, purely for nature conservation benefits. In total the amount of open space will double: in addition to the open space created by clear felling.

- Biodiversity within Whitwell has been well monitored in the past and management proposed in this plan will continue to bring benefits for species and diversity.
- The Forestry Commissions relationship with the local natural history group will continue. This and the input of our district environment & heritage team will hopefully help identify and adapt management operations in Whitwell to create positive changes for wildlife at the same time as achieving the desired level of timber production.

3.3 Social

- The whole plan area is leasehold with formal public access via marked paths to half of the wood and informal public access to the rest. Access is not promoted in the Ginny Spring/SSSI area because of the ecological sensitivity of the site. Cycling and horse riding are prohibited on the whole site to protect these environmentally sensitive areas.
- There is a lot of local interest in Whitwell; from the Natural History Group to people who walk in the wood on a regular basis. This interest is a positive factor and consultation will enable these views to shape the planning process; gaining understanding and acceptance of the management proposed in the plan.

3.4 Archaeology and Heritage

- A large number of features have been identified by Archaeological Surveys and a recent LIDAR Survey.
- These will be identified at the operational planning stage and specific protection or preservation strategies will be implemented for any features which may be otherwise adversely affected by operations.
- Heritage features and operations in their vicinity will be managed in line with Forestry Commission and UKFS policy. If there are any new finds of importance, the County Archaeologist will be informed.

3.5 Landscape

- Whitwell is a visible, but not dominant feature in the local landscape. It is very typical of the local landscape character in its current form and future management will seek to enhance and preserve this status.
- There are no plans for dramatic crop changes or large areas of clear fell. However the small clearfell coupes (1-2ha) have been planned and shaped to minimise visual impact and will be spread over the longest possible timeframe. This should enable our felling programme to evolve gradually over the next 80 years and natural regeneration of earlier felling's will hide or detract from the impact of later ones.
- An element of species diversification and the conversion of Corsican Pine to broadleaves may make a small visual change. However the benefits this will bring, securing the future of the woodland against threats such as pests, diseases and climate change should cement its place as a feature of the landscape. The reversion of plantation conifer to broadleaf is also in line with good practice for PAWS sites and should help improve the character of the wood. The retention of the Scots Pine will help ease this transition, which will take place over a long timescale. This will ensure there will be negligible visible change to the local landscape as a result of this species change and that the woodland retains it's mostly semi natural broadleaf character. The retention of the Scots Pine will also help diversify the species mix, without having to introduce new species of non-native broadleaves to Whitwell.

4.0 Restocking and Future Management

Of the 169 ha plan area:

4.1 Felling & Thinning

- The clear-fell and restock element of the Forest Plan will amount to 19.7 ha over the next 10 years. Restocking will be achieved by natural regeneration. Broadleaves and Scots pine will be accepted; however Corsican Pine regen will be controlled.
- Throughout the plan all compartments will be thinned on a five year rotation totalling 218ha. In some areas this will be a thinning biased towards achieving volume whilst in others it will be biased towards the crown, improving canopy structure. This will improve the quality of existing trees whilst opening up canopy gaps for succession of understory trees.
- As the majority of the trees in the wood were planted between 1930 & 1950; this strategy should enable a transition to a more diverse age structure whilst the retention commitments will preserve a proportion of these older trees for the benefit of the ecosystems they support.
- These biodiversity "sinks" should provide a springboard for the recolonization of felled areas by trees, plants, wildlife and species of importance. Felling coupe shapes have been designed to give a large surface area, to encourage this colonisation and increase valuable edge habitat within the wood.

4.2 Natural Regeneration & Restocking

- This strategy should see the proportion of broadleaf increase whilst conifer reduces due to the removal of some conifer stands and the practice of encouraging broadleaf regeneration. This management strategy of removing plantation conifer in favour of naturally regenerated

broadleaf is appropriate due to the PAWS designation covering most of Whitwell.

- As a result of this strategy it will be difficult to predict a breakdown of individual species. However it is expected the future structure will be mostly made up of Beech, Sycamore, Ash, Oak and Birch.
- The decision to retain Scots Pine in this rotation was made in an attempt to retain species diversity.
- Beech and Sycamore are foundation species in Whitwell. Their removal would leave a vulnerable mix; consisting mainly of Ash and Oak. Although not necessarily PAWS species, their retention in the next rotation is considered preferable to reducing the number of broadleaf species, or diversifying the mix with non-natives.
- If suitable regeneration is not achieved by year five; beat up, supplementary planting or full restocking with appropriate species will be implemented as appropriate to ensure woodland cover is restored. As felling is on an 8-16 year rotation within the woodland, it will be possible to use the results of regeneration in previous felling coupes to influence whether supplementary planting or complete restocking is required from the outset in future nearby coupes.
- The felling coupe shapes shown on maps are indicative. Although the area of each coupe will be broadly as shown; the boundary will be established with respect to natural features.
- On a coupe by coupe basis, the decision may be taken to opt for planting rather than natural regeneration, if that offers the most effective means of achieving the plan objectives. This gives us the flexibility to counter threats such as pests and diseases; as viable regeneration may not lead to canopy cover in the future.

4.3 Other Management

- Those areas designated as being managed for Long Term Retention will amount to 12.4%. This secures these areas, improving age structure and providing ecosystem services.
- The amount of open ground within the Forest Plan increases to 4.3%. This will mostly be achieved by ride widenings; some which will benefit wildlife by creating edge habitat, while others will open up the main walking routes. This will improve the walking experience for visitors by clearly defining which rides are on the walking routes and help channel footfall away from sensitive areas such as the SSSI at the north end of the wood.

Table 3 and figure 5, 6 & 7 show a breakdown of future forest structure:

Figure 5 - Future Forest Structure (2066)

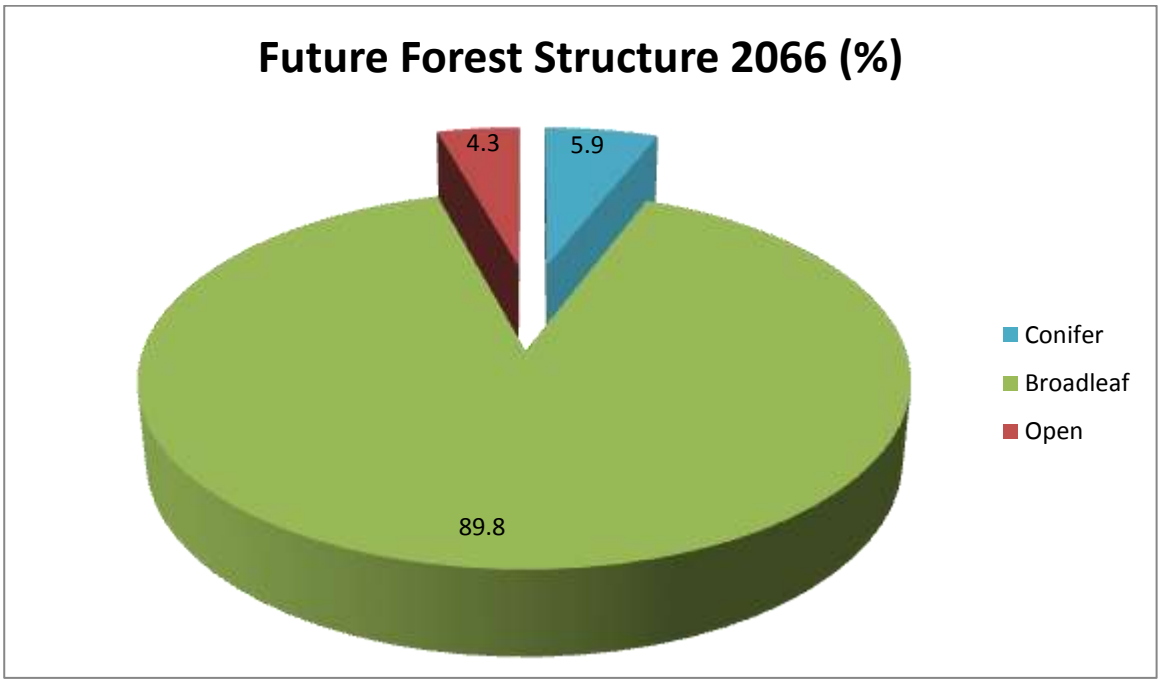


Figure 6 - Future Land Use (2066)

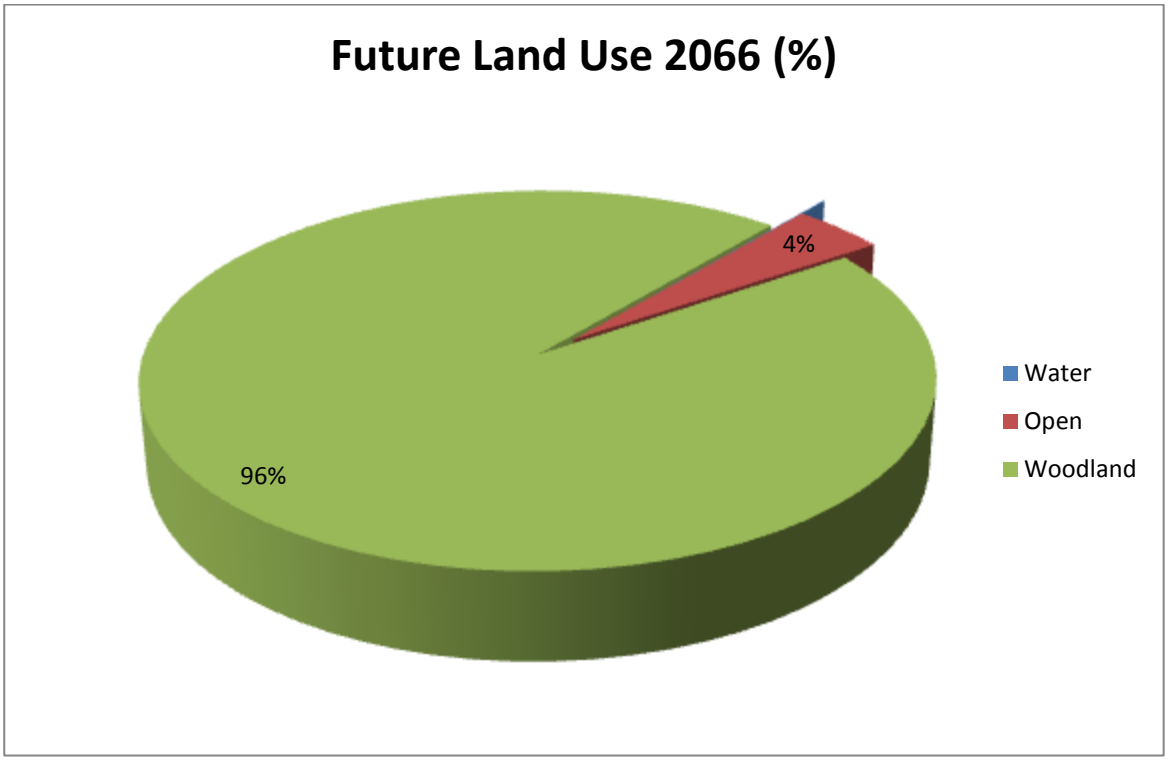


Figure 7 - Future Planted Area Comparison

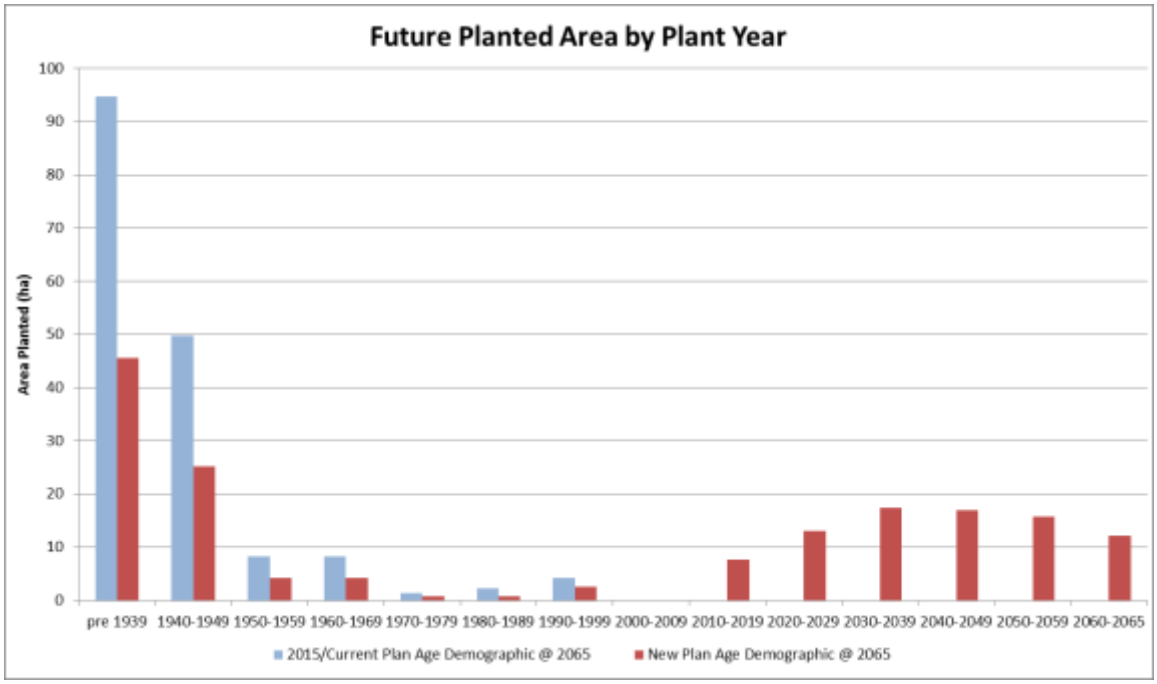


Table 3 – Future Species (as of 2066)

Species	Area (ha)	Percentage of Total Area
Conifer		
Mostly Scots Pine with a small element (<2ha) of Corsican Pine and other conifers.		
Total Conifer	**10**	**5.9**
Broadleaf		
Made up of Sycamore, Beech, Ash, Oak, Birch & Hazel		
Total Broadleaf	**151.9**	**89.7**
Open	**7.4**	**4.3**
Of which Rides @ 3m	0	0
Of which Roads @ 6m	7.0	4.1
Total Area	**169.3**	**100**

The aim is to achieve restocking by natural regeneration; because of this proportions of species have been estimated. Section 8.7 Future Species suggests species making up the majority of each coupe based on the species that are currently dominant in each coupe and management proposals such as control of Corsican Pine regeneration.

5.0 Meeting and Monitoring Objectives

Objective	Description	Proposals	Methods of Monitoring
Woodland	The woodland will be managed to produce high quality commercial conifer and broadleaved timber using a variety of silvicultural systems which will be chosen to meet the other management objectives.	The timing, scale and shape of future felling operations will be designed to create a diverse woodland structure.	Monitored through SCDB.
Biodiversity	Local area contains species of interest, including newts, grass snakes and many notable bird, mammal and butterfly species.	Surveys within Whitwell will continue to be used to improve management. The creation of open space and areas of long term retention to act as biodiversity sinks and the spectrum of woodland in between; will create diverse habitats for all kinds of species.	Consultation with environment and heritage team as part of the ops 1 process will help improve outcomes for biodiversity. New surveys will be reviewed and their results compared with existing data and used to improve management.

Biodiversity	Open space.	The current areas of open space will be managed to maintain their value to wildlife. New open spaces will be created by ride widening and rotational clearfell.	Beat team to monitor regeneration on open ground and manage in a way that's sustainable, but will provide positive outcomes for relevant species.
Recreation	Designated walking routes and interpretation provided throughout the wood.	Current features will be maintained. Walking routes will be improved by selected ride widening in key areas.	Beat and RPA teams to monitor in line with operational objectives throughout the plan period.
Heritage	Protect and conserve designated features.	Protect, preserve and restore features as appropriate, in line with the heritage management plan.	Beat team review heritage features at the operational planning stage and to liaise with local/ national historical bodies as and when appropriate.
Forest Standards	The woodland will continue to be managed in a sustainable and productive way.	Guidelines set out be UKWAS, UKFS, and Forest District Strategic Plan will be adhered to	Mid-term monitoring of the FP, UKWAS and SGS audits and Beat staff.

District Strategic Plan	The woodland will be managed in line with the goals of our strategic plan.	Plan to be based around and contribute towards the Economy, Nature and People drivers of sustainable land management.	Incorporated at planning stage and at Mid-term review of the FP.

6.0 Economic forecast

The woodland will continue to be managed sustainably as set out in previous and current objectives relating to Forest Standards. Table 4 shows the future production forecast which takes into account changes in silvicultural systems and felling years.

Table 4 – Future Production Forecast

	Period	All Species	All Conifer	All Broadleaf
Volume to 7cm	2013-2016	1043	247	797
	2017-2021	2196	276	1920
	2022-2026	951	261	690
	2027-2031	2474	74	2400
	2032-2036	1246	134	1113
	2037-2099	675	66	609

Note: values given are for m^3 per year for each year of that period.

7. Consultation

7.1 Consultees

D Pickard & Sons Ltd.

Bat Group

Historic England

Whitwell Parish Council

Bolsover District Council

Derbyshire County Council

Derbyshire Wildlife Trust

Tilhill Forestry

Martin Robinson & Sons Timber Ltd.

Natural England

Whitwell Wood Natural History Group

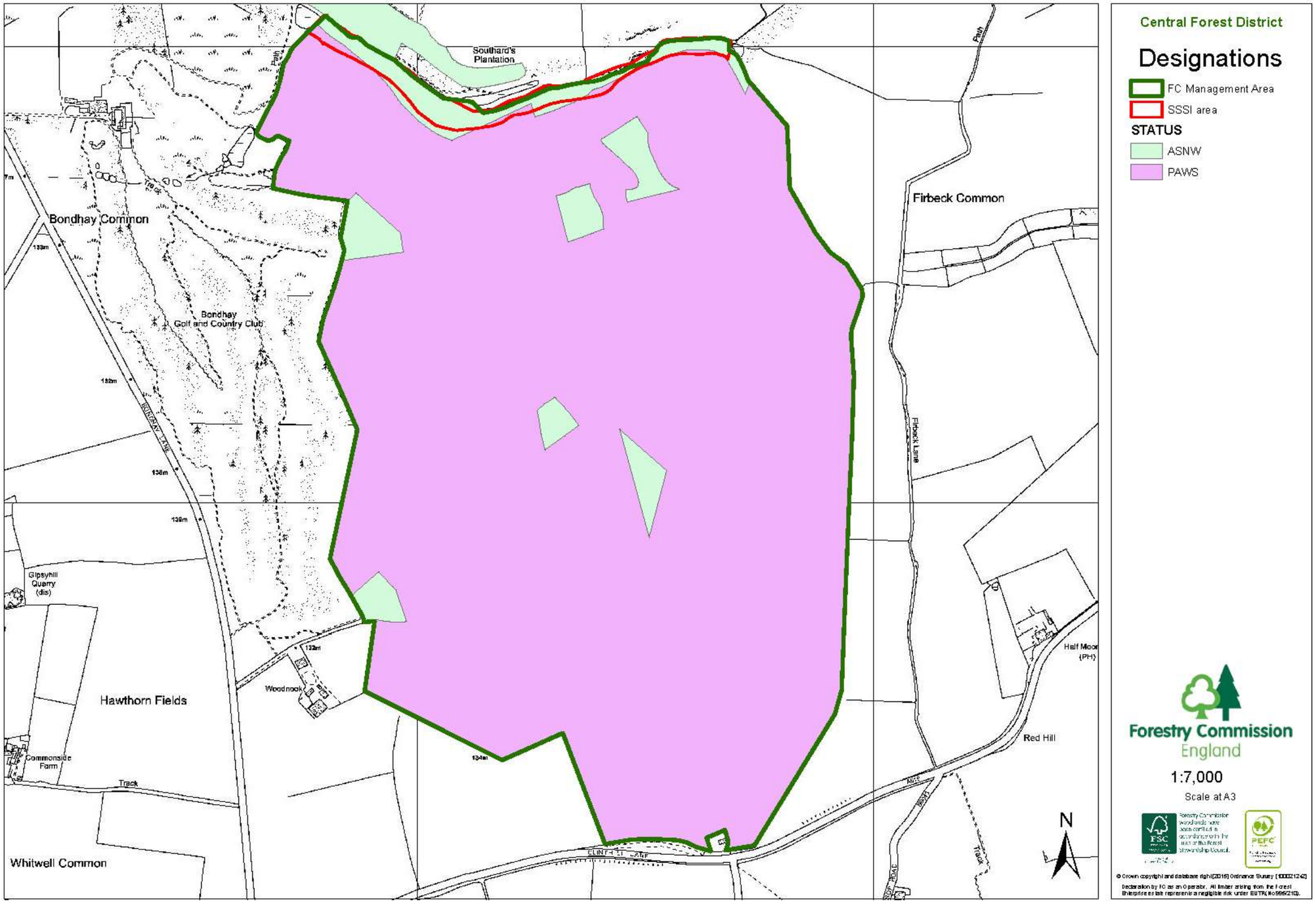
Other interested parties will be directed via on site signage to Whitwell Library where copies of the plan will be held.

All of the Forestry Commission's woodlands are assessed against the UK Woodland Assurance Scheme (UKWAS) and as a result, Forestry Commission woodlands now carry the Forest Stewardship Council (FSC) stamp of approval.

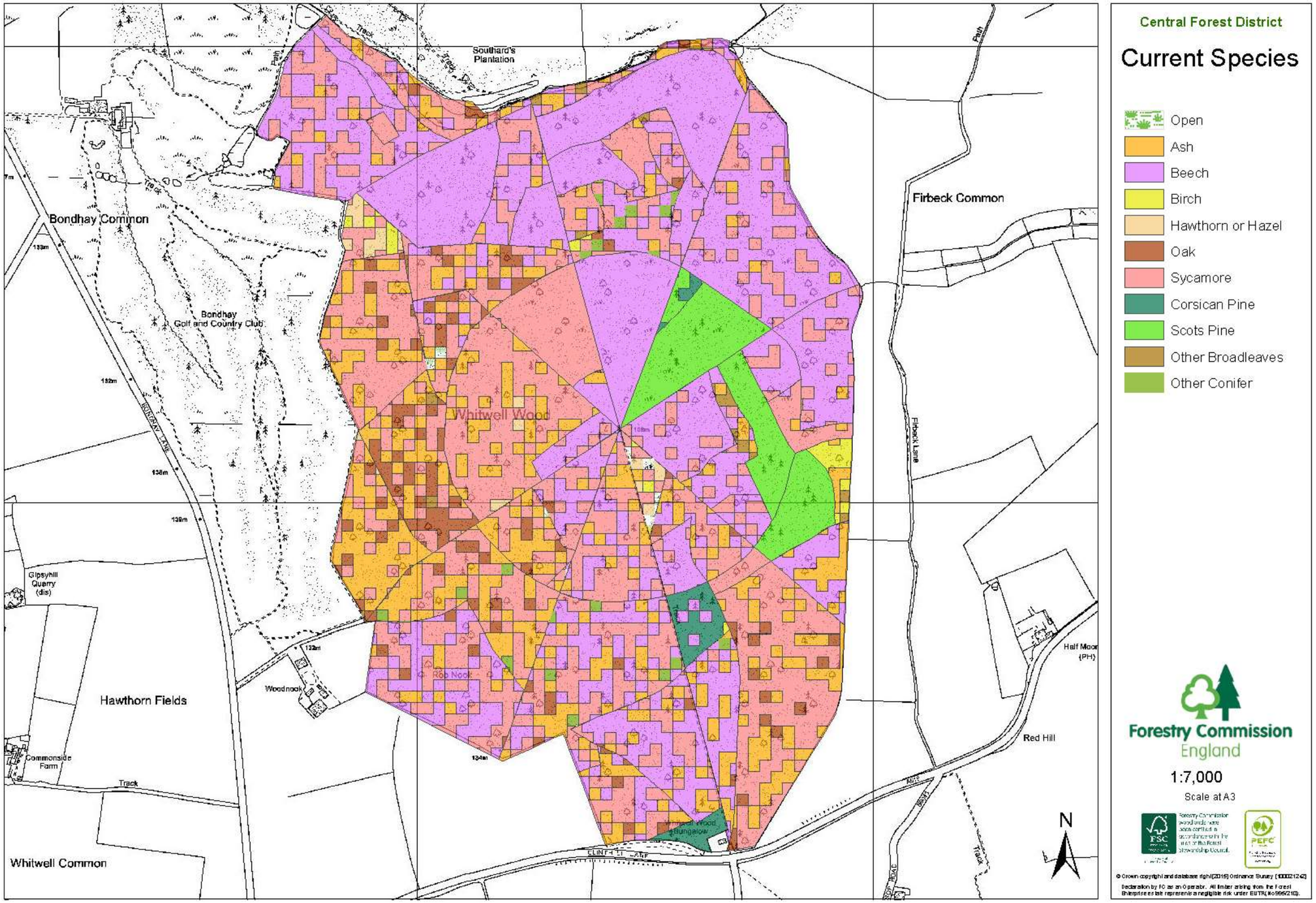
8. Maps

8.1 Location

8.2 Designations



8.3 Current Species



8.4 Recreation & Access

Central Forest District

Recreation & Access

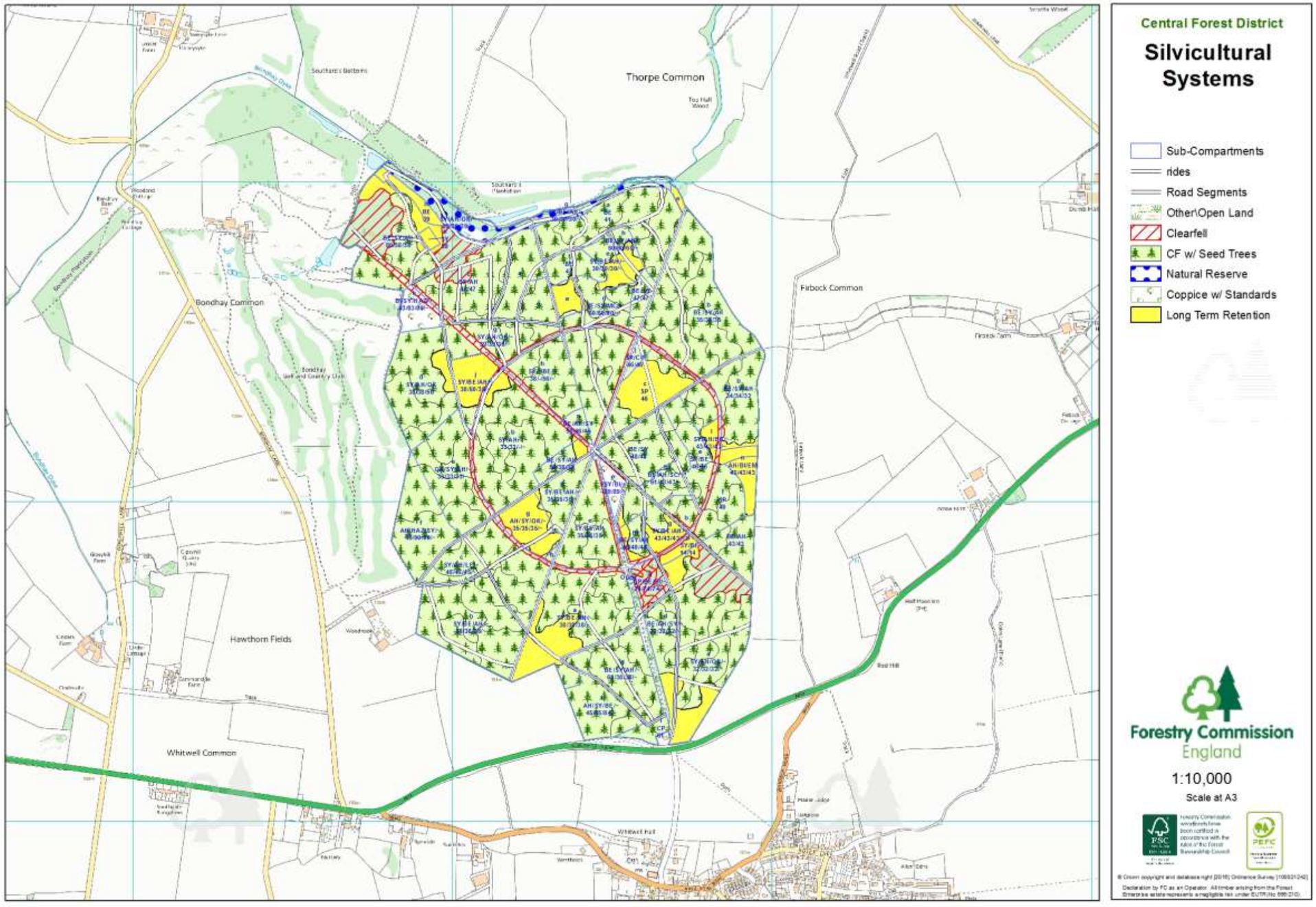
Marked Walking Trails

Forestry Commission England

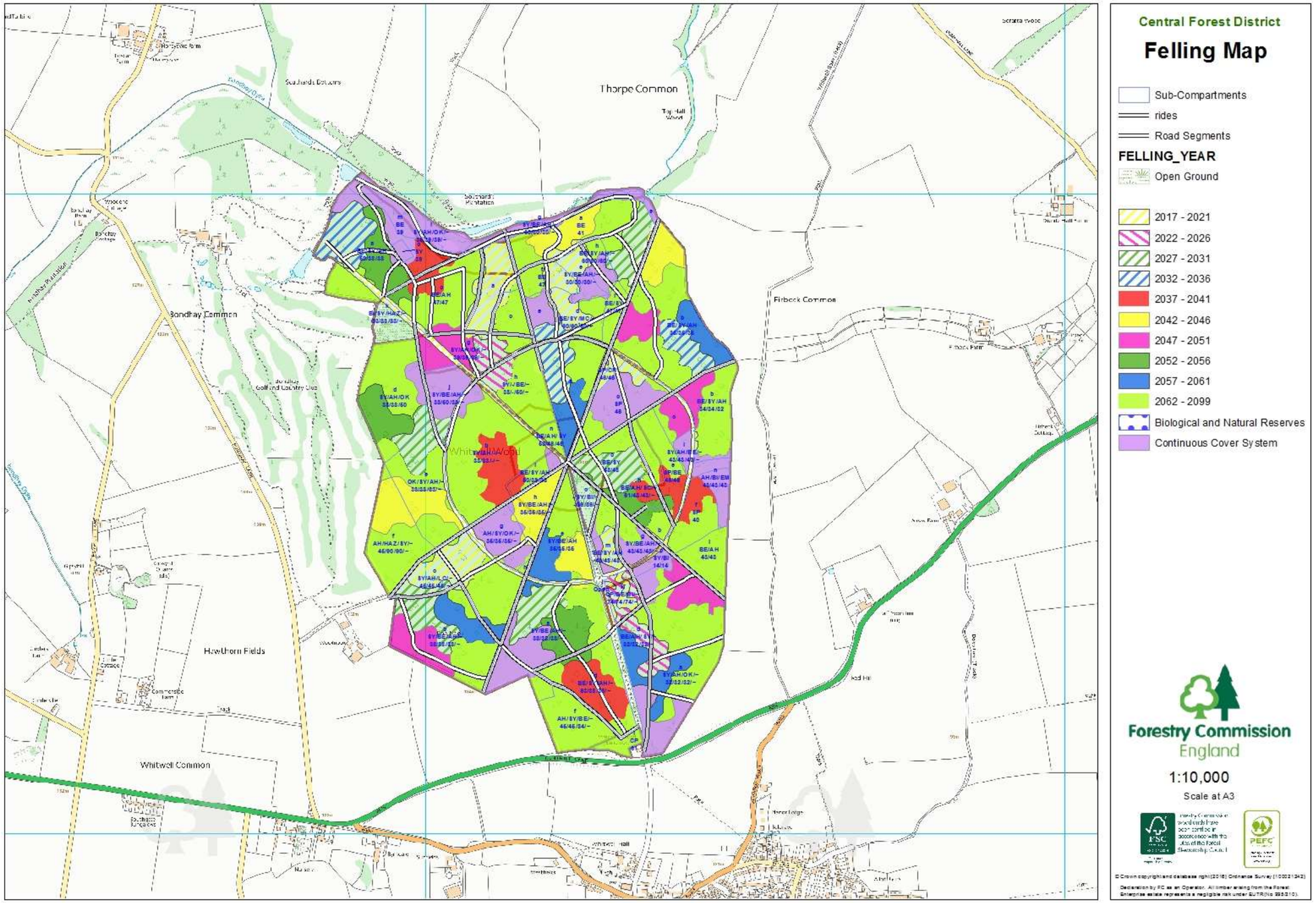
1:7,000

Scale at A3

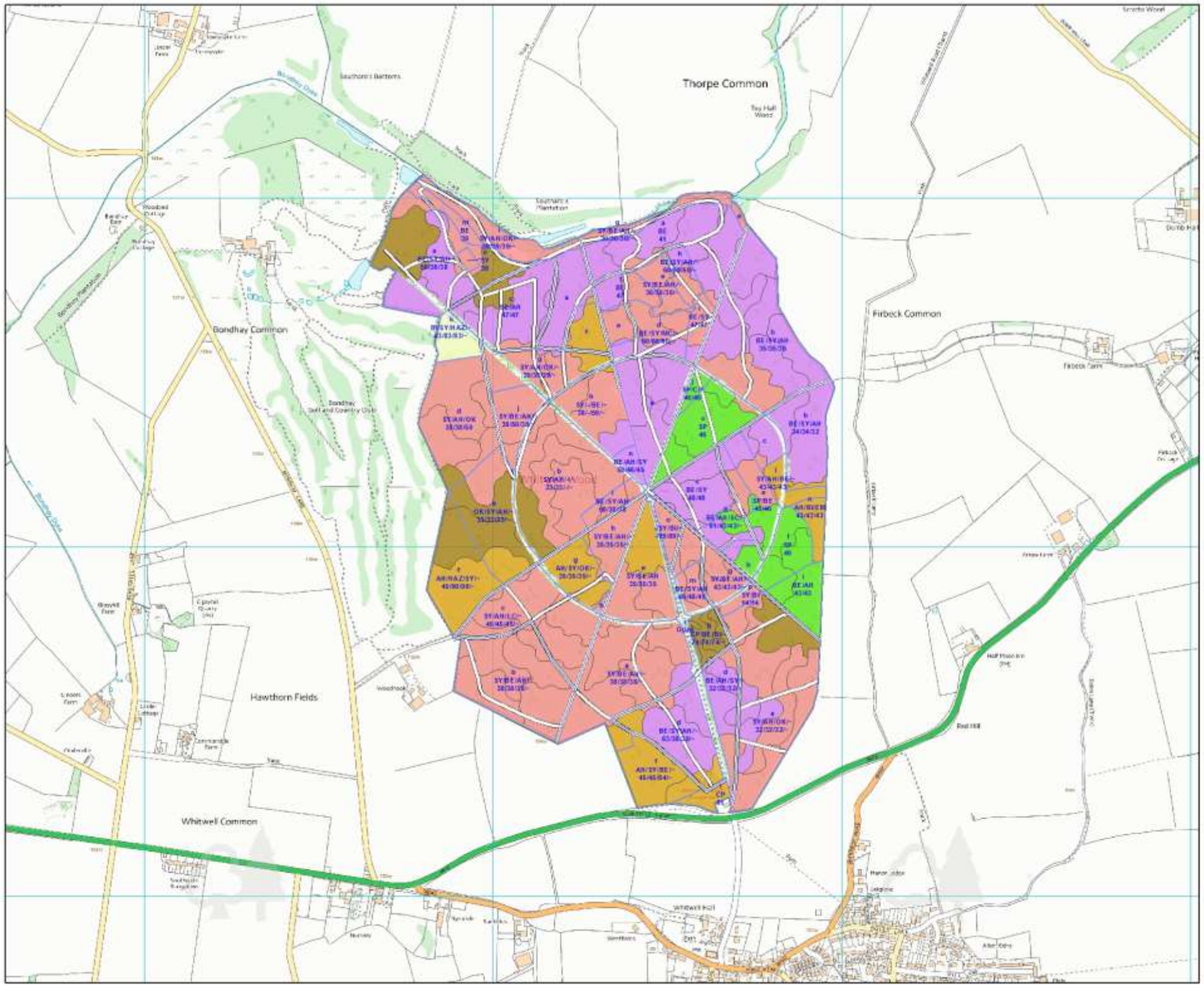
8.5 Silvicultural Systems



8.6 Felling Map



8.7 Future Species



Central Forest District

Future Species

- Open
- AH
- BE
- BI
- OK
- SY
- SP
- Sub-Compartments
- rides
- Road Segments

This map is based on the dominant species in compartments to be felled. Natural Regeneration will be used in these areas, so final species will be subject to natural variation and all of these coupes are made up of at least two species at present.

The exception to this will be the Oak/Clearfell coupes, these will be restocked by planting Oak at a high stocking density.

Forestry Commission England

1:10,000

Scale at A3

9. Relevant Forestry Commission & Government Policies

- Derbyshire County Council, 2015. "Part One: Landscape Character Descriptions. 5. Southern Magnesian Limestone" Available at: http://www.derbyshire.gov.uk/environment/conservation/landscapecharacter/default.asp

- Natural England, 2014. "National Character Area profile: 49. Sherwood" Available at: http://publications.naturalengland.org.uk/publication/1401066?category=587130 or ISBN: 978-1-78367-138-0

- Forestry Commission, 2014. Central England Forest District Strategic Plan 2014-2020.

10. Publications of Interest

This list is included in good faith; as these publications may be of interest to anyone reviewing the Whitwell Forest Plan and contain a lot of information about archaeology and species. However we make no assurances about their accuracy and it should not be assumed that their inclusion here is our endorsement of any opinions expressed within them.

- Ellis. J & Watson. R, 1973/1995. Birds of Whitwell and District.

- Watson. R, 1993. A Short History of Whitwell Wood.

- Whitwell Wood Natural History Group, Various Dates. "Whitwell Wood: A guide to the history and natural history of a woodland nature reserve" & "A History of Whitwell Wood"

End of Document