

Sotby Forest Plan 10 year review 2017 - 2027

Sotby Forest Plan

Contents

Sotby Forest Plan 10 year review	4
The Sotby Forest Plan Brief	5
Application for Forest Plan Approval.....	7
Introduction	8
1.0 Key Characteristics and Survey Data	10
1.1 Location	10
1.2 Geology and Soils	10
1.3 Aspect and Natural Character Area.....	11
1.4 Hydrology	12
1.5 Archaeology and Heritage	12
1.6 Designations, Habitats and Species.....	12
1.61 Designations	12
1.62 Species of Note.....	12
1.7 Social and Community Interest	13
2.0 FC Management Objectives.....	14
3.0 Forest Plan Objectives.....	15
3.1 Woodland	15
3.11 Current Species, Age Structure and Production	15
3.2 Environmental.....	19
3.21 Retentions.....	19
3.22 Biodiversity	19
3.3 Social	20
3.4 Archaeology and Heritage.....	20
3.5 Landscape	21
3.6 Drainage	21

4.0 Restocking and Future Management	22
4.1 Felling & Thinning	22
4.2 Natural Regeneration & Restocking	22
4.3 Other Management	23
4.3.1 Drains, Roads & Rides	23
4.3.2 Open Space.....	23
5.0 Meeting and Monitoring Objectives	26
6.0 Economic forecast	28
7. Consultation	30
7.1 Consultees.....	30
8. Maps	31
8.1 Location	31
8.2 Current Species.....	32
8.3 Recreation & Access.....	33
8.4 Silvicultural Systems.....	34
8.5 Felling Map	35
8.6 Future Species	36
8.7 Road, Ride & Drain Management	37
9. Relevant Forestry Commission & Government Policies.....	38

Sotby Forest Plan 10 year review

This section is a brief review of the current Forest Design Plan, known as “Sotby – Design Plan 53”. Sotby is a single woodland block just to the east of Wragby in Lincolnshire. This plan was due to expire in 2012; but was rolled over until 2017 in order to allow for the construction of a new plan and consultation on the review. The new plan will be known as “Sotby” 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/NNR plans and local consultees.

It can be concluded that the previous plan was successful, met its objectives and that the new plan should continue in the same direction. If there are lessons to be learned through; they are that water tables are becoming a factor in restocking and establishment in the Lincolnshire area. This could be attributed to climate change, lack of resources for drain construction or environmental pressure to restrict their use.

It was clear from the review and recent replanting in neighbouring woods; that the new Sotby forest plan will have to give consideration to the use of clearfelling and how water tables can be managed within constraints to achieve our establishment targets. To summarise; how can we get young trees to grow on waterlogged sites or how do we stop areas becoming waterlogged in the first place.

The Sotby Forest Plan Brief

The Sotby Forest Plan comprises a single block of woodland situated to the east of Wragby in Lincolnshire just to the north of the A158. The 116 hectares covered by the plan is all freehold; managed by the Forestry Commission and open for public access.

The woodland is a mixture of broadleaf and conifer species and has no formal environmental or heritage designations. It has a healthy level of access by members of the public, although it has no formal recreation facilities.

The Brief for the Sotby Forest Plan has been written to highlight economic, environmental and social benefits; the three key priorities in our district strategic plan. 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.

Terms of Reference for the Sotby Forest Plan

	Important Themes	Particular Issues to be addressed
Economy	Timber Production	Demonstrate the continuation of a structured and sustained programme of clearfell and thinning to include infrastructure requirements (roads and main drains). Select suitable species and appropriate silvicultural techniques to regenerate (either naturally or through planting) commercially productive but more structurally and species diverse and resilient crops. In areas where there is evidence that the water table is close to the surface, propose alternative silvicultural systems to allow successful establishment of productive crops.
Environment	Statutorily designated sites and non-designated priority habitats Trees of Special Interest and Deadwood Species	Demonstrate appropriate management to maintain the current extent and ecological value of the non-designated priority habitats. Identify existing locations of TSIs and demonstrate appropriate management to both maintain the current resource and to recruit future veteran replacements. Identify appropriate areas to increase deadwood habitat and propose management to maintain a sustainable resource. Identify key species and sites and make appropriate provision for their requirements.
People	Landscape Informal Public Access	Diversify species composition and structure, and plan sympathetically designed and appropriately scaled interventions to improve and maintain the visual integration of the forest into the wider landscape. Recognise the location and scale of demand in making appropriate provision for public access.

Application for Forest Plan Approval

1. Plan area identification

Forest District: Central England Forest District
 Beat: Sherwood East Beat (Lincolnshire)
 Name: Sotby Forest Plan
 Nearest Town: Wragby
 Total Plan Area: 116 hectares
 OS Grid Ref: Centre of Sotby: TF 1890 7747
 Local Planning Authority: Lincolnshire – East Lindsay District

2. Designations

N/A

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	24.2	4.0	28.2
Restocking*	19.7	1.5	21.2
Thinning			71.6

*Restocking refers to that area that may be under planted if conditions are suitable, as well as that area which has recently been clearfelled. It also covers natural regeneration of widened rides and coppiced areas.

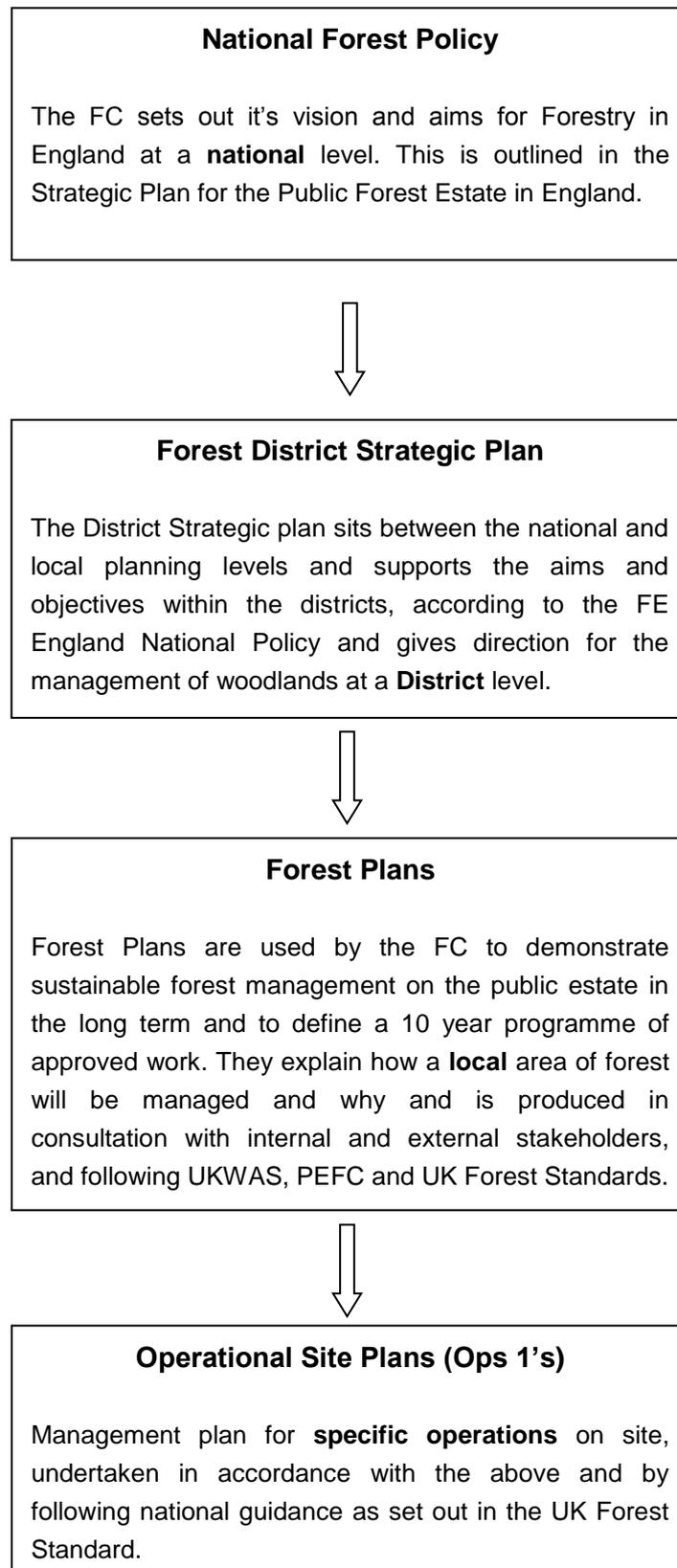
Signed.....
 Forest Management Director (FE) Field Manager (FS)
Date

Introduction

This plan updates the plan approved in 2002. 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 Sotby FP area lies just to the east of Wragby in Lincolnshire; just north of the A158.
- OS Grid References:

Nearest Village	Sotby TF 205 788
Access Point	TF 185 781
Centre of Wood	TF 189 774

The area covered by the Forest Plan amounts to 116 ha of which 103 ha is woodland. Of the planted area, 39% is broadleaved woodland and 61% is conifer (See Fig.2). 11% 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

- Sotby sits on the Kimmeridge Clay formation. The Bedrock is Siliciclastic Argillaceous, a mudrock typically made up of sands, shales and clays.
- Background research into local soil types suggests Sotby sits on a mixture of Naturally wet very acid sandy and loamy soils (West side), Slowly permeable seasonally wet slightly acid but base rich loamy and clayey soils (East side) and Loamy and clayey floodplain soils with naturally high groundwater (South edge).

1.3 Aspect and Natural Character Area

- The area is generally typical of Lincolnshire and sits on the border between the fens and the wolds. The wood is an isolated, but larger than average; block in a landscape of farms, agriculture and small woodlands. At approximately 30m AMSL (Above Mean Sea Level); this area is not the fens to the south and north reliant on heavy drainage, but nor is it quite the Lincolnshire Wolds. It is a rolling agricultural landscape that still requires a degree of drainage to keep the water table under control.
- The majority of the wood sits within East Lindsey District Councils Landscape Character Area "E1: Wragby to Horsington Vale Woodland and Farmland" and the northern edge is in area "G3: Hainton to Toyton All Saints Wolds Farmland". This assessment describes the E1 area as a: *"fluted and rolling valeside slopes gradually from the Wolds in the east down towards the fens in the west. The landscape has some enclosure due to the landform, frequent small woodlands, and lines of mature hedgerows with hedgerow trees"* and *"The fabric of this agricultural landscape is based on a patchwork of fields and woodland interwoven with mature hedgerows with hedgerow trees and scattered rural settlements and farmsteads"*.
- The forest is within Natural England's Central Lincolnshire Vale (44) National Character Area.
- The woodland is a plantation of conifer and deciduous mix, approximately 30m amsl.
- The gently rolling landscape of this part of the world means local and internal viewpoints need to be considered as opposed to long distance views. There are a few farms, houses, roads and footpaths where views of the woodland edge may be possible, close to the wood.

1.4 Hydrology

- There is a network of drains and six ponds. An aim of the previous plan was to improve riparian habitat.
- The local area receives an average of 590mm of rainfall per year and it rains on average 112 days per year (according to long term Met Office statistics).

1.5 Archaeology and Heritage

- Sotby was originally farm land and was acquired freehold by the Forestry Commission in 1937-1938. The whole area was planted, however some of the original hedgerows and field boundaries remain within the wood.
- There are no archaeological features of any kind known to exist within the wood.

1.6 Designations, Habitats and Species

1.61 Designations

- There are no designations covering Sotby.

1.62 Species of Note

- Badger (*Meles meles*) setts.
- Six ponds, some containing newts.
- One TSI (Tree of special interest) in the form of a large oak that straddles the western ride.

1.7 Social and Community Interest

- Sotby is a freehold wood. There is limited informal parking in a Bell Mouth and at the side of the road on the northern edge of the road. There are informal tracks, rides and the single forest road within the wood, but no formal recreation provisions. The whole block is dedicated as open access in line with Forestry Commission policy. Most access is by local people and on foot, with a small number arriving by vehicle.

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 nation's 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

The Forestry Commission acquired the land between 1937 & 1938 and created a plantation woodland; which has been managed sustainably to produce timber.

Some areas have been felled recently and restocked like for like or with broadleaf species in some instances.

The woodlands will be managed using a variety of silvicultural systems to allow for the commercial harvesting of 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 Production

The plan area is predominantly coniferous woodlands with proportion of broadleaf. Approximately 89% of the area is planted with 11% 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, 54% is Conifer and 34% is Broadleaf. See Fig. 2 Current Forest Structure. Table 1 shows a breakdown of species composition.

Fig. 2 Current Forest Structure

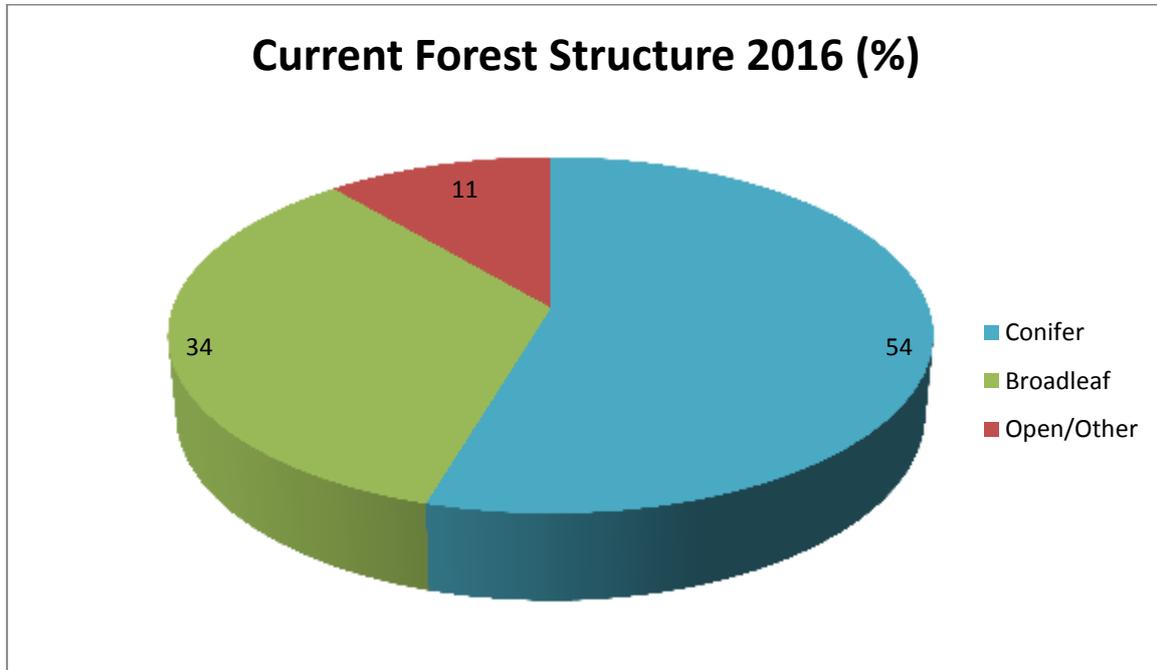


Fig. 3 Current Land Use

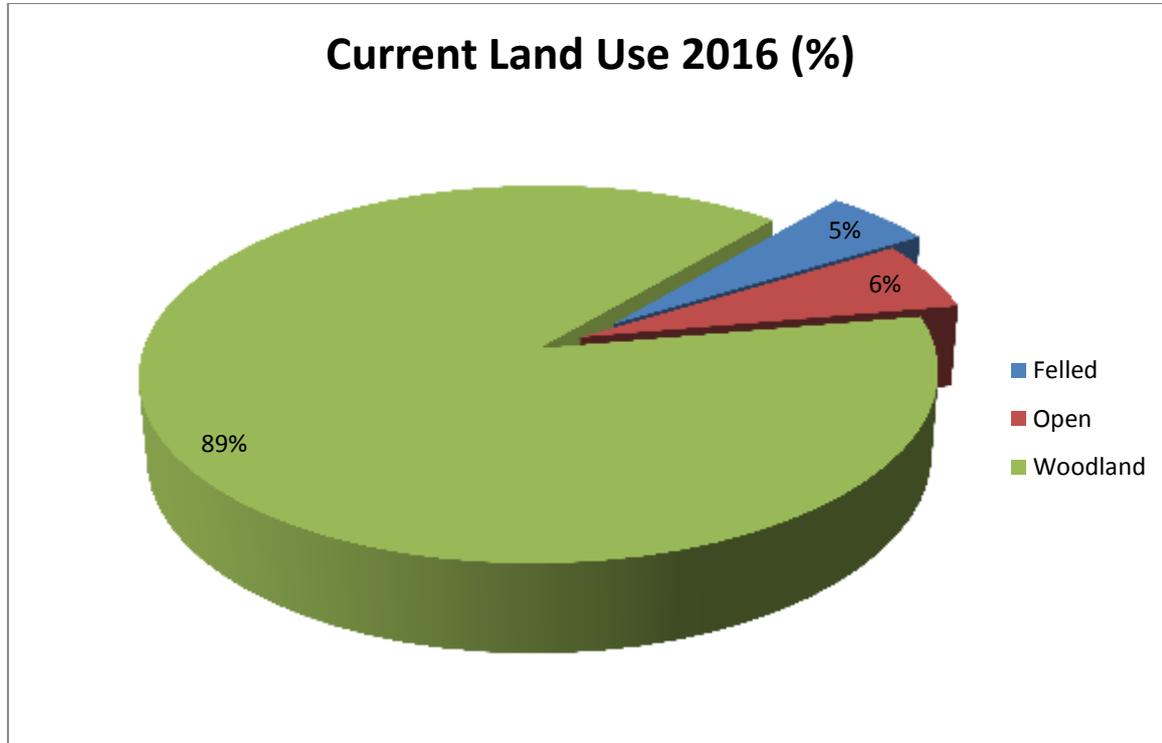


Table 1 – Current Species (as of 2016)

Species	Area (ha)	Percentage of Total Area
Conifer		
Corsican Pine	37.5	32.4%
Scots Pine	23.4	20.2%
Norway Spruce	1.0	0.8%
Noble Fir	0.6	0.6%
Other Conifer	0.5	0.4%
Total Conifer	63.0 ha	54.4%
Broadleaf		
Oak	28.3	24.5%
Birch	5.8	5.0%
Beech	1.9	1.6%
Willow	0.9	0.8%
Other Broadleaf	3.0	2.6%
Total Broadleaf	39.9 ha	34.5%
Open	12.9 ha	11.1%
Total Area	115.8 ha	100 %

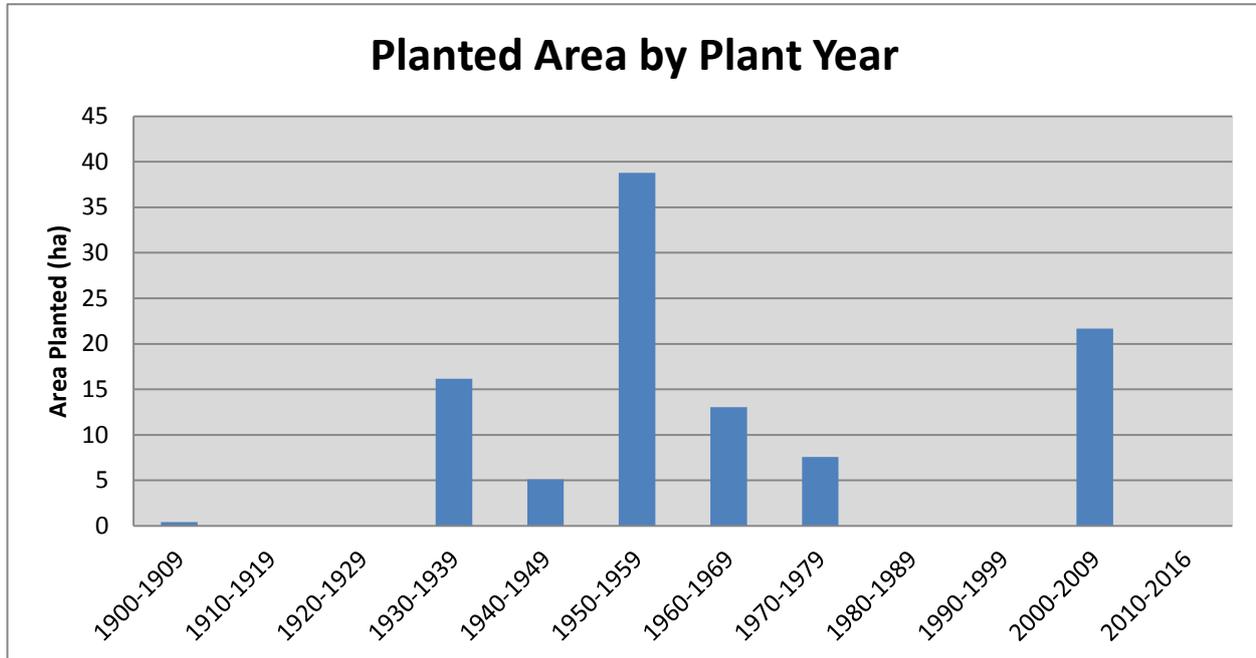
The woodland has been managed sustainably in the past and this will continue. Table 2 shows the current production forecast from the previous plan.

Table 2 – Current Production Forecast

	Period Forecast Period	All Species All Species	All Conifer All Conifers	All Broadleaf All Broadleaves
Volume to 7cm	2017- 2021	376	364	12
	2022- 2026	1776	1511	265
	2027- 2031	153	145	8
	2032- 2036	821	604	218
	2037- 2099	547	414	133

Note: values given are for m³ 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.

3.2 Environmental

3.21 Retentions

- 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. One way of achieving this would be leaving brash on site from felling, thinning and coppicing operations as well as retention of veteran trees or trees of special interest (TSIs).

3.22 Biodiversity

- The Forestry Commission maintains records on biodiversity and these are consulted at the operational planning stage. Important species will be highlighted and protected as part of this. We also welcome records from organisations and groups that can help us improve our understanding of biodiversity within our woodlands.
- We also have our own rigorous policies and standards in addition to the United Kingdom Forest Standard (UKFS); to which management and operations within Sotby will adhere.
- The Sotby plan area more than meets the UKFS 10% open space targets, by having 11% open space. This will probably increase during the plan period due to ride widening, drain maintenance and transitional open space created by felling and thinning.

3.3 Social

- The current relationship between level of access and provision of recreation facilities is proportionate in Sotby; in that there is a low level of public uptake of access and few facilities. The location of Sotby and scale of demand lead us to the conclusion that there is currently no need for additional recreation provision in Sotby but public access to the wood will continue.
- We will continue to promote access where possible; as well as actively engaging and encouraging local groups and individuals where there is mutual benefit from their involvement in these woods. At the moment no such relationship looks likely to arise. However locally, there is a high level of provision for recreation and active community groups at Chambers Wood, just to the south of Wragby.

3.4 Archaeology and Heritage

- No archaeological or heritage features are known to exist within Sotby.
- If this changes during the plan period, any features will be identified at the operational planning stage and specific protection or preservation strategies will be implemented for any features which may be 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.
- The only features that could be of note are the pre-plantation farm hedgerows. There are no plans to remove these and their presence will be highlighted at the operational planning stage.

3.5 Landscape

- There are no plans for any dramatic changes within the woods that would have an impact on the local landscape. Changes will be small, subtle and mainly internal.
- Internal landscape changes will include; ride widening to improve access and ease maintenance of existing rides and to improve or create access for drain maintenance. This will be in addition to the normal cycle of thinning planned for the wood.
- This management should improve light and access within the wood, provide open and transitional habitats for species and provide a source of income from timber. It will also give us the opportunity to improve final crops.

3.6 Drainage

- The objectives for woodland management around drains in the previous plan were valid, however new information has created a need for a change in approach. High water tables following clear-felling have led to difficulties in establishing new trees when restocking.
- We plan to tackle this by identifying sites where water table could be an issue and altering silvicultural practice from clearfelling and restocking to continuous cover and underplanting. This should reduce the number of sites where this is a risk.
- In the case of Sotby, we felt that maintenance of the drains would also help improve this situation and have planned a scheme of drain and ride management for the next plan period.
- In line with this, we will fulfil our commitments to neighbouring land owners, to maintain drains when required; to remove restrictions on the flow of water through our landholding.

4.0 Restocking and Future Management

Of the 116 ha plan area:

4.1 Felling & Thinning

- The clear-fell and restock element of the Forest Plan will amount to 31.3 ha over the next 10 years. This will be made up of clear fells, strip felling and ride widening. Restocking will be achieved by natural regeneration and follow up supplementary planning in broadleaf areas or planting/under-planting in conifer areas.
- Throughout the plan there will be thinning programme on a 5-10 year rotation, as necessary throughout the woodland. In some areas this will be a thinning biased towards achieving volume whilst in others it will be biased towards improving canopy structure. This will improve the quality of existing trees whilst opening up canopy gaps for succession of understory trees.

4.2 Natural Regeneration & Restocking

- 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 happening in stages within the wood, 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. This will allow us to manage restocking on areas where the water table rising after felling could hinder attempts to restock. The use of Continuous Cover Forestry (CCF) in some areas as opposed to clearfell, will also help mitigate against this.

4.3 Other Management

4.3.1 Drains, Roads & Rides

- Drains, Roads and Rides marked on the map (see section 8.7) will be managed throughout the plan period.
- General maintenance of roads will be required throughout the plan period to facilitate harvesting, management and access.
- Some of the rides are starting to close in and become wet and inaccessible; we would plan to remove a strip of edge trees along rides when thinning or felling each coupe to open up rides and help them dry out.
- We also plan to maintain all of the drains shown on the map during the plan period; this would require removal of up to 10m of trees on one side of the drain to allow access. If one side of the drain has a historic hedgerow, the other side will be chosen for access.
- These works will improve access and help maintain the water table, improve the success of our restocking.

4.3.2 Open Space

- The amount of open ground within the Forest Plan increases to 17.2%. This will mostly be achieved by ride widenings and ride creation next to drains; which will benefit wildlife by creating edge habitat and will open up the main walking and access routes. Widened rides will be allowed to regenerate naturally over time so will take the form of transitional open space. Table 3 and figure 5, 6 & 7 show a breakdown of future forest structure:

Figure 5 - Future Forest Structure (2066)

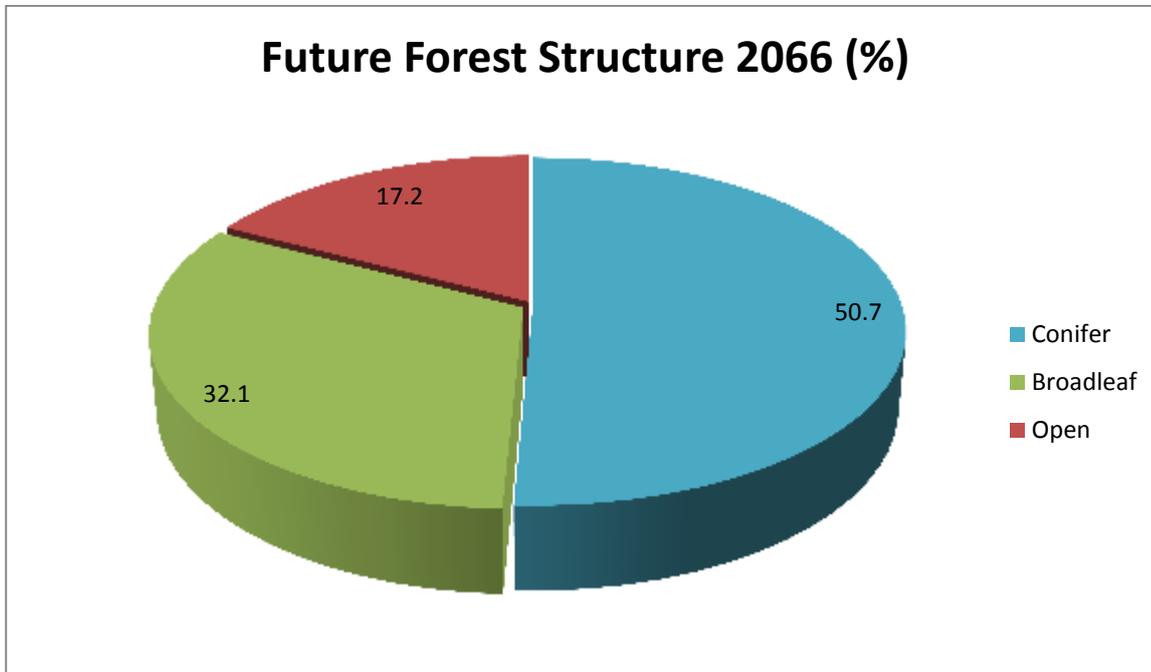


Figure 6 - Future Land Use (2066)

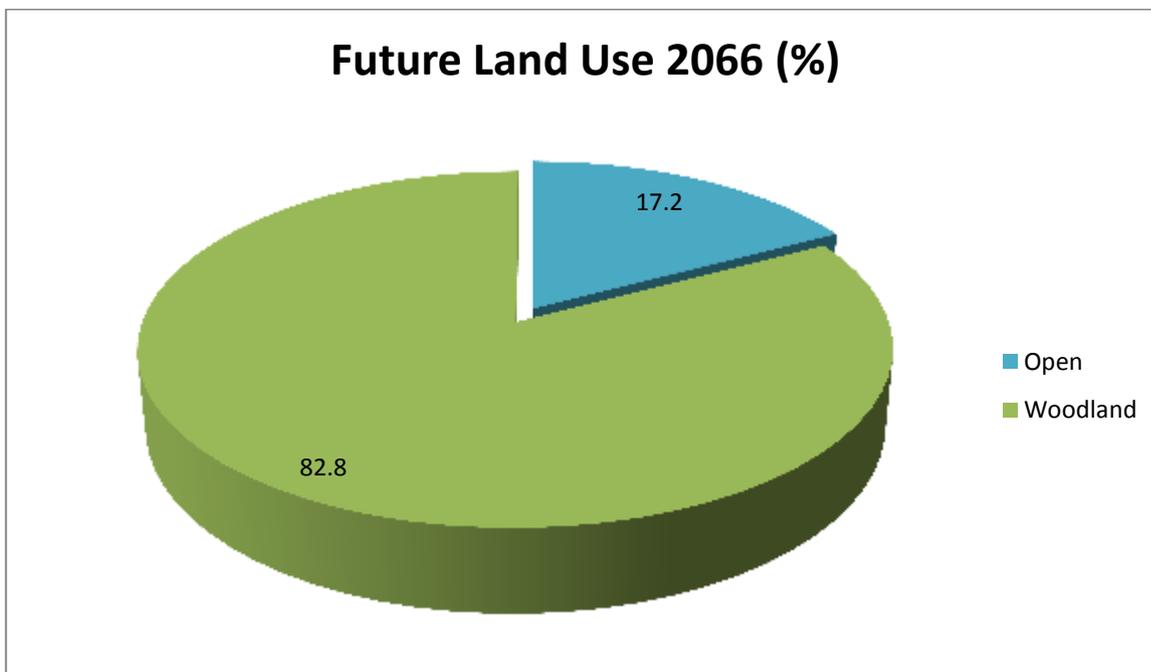


Table 3 – Future Species (as of 2066)

Species	Area (ha)	Percentage of Total Area
Conifer		
Mostly Corsican & Scots Pine and Larch in existing areas and alternative conifers in restock/underplanting.		
Total Conifer	58.7	50.7
Broadleaf		
Mostly Oak, Birch, Beech and Ash.		
Total Broadleaf	37.2	32.1
Open		
Current Open Space	12.9	
Creation by Ride and Drain management	7.0	
Total Open	19.9	17.2
Total Area	115.8	100

The aim is to achieve restocking by a mixture of planting and natural regeneration as appropriate; because of this proportions of species have been estimated. 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.

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 diversification.

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 whilst being sympathetic to environmental objectives.	Monitored through our Geographical Information System (GIS) database and review of operations as part of the operational planning process.
Infrastructure	Maintain and improve infrastructure to meet operational requirements.	Defined program of ride and drain maintenance. Roads to be maintained as required.	Beat team can monitor progress of drain maintenance through water tables on restock sites. Ride management can be monitored by improvement of access. The beat team can then choose to bring forward or scale back planned maintenance prescribed within the plan period as appropriate.

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	Maintain a provision for recreation proportionate to the level of uptake.	Roads and rides will be managed to meet other objectives, but also improving access.	Beat and RPA teams to monitor in line with operational objectives throughout the plan period with the option to react appropriately to any change in circumstances.
Heritage	Protect and conserve designated and non-designated features.	Monitor sites during felling and restocking for appearance of new features. Protect, preserve and restore any features as appropriate.	Beat team review any known heritage features at the operational planning stage and to liaise with local/ national historical bodies as and when appropriate.
Forest Standards	The woods will continue to be managed in a sustainable and productive way.	Guidelines set out by UKWAS, UKFS, and Forest District Strategic Plan will be adhered to.	Mid-term monitoring of the FP, UKWAS and SGS audits and Beat staff.

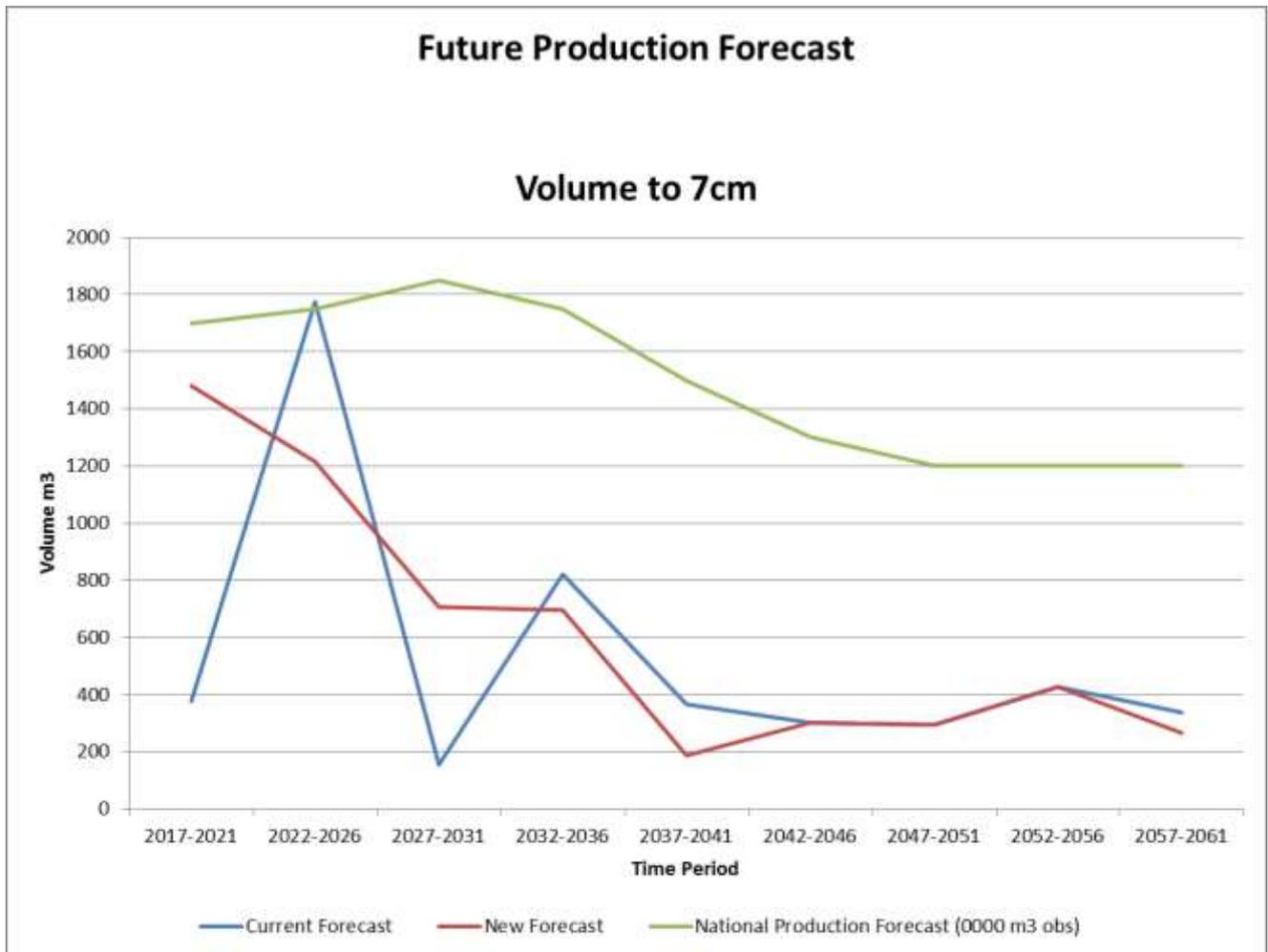
6.0 Economic forecast

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

	Forecast Period	All Species	All Conifers	All Broadleaves
Volume	2017-2021	1482	1423	59
	2022-2026	1215	969	246
to 7cm	2027-2031	705	658	47
	2032-2036	697	499	198
	2037-2099	650	505	195

Note: values given are for m³ per year for each year of that period.



New production forecast comparing current and new forecasts with national average.

7. Consultation

7.1 Consultees

East Lindsey District Council

Euroforest

Hatton Parish Meeting

Historic England

Lincolnshire County Council

Lincs Hardwoods

Natural England

Pickards Forestry

Walkers Forestry

Wragby Parish Council

Other interested parties will be directed via on site signage to Wragby Community Hub, Wragby, where copies of the plan will be held. Consultation of the plan will also take place on the Citizenspace website.

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.

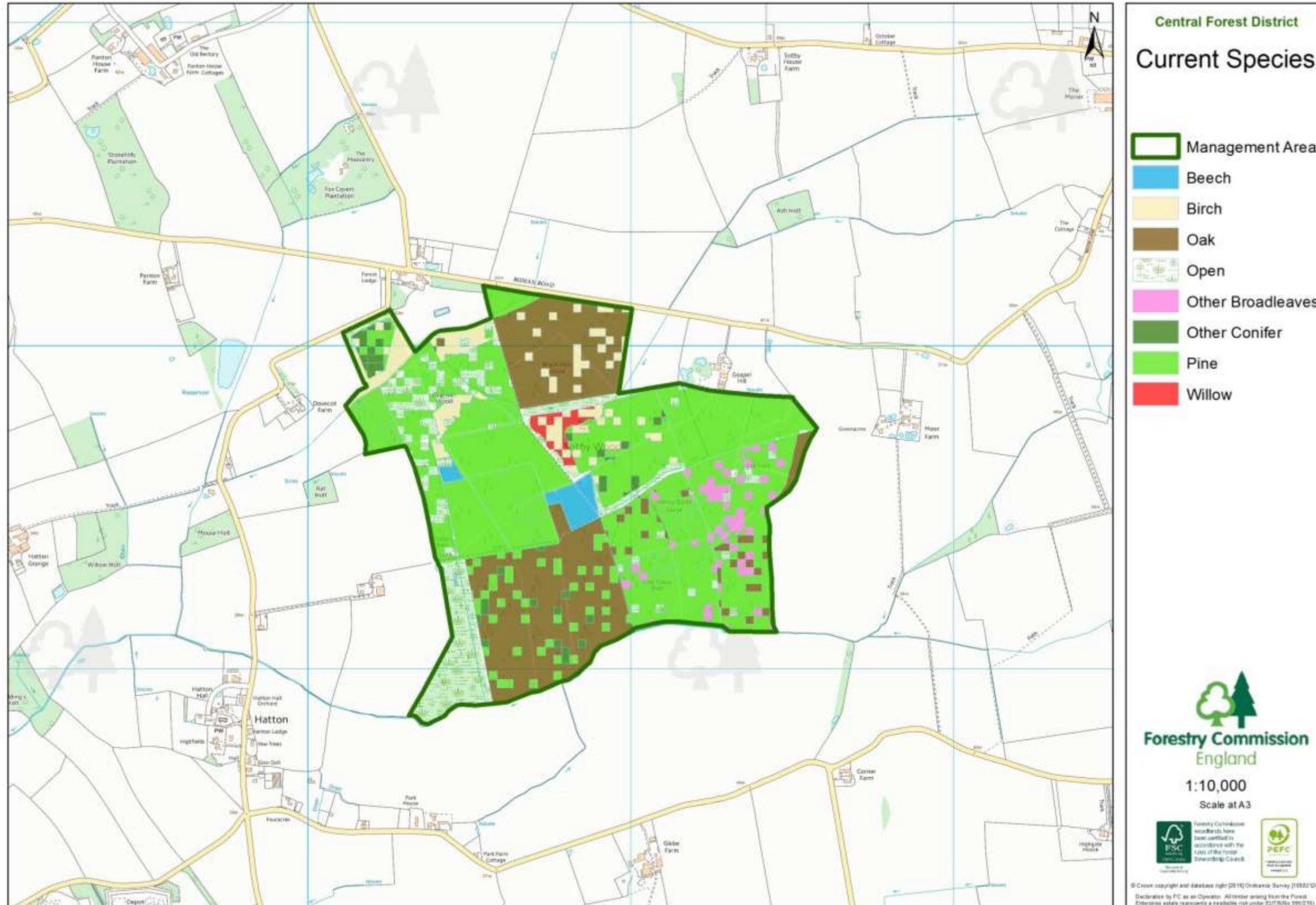


8. Maps

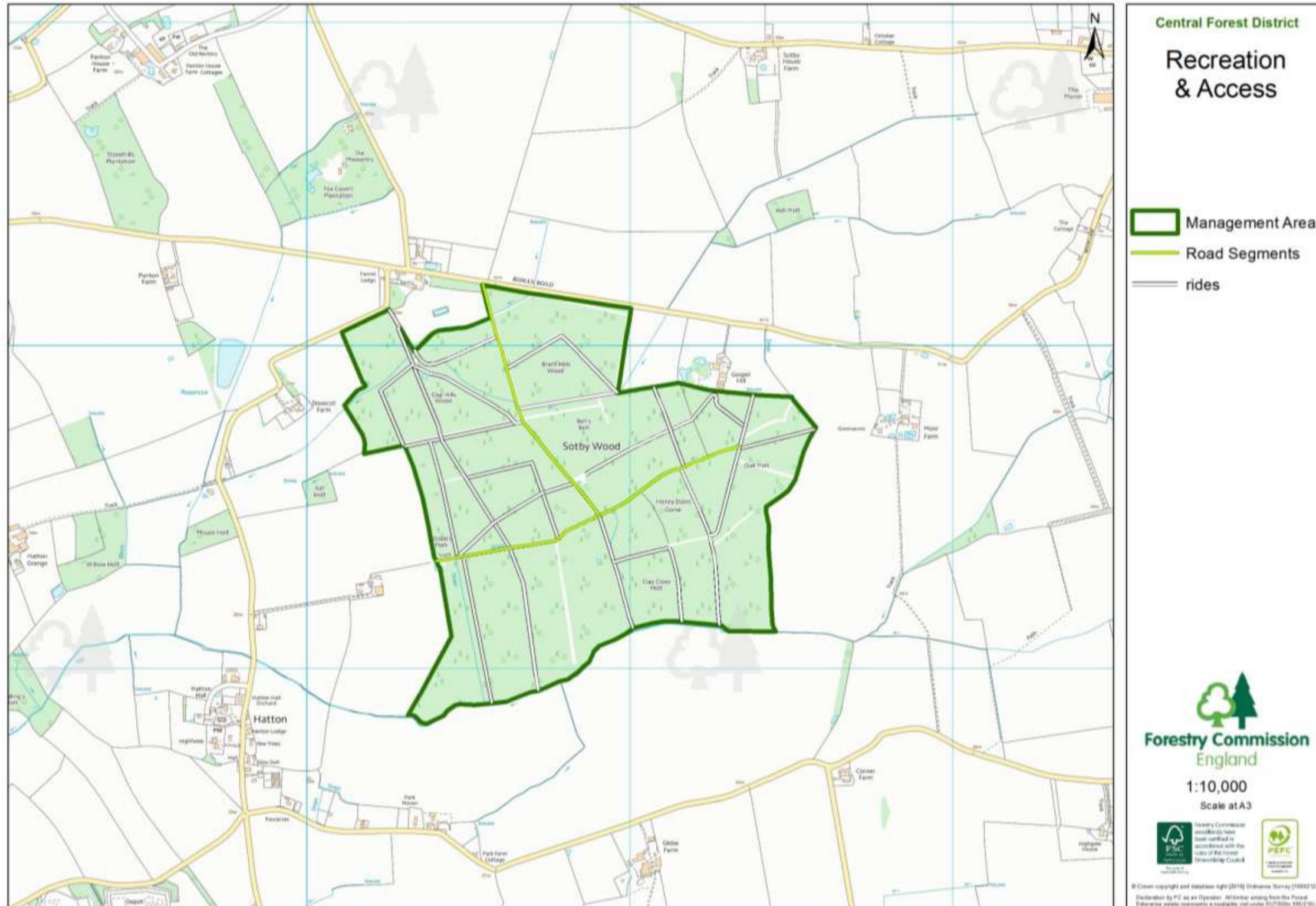
8.1 Location



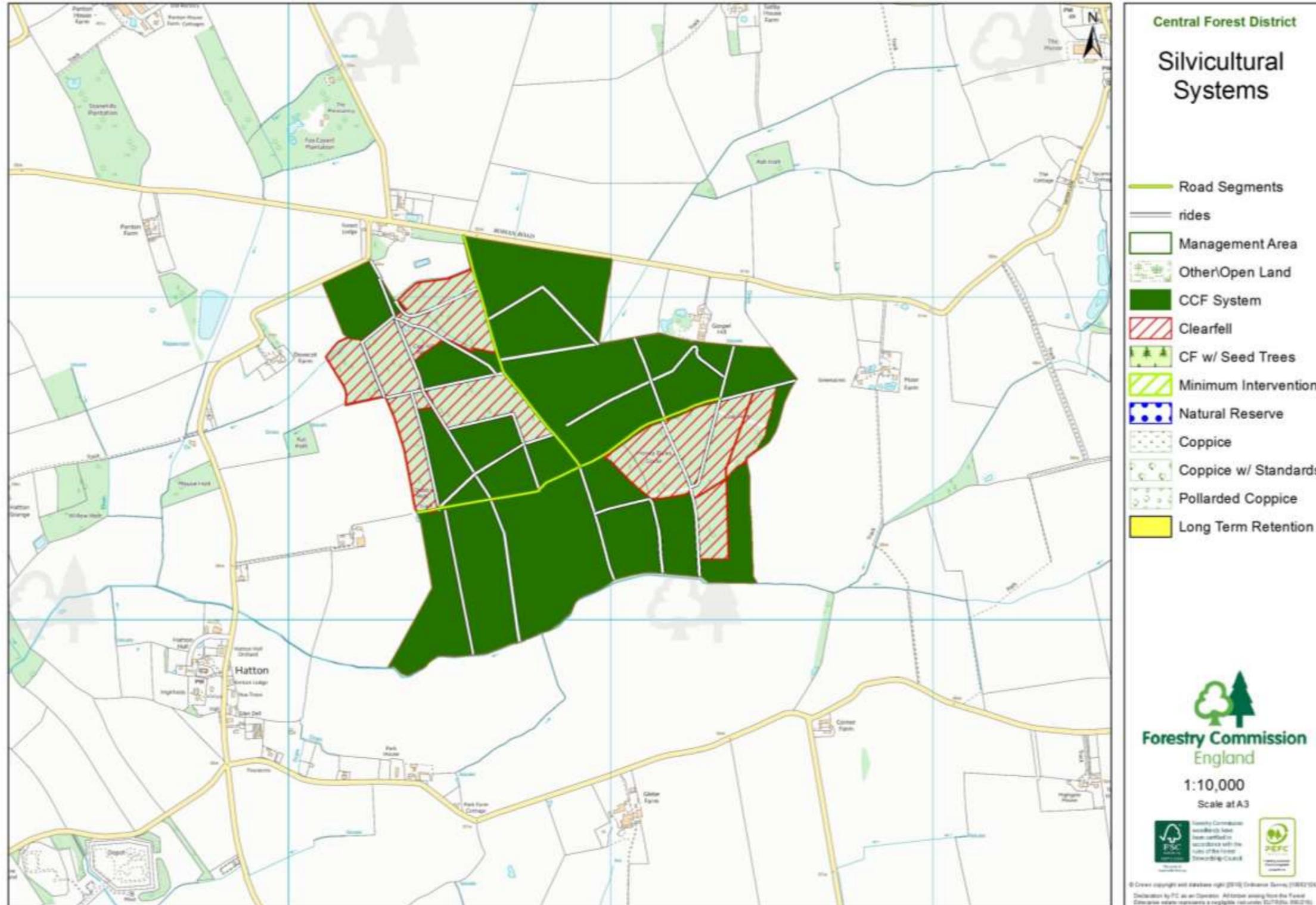
8.2 Current Species



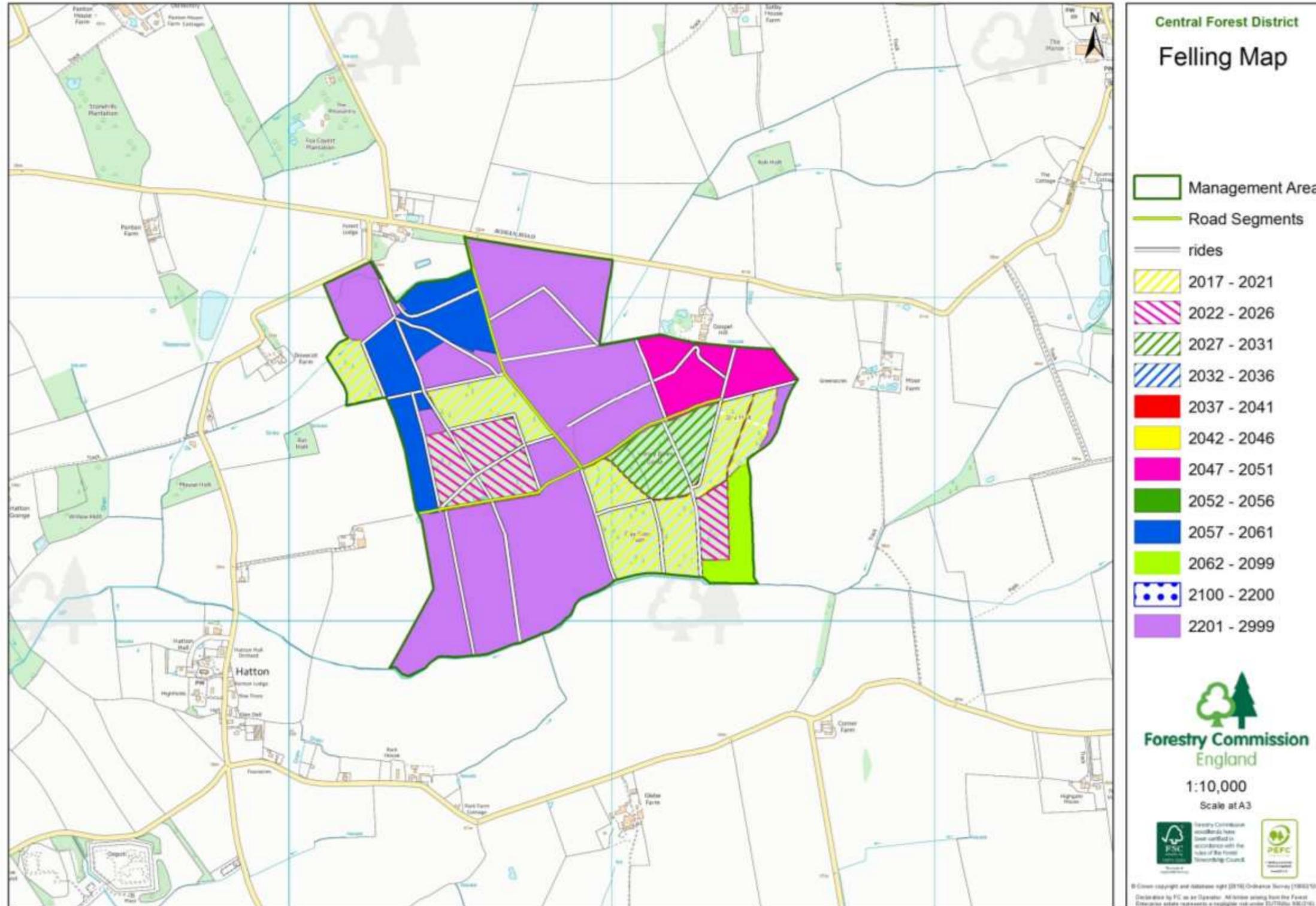
8.3 Recreation & Access



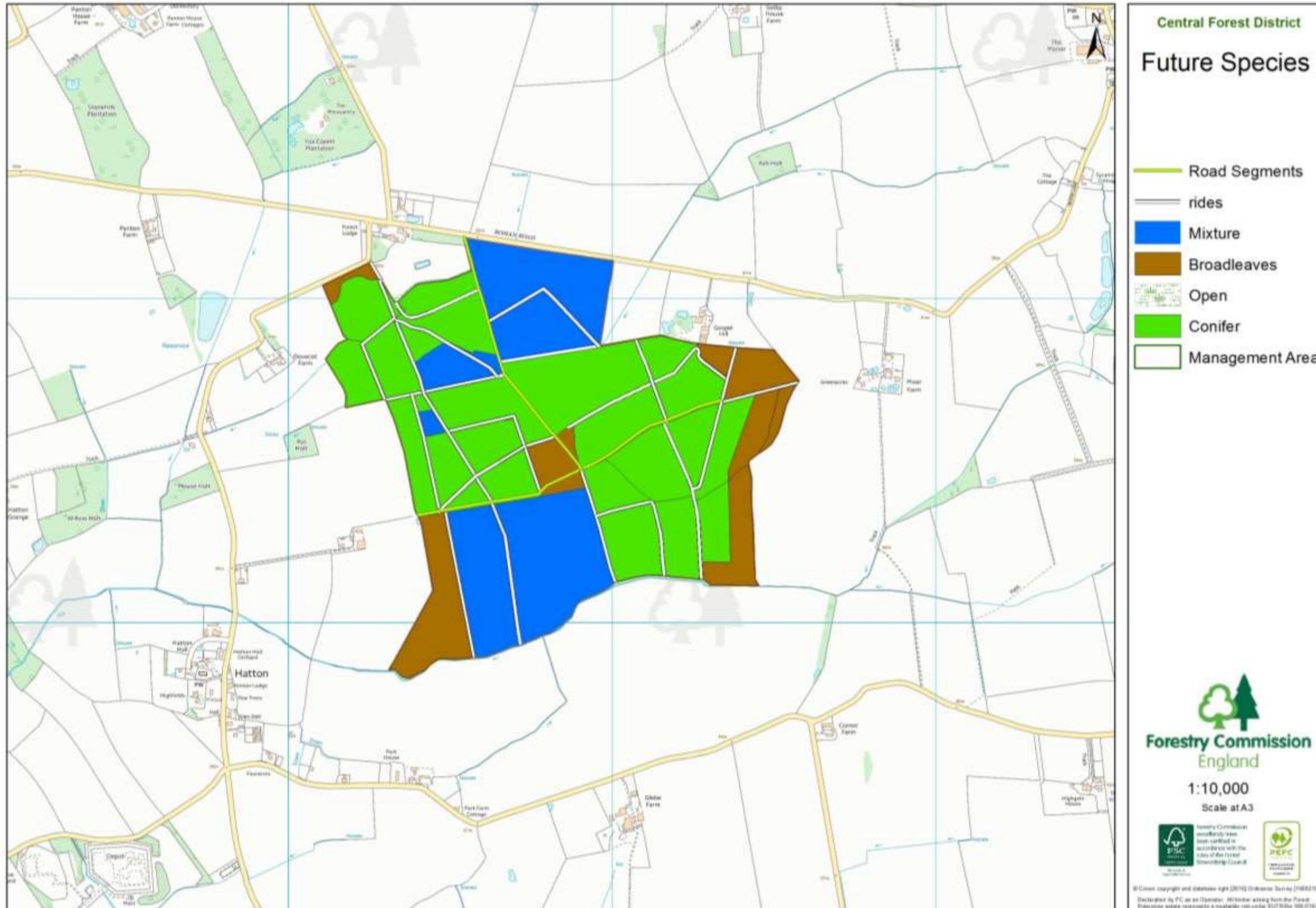
8.4 Silvicultural Systems



8.5 Felling Map



8.6 Future Species



8.7 Road, Ride & Drain Management



9. Relevant Forestry Commission & Government Policies

- East Lindsey District Council, 2011. "Landscape Character Assessment 2007" Available at: <http://www.e-lindsey.gov.uk/article/2142/Landscape-Character-Assessment>
- Natural England, 2013. "National Character Area profile: 44. Central Lincolnshire Vale" Available at: <http://publications.naturalengland.org.uk/publication/5902941076586496?category=587130>

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