Forestry England

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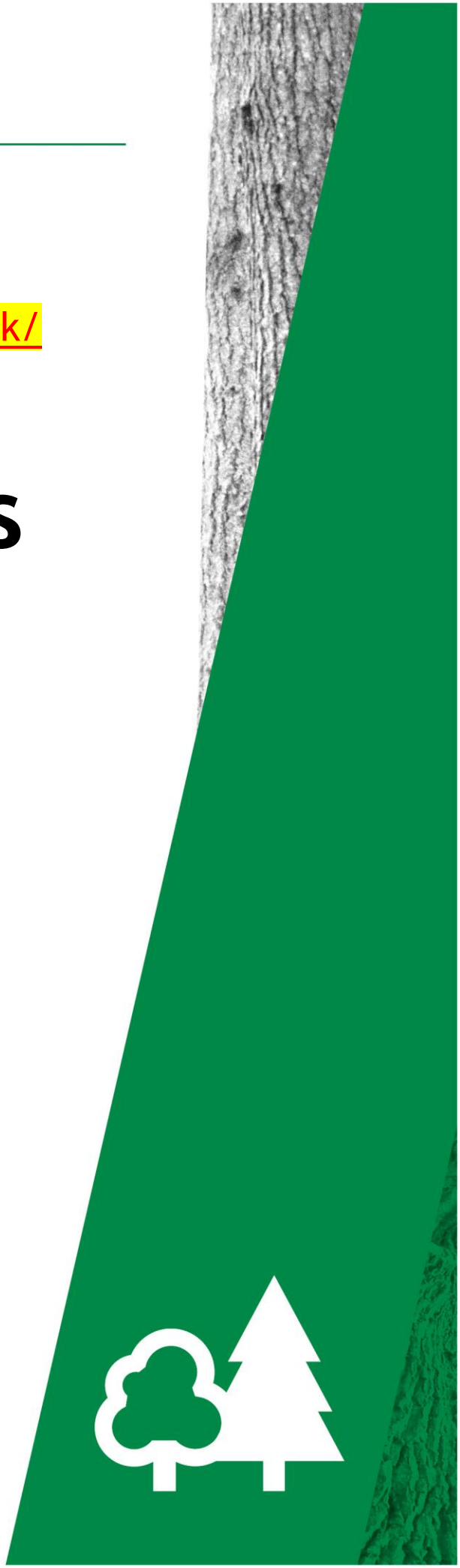
04.04.22 – 09.05.22

Bristol Woods Forest plan

2022-2032

Reference OP10/50

Rachel Giles
Spring 2022



Application for forest plan approval – Bristol Woods – MONTH tbc 2022

Forest district	West England Forest District
Woodland or property name	Bristol Woods
Nearest town, village or locality	Bristol
OS grid reference	Centre of the plan area is at ST 5345 7303
Local authority	North Somerset Council Wraxall and Failand, Long Ashton and Abbots Leigh Parish Councils

Plan area	265 hectares
Conifer felling	6.25 hectares
Broadleaf felling	18.27 hectares

1) I apply for forest plan approval for the property described above and in the enclosed forest plan.

2) I confirm that the scoping, carried out and documented in the consultation record attached, incorporated those stakeholders that the FC agreed must be included. Where it has not been possible to resolve specific issues associated with the plan to the satisfaction of consultees, this is highlighted in the consultation record.

3) I confirm that the proposals contained in this plan comply with the UK Forestry Standard.

4) I undertake to obtain any permissions necessary for the implementation of the approved plan.

Signed…… Forestry England Forest Management Director

Date……

Signed…… Forestry Commission Area Director

Date of approval……

Date approval ends……

Forestry England forests and woodlands have been certified in accordance with the UK Woodland Assurance Standard (UKWAS)

Contents

Explanation of some of the terms used in the plan:

- **Natural capital value** - from the soils to the trees, and all the species which live in them, the whole forest ecosystem is a resource known as '**natural capital**'. We use a natural capital approach to help us understand the **value** to society of the various benefits that come from the nation's forests.

- We measure the area of our land in **hectares** – one hectare is equal to one hundred metres by one hundred metres, or the equivalent of about two and a half acres.

- **Broadleaves** are trees with broad, flat leaves e.g. oak, beech, sweet chestnut. Most are deciduous (lose their leaves in winter). **Conifers** are trees with cones and needles e.g. Scots pine, Douglas fir. Most are evergreen, but not all e.g. larch is a deciduous conifer.

- A **stand** is a group, or area, of trees that are more or less homogeneous (the same) in terms of species composition, density and age. Stands of trees may be planted deliberately (**plantation**) or arise from **natural regeneration**, which refers to trees that have grown from seeds which arrived on the site through natural means, usually from the previous crop, or overstorey.

- The **understorey** is made up of the trees and shrubs that grow underneath the main crop (the **overstorey**), either from seeds from above, or deliberate **underplanting** (where new trees are planted under the main crop). The understorey provides shelter and habitats for wildlife, and will often become the next crop of trees, when the overstorey crop is felled.

- **Thinning** is where selected trees are removed to give the remaining trees room to develop.

- **Clearfelling** is where all the trees in an area are cut down – often because they have reached maturity, but sometimes due to disease; clearfelling provides temporary open space and the opportunity to **restock** (replant) with a different species which may be more appropriate for the site and its management objectives.

- **Coppicing / coupes** – see coppice management plan in **Appendix 1 - page 31-34.**

- **LISS** – or **low impact silvicultural systems** – provide an alternative to clearfell, involving careful thinning of the existing crop and encouragement of natural regeneration / underplanting, to maintain continuous forest cover and conditions, and to develop the next generations of trees.

- **Rides** are tracks through the forest – **ridesides** are often cleared of trees to make them light and welcoming for visitors, and to create open sunny spaces for flowering plants and insects.

- **Veteran trees** have characteristics, such as holes, hollow trunks and fungi, that are valuable for wildlife. Sometimes they may be **halo thinned**, which is when neighbouring competing trees are removed to give the veterans more space.

- **Diseased ash** refers to ash trees that are suffering from the fungal ash dieback infection, which is now common across the UK.

Section 1 – Vision, objectives and drivers

Forestry England – who we are and what we do

Forestry England is the country's largest land manager.

Our purpose is to secure and grow the social, economic and natural capital value of the nation's forests.

The foundation of our organisation is our world-class sustainable management of the nation's forests.

Our vision for wildlife…
The nation's forests provide the most valuable places for wildlife to thrive and expand in England.

Our vision for people…
The nation's forests are a living treasure for all, deeply connected to people's lives improving the health and wellbeing of the nation.

Our vision for climate…
The nation's forests are resilient to climate change, increasing their value for communities by producing high-quality, sustainable timber and absorbing carbon emissions.

The above is taken from our plan 'Growing the future: 2021-2026':
https://www.forestryengland.uk/growing-the-future

For more information about who we are and what we do, please visit:
https://www.forestryengland.uk/we-are-for

Key drivers and objectives of management in the Bristol Woods

(see pages 19-24 for how we will achieve and monitor the objectives)

Forestry England vision for the nation's forests → **Bristol Woods forest plan drivers and objectives** ↓	**Our vision for wildlife:** The nation's forests provide the most valuable places for wildlife to thrive and expand in England.	**Our vision for people:** The nation's forests are a living treasure for all, deeply connected to people's lives, improving the health and wellbeing of the nation.	**Our vision for the climate:** The nation's forests are resilient to climate change, increasing their value for communities by producing high-quality, sustainable timber and absorbing carbon emissions.
1. Sustainability We will practice exemplary forest management in the Bristol Woods – endorsed by our continued certification under the UK Woodland Assurance Standard.	✓	✓	✓
2. Resilience We will encourage diversification of species and age structure through active management, so that the Bristol Woods thrive in the face of threats from pests and disease and climate change.	✓	✓	✓
3. Biodiversity We will protect and enhance the designated areas in Leigh Woods and will actively look for opportunities to increase biodiversity in all of the woods.	✓		
4. Productivity The Bristol Woods will continue to be worked using site-appropriate scale and methods, in order to provide timber to meet current and future demands.			✓
5. Heritage Historic features and landscapes in the Bristol Woods will be protected and enhanced.		✓	
6. People The Bristol Woods are enjoyed and valued by people – for recreation, education and conservation.		✓	

Section 2 - About the Bristol Woods

Location

The plan area consists of 12 discrete blocks of woodland in North Somerset, to the west of Bristol (see **Figure 1**), with a combined area of 265 hectares.

Leigh Woods is the largest block – 125 hectares – located on the edge of the Avon Gorge, a couple of miles from Bristol city centre. The other part of the plan area – the Failand Woods – comprises 11 blocks with a total area of 140 hectares, ranging in size from 1 to 61 hectares. All lie within a mile and a half of the village of Failand, to the southwest of Leigh Woods (see **Figure 2**).

Figure 1
Location of the Bristol Woods forest plan area

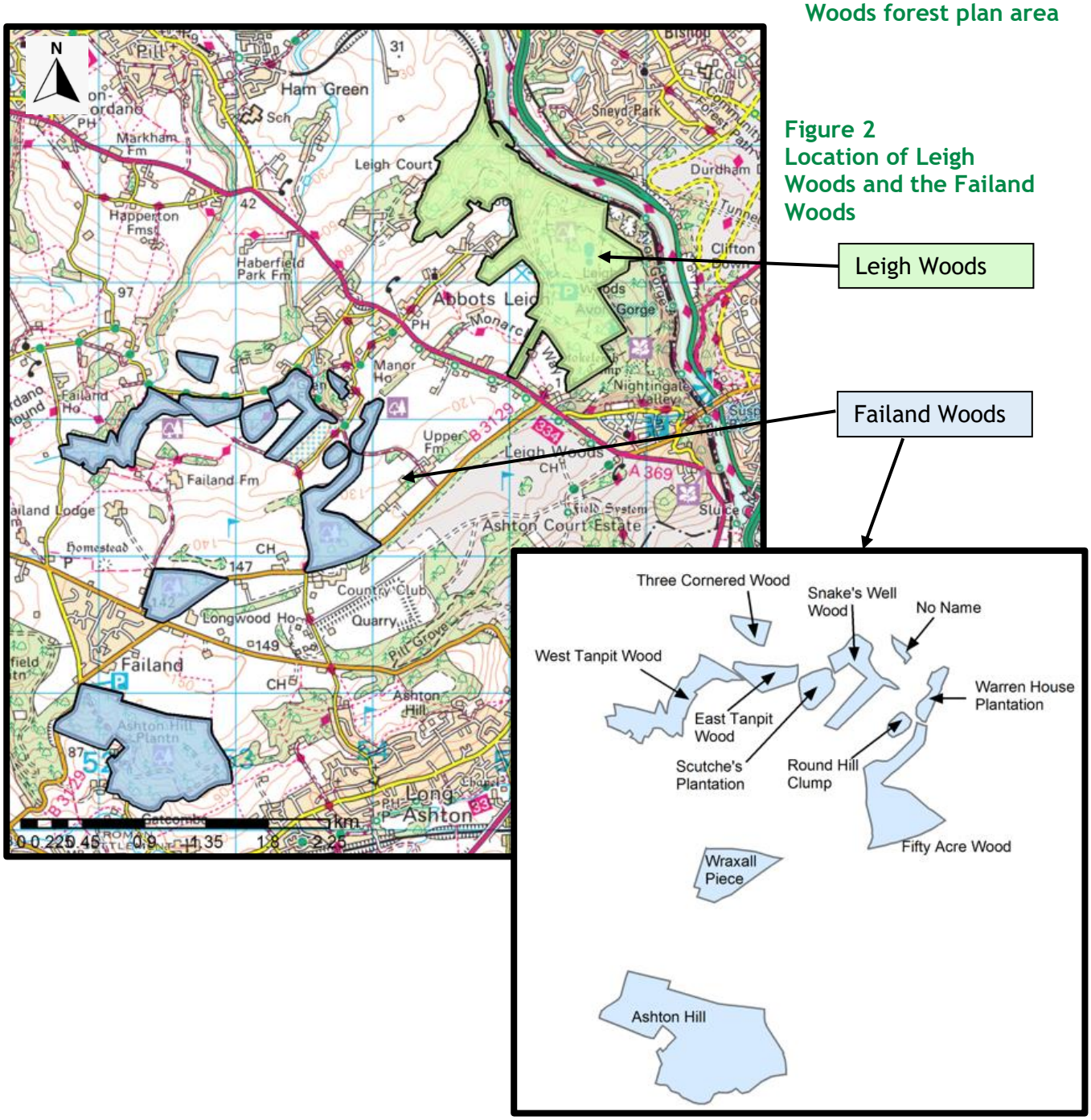


Figure 2
Location of Leigh Woods and the Failand Woods

Ecological designations

About a quarter of the Forestry England owned part of Leigh Woods is within the Avon Gorge Site of Special Scientific Interest (SSSI) – an area of mixed natural ravine woodland, calcareous grassland and quarries, with unique flora and fauna including the world's greatest diversity of whitebeam (*Sorbus*). Until 2026, forest management activity in this area is guided by the SSSI management plan, which was written in 2016. Due to its importance at the European level, the majority of the SSSI is also designated as the Avon Gorge Woodland Special Area of Conservation (SAC) for its significant *Tilio-Acerion* habitat (of ash, wych elm and lime), some of which is found on Forestry England land.

Metrowest is a programme of rail improvements, some of which will affect the railway line below Leigh Woods, leading to loss of habitat within the SSSI / SAC. To compensate, Forestry England has agreed to implement a positive management plan within a small area of Leigh Woods (outside the SSSI), in order to try to raise the condition of this area to SSSI / SAC standards.

The boundaries of the SSSI, SAC and Metrowest area are shown in **Figure 4**.

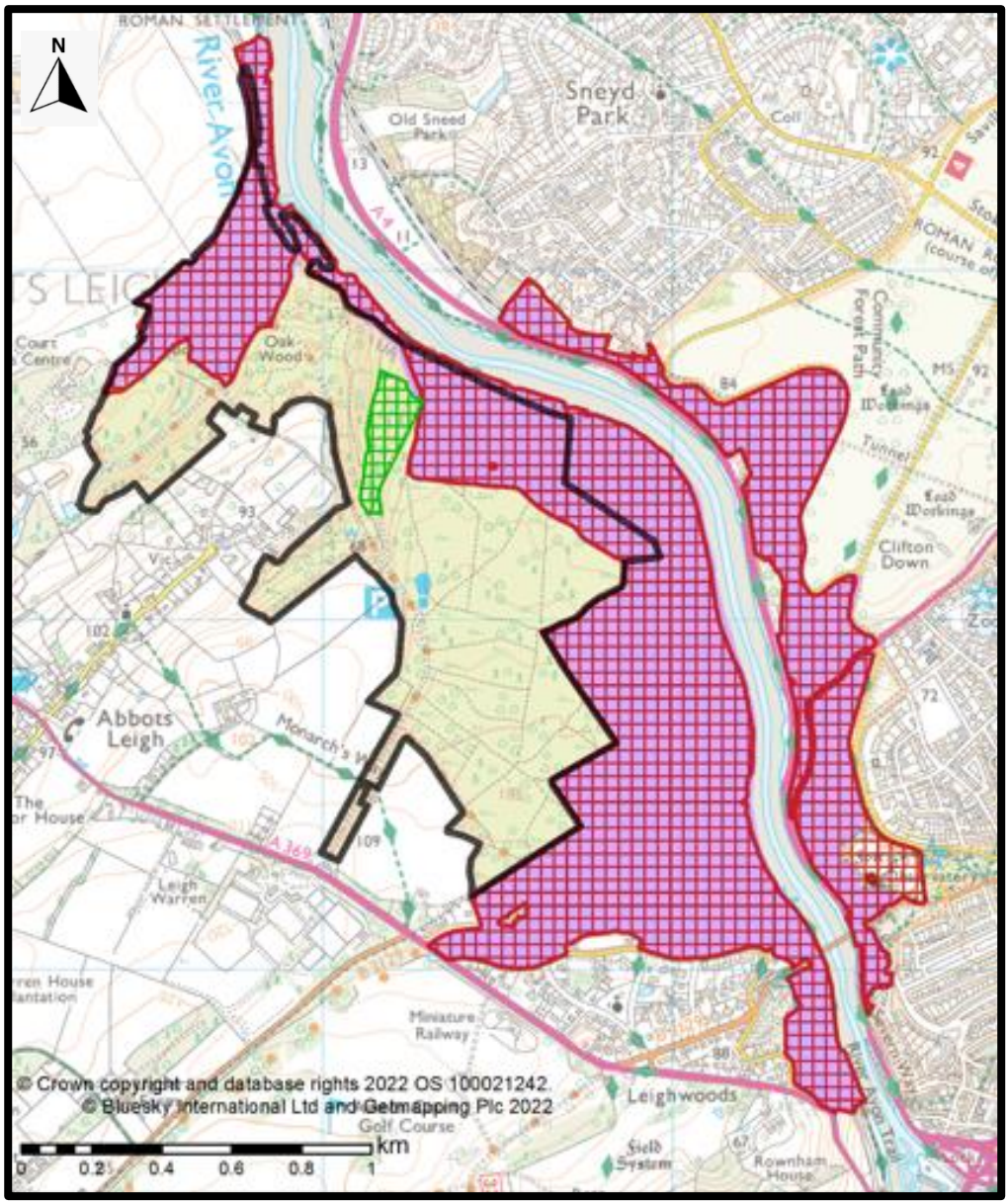


Figure 4 - The Avon Gorge SSSI, Avon Gorge Woodland SAC and the Metrowest positive management area

Forestry England land boundary

SSSI

SAC

Metrowest positive management area

Ancient woodland

Most of the Forestry England owned part of Leigh Woods is recorded as ancient woodland – either ASNW or PAWS. The Failand Woods are all secondary woodland, apart from 10 hectares of ancient woodland in Ashton Hill, known as Cooks Wood.

See box to the right for explanation of terms, and **Figure 3**.

Ancient woodland is any area that has been wooded continuously since at least 1600 AD. It includes:

- *ancient semi-natural woodland (ASNW), which is mainly made up of trees and shrubs native to the site, usually arising from natural regeneration;*
- *plantations on ancient woodland sites (PAWS), which are replanted with conifer or broadleaved trees, but retain ancient woodland features, such as undisturbed soil, ground flora and fungi.*

Secondary woodland is that which is growing on a site that has not been continuously wooded since 1600AD.

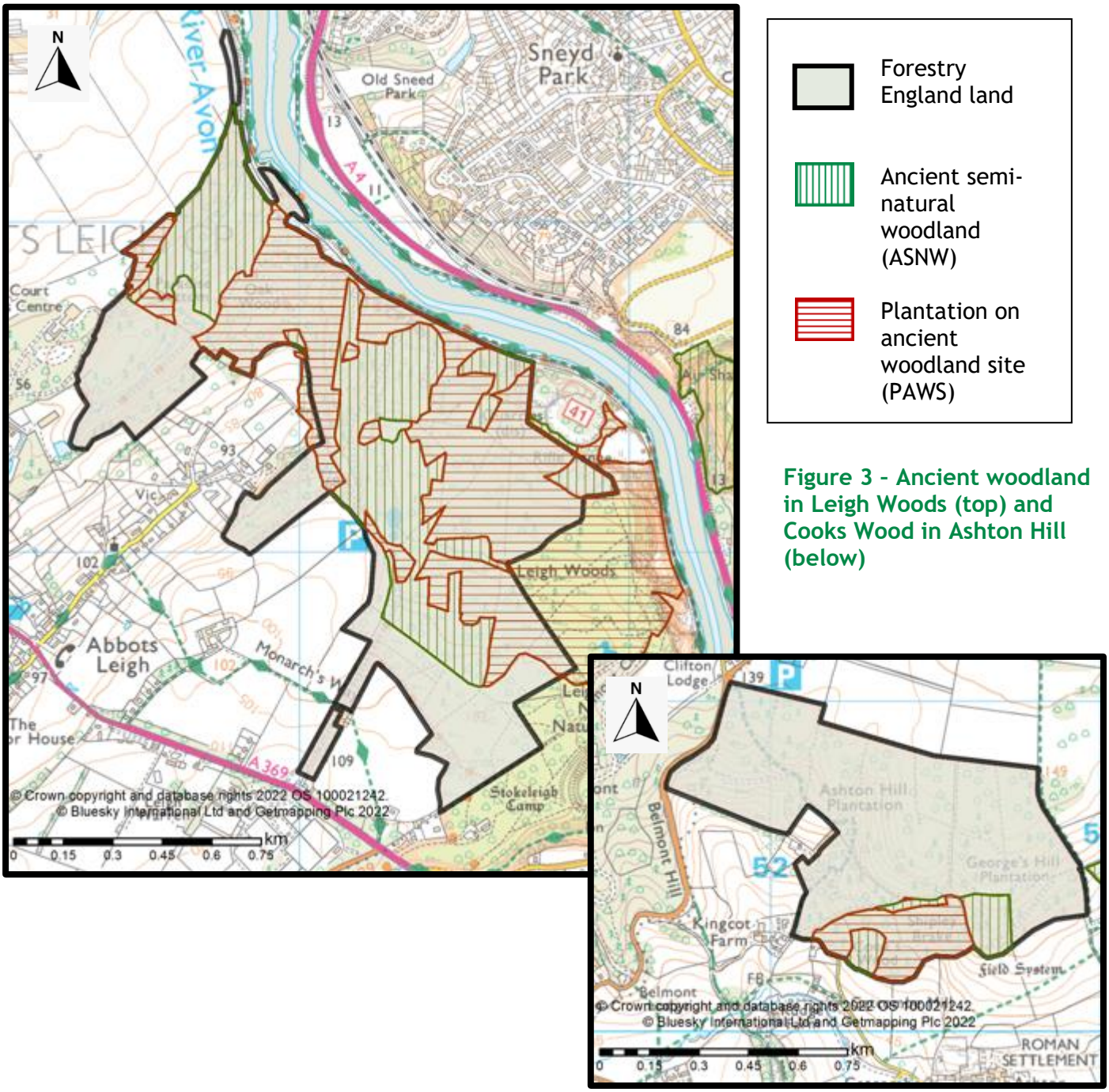


Figure 3 – Ancient woodland in Leigh Woods (top) and Cooks Wood in Ashton Hill (below)

Conservation and biodiversity

In addition to the important features of the SSSI and SAC, there are other characteristics of ecological interest in the Bristol Woods.

Cooks Wood, in Ashton Hill, has a varied ancient woodland ground flora, and the streams in West Tanpit Wood and Leigh Woods are important due to the presence of 'tufa' – a calcium carbonate deposit which creates a habitat for a specific, unusual assemblage of plants and invertebrates.

Leigh Woods and Ashton Hill have areas which have been coppiced at various times over the past 20-30 years. Coppicing is a woodland management practice that provides habitats for dormice, butterflies and other insects (top photo).

There are TSIs (trees of special interest – including particularly old or unusual trees, veterans and potential future veterans) throughout all of the woods (photos to the right – yew tree in Leigh Woods and sweet chestnut in West Tanpit Wood).

Many of the Failand Woods are surrounded by farmland and pasture. The edges - places where the two land uses meet – provide rich habitats for birds, mammals and invertebrates.

All of the woods are used by badgers, bats, and several notable birds including raven and sparrowhawk.

Permanent open space is limited across the plan area. There is a meadow in the northern end of Leigh Woods (photo to the left), but any other open space is temporary, as areas are felled or coppiced, and subsequently restocked or left to natural regeneration.

Heritage designations

The northern section of Leigh Woods (known as Paradise Bottom) and the beech avenue, which was planted along the main entrance road for Queen Elizabeth II's Coronation in 1953, are part of the Leigh Court legally protected historic landscape (heritage category – Grade II Parks and Gardens) – see **Figure 5**. The 19th century ponds and cascades were created by damming the watercourse and there was a deer park with trees from an earlier period, including sweet chestnut pollard from around 1650 and oak pollards from 1750. In the arboretum, the Weymouth pine dated to 1812, and the giant redwood to 1860, are among the earliest local introductions of North American exotic conifers. Also created in the 19th century, the grotto provides a stone seat with a view over the Avon Gorge. Elements of the historic landscape were restored at the end of the 1990s with National Lottery funding.

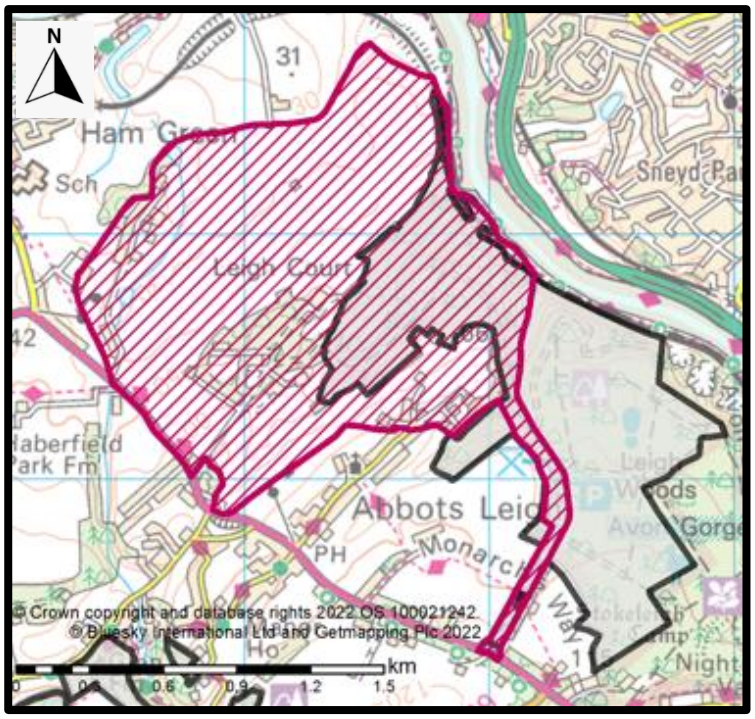
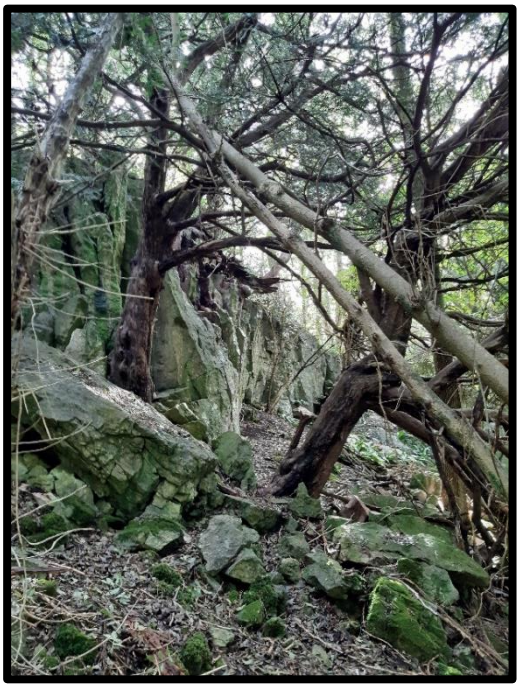


Figure 5
Leigh Court Historic Park and Garden

Grade II Park and Garden designated area

Forestry England land



Historic environment

Some of the Failand Woods were probably once within the Tyntesfield Estate and they all contain old walls – presumably former boundaries – with mosses and ferns growing on them, and large old trees adjacent. There are rock faces in Ashton Hill (photo above right) and Fifty Acre Wood, which may be former quarries, many associated with small areas of yew, estimated to date from around 1860. Also in Ashton Hill is a grove of giant redwood trees, planted in 1870. There is an old lime kiln in Wraxall Piece and the post-medieval 'Snake's Well' in Snake's Well Wood (photo to the left).

People in the Bristol Woods

Leigh Woods is freehold land, meaning that it is owned by Forestry England and offers open public access. It is a popular visitor site, with two waymarked walks, and the Yer Tiz mountain bike trail, as well as the arboretum, streams and ponds, and grotto in Paradise Bottom. The wood is easily accessed from the River Avon Trail for walkers and cyclists, which runs between the northeastern edge of the wood and the river. The barn (photo above) is used regularly by education and community groups, some of whom have been involved in volunteering activities, such as coppicing.

The car park, which was becoming increasingly overcrowded, has recently had pay and display machines installed, resulting in more manageable visitor numbers. There is a business plan for the site, with objectives describing how the recreation offer will be managed over the next five years. Unauthorised trail use is a problem in Leigh Woods, where it has the potential to cause erosion and damage to ground flora and may pose a risk to other forest users.

The Failand Woods, most of which are owned (freehold) by Forestry England, with three (19 hectares in total) being leasehold, are used extensively by local people. The 'Gordano Round' long distance walking trail passes through three of the northern woods, and there are other public rights of way that provide multiple variations on short circular routes through the woods and surrounding fields and lanes.

Wraxall Piece has been used by forest school providers for several years, and there are a number of commercial dogwalkers seen daily in Ashton Hill, where there is also another barn used by local groups.

There are two authorised mountain bike areas – the Timberland Trail in Fifty Acre Wood, which joins up with the cycle trails at Ashton Court (not Forestry England), and the bike park at Ashton Hill (photo to the left), which consists of built structures - created and managed by a community group.

Parking is very limited at most of the sites, and some are not accessible from public rights of way.

In the Leigh Woods forest centre business plan, there is an objective to "develop an overarching business plan for the Bristol area to include Ashton Hill and outlying sites". This will be developed in the coming years.

Most of the Bristol Woods sit within an intimate, rolling rural landscape. The exception is Leigh Woods which is prominent in the landscape when viewed from across the Avon Gorge from Bristol.

Current tree species - Leigh Woods

Leigh Woods is 80% broadleaves – with beech and ash being the most common species, but also including a variety of others, such as oak, small leaved lime, wych elm and hazel. Conifers - including Corsican pine, yew and larch – make up 14% of the composition, mostly in the north of the site. The remaining 6% includes the car park, meadow, ponds and streams in Paradise Bottom, and temporarily open felled and recently coppiced areas – see **Figures 6 and 7**.

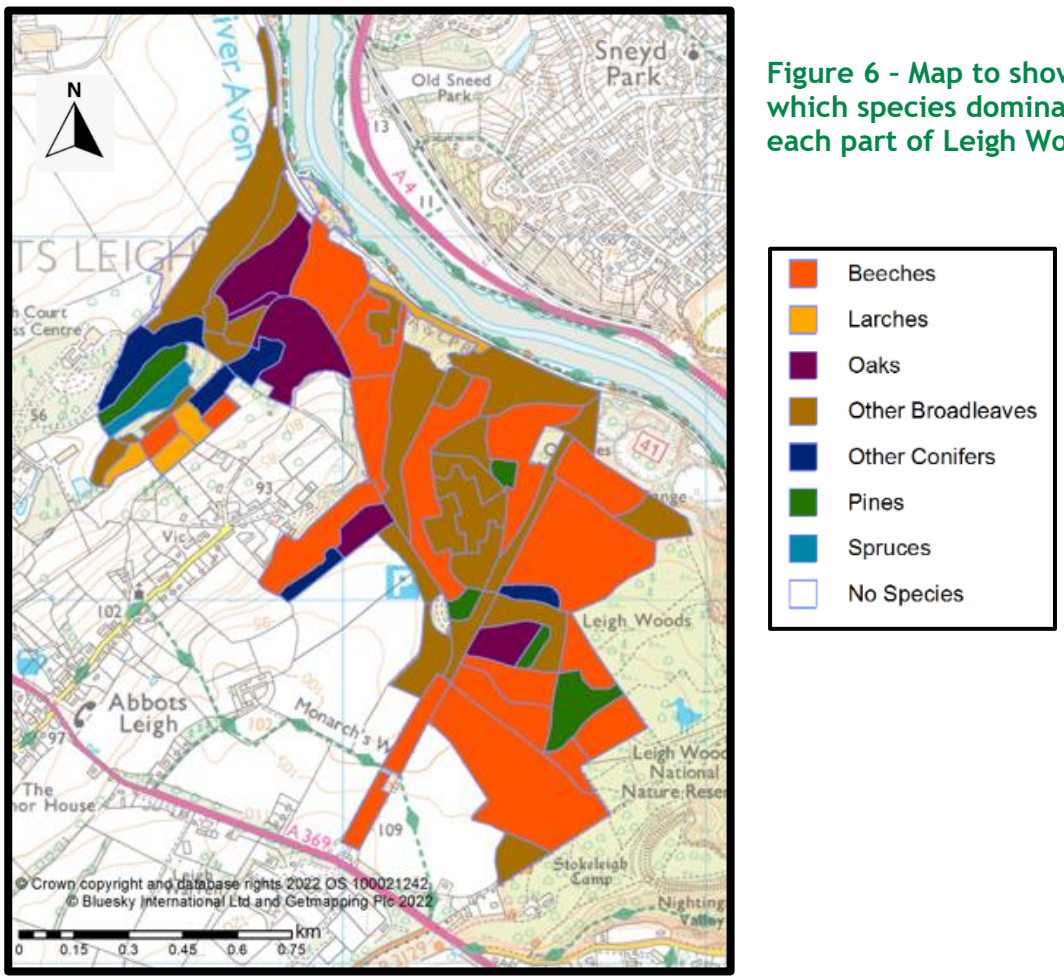


Figure 6 - Map to show which species dominate each part of Leigh Woods

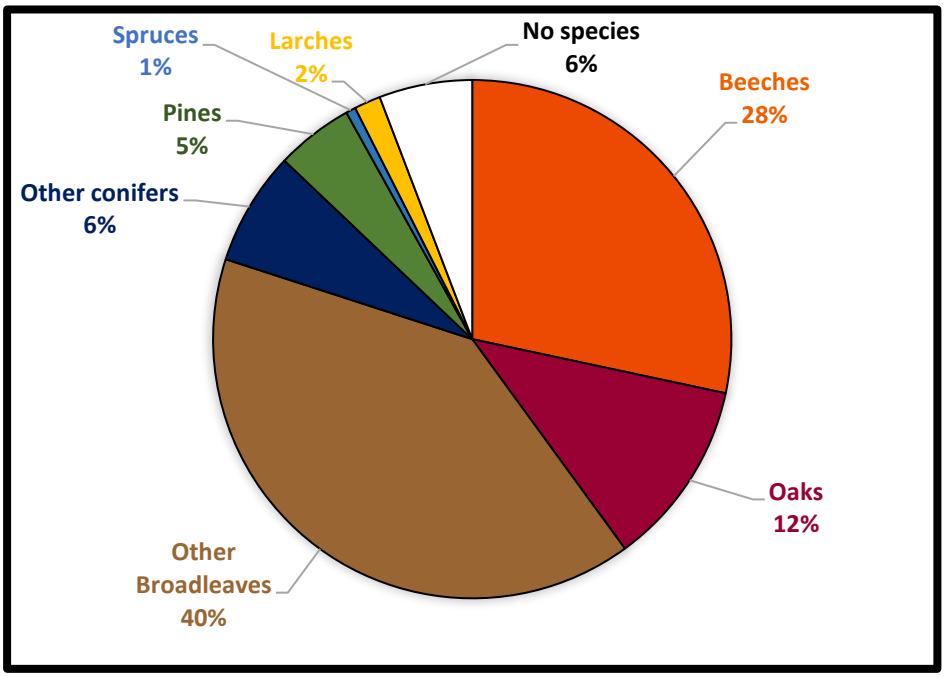


Figure 7 - Chart to show proportions of different species in Leigh Woods

Current tree species - Failand Woods

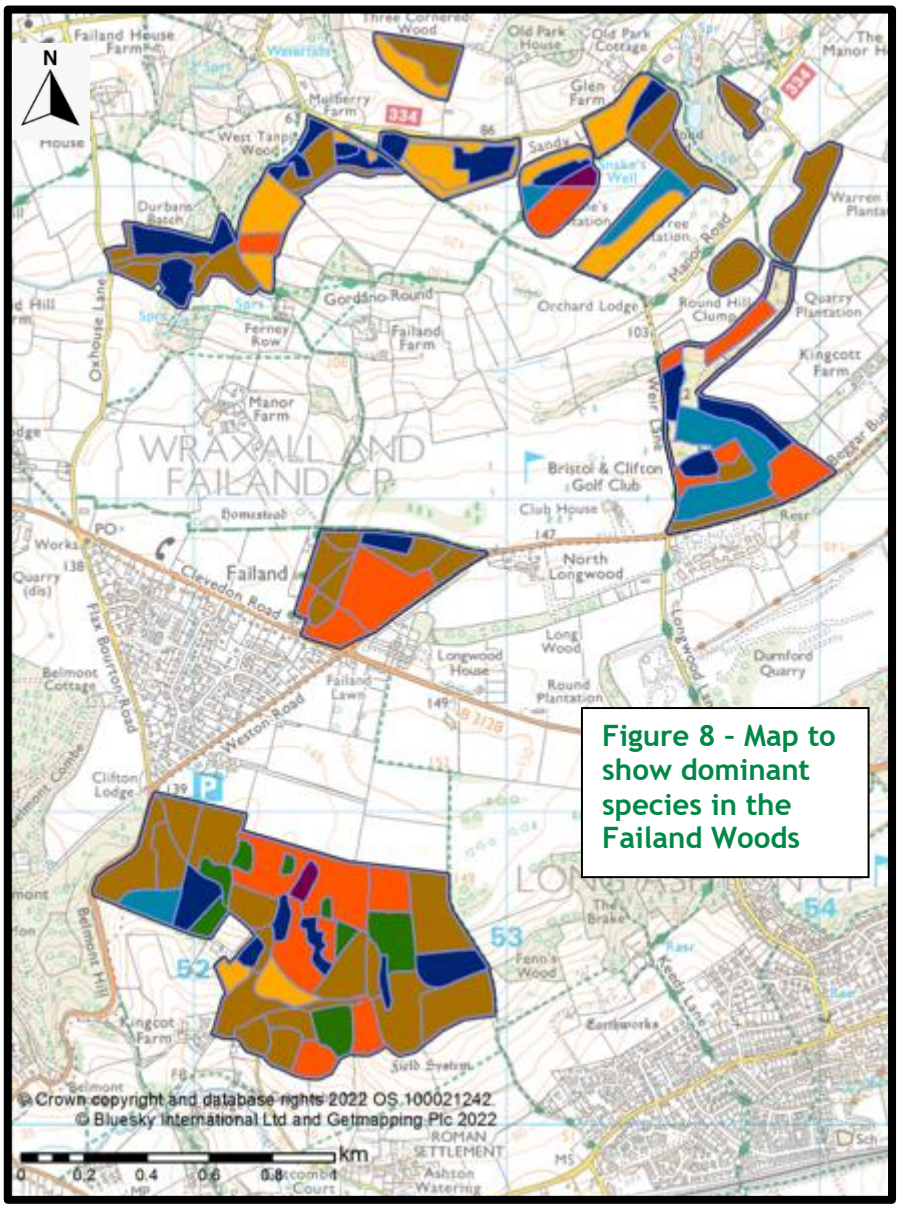


Figure 8 - Map to show dominant species in the Failand Woods

The Failand Woods combined, are 64% broadleaves – the main species being ash, beech and sycamore – and 33% conifers – predominantly Corsican pine, Japanese larch and Douglas fir. The remainder is felled and therefore temporarily open – see **Figures 8 and 9**. More detail is provided on the composition of each individual wood in the analysis and concept on **page 18**.

- Beeches
- Larches
- Oaks
- Other Broadleaves
- Other Conifers
- Pines
- Spruces
- No Species

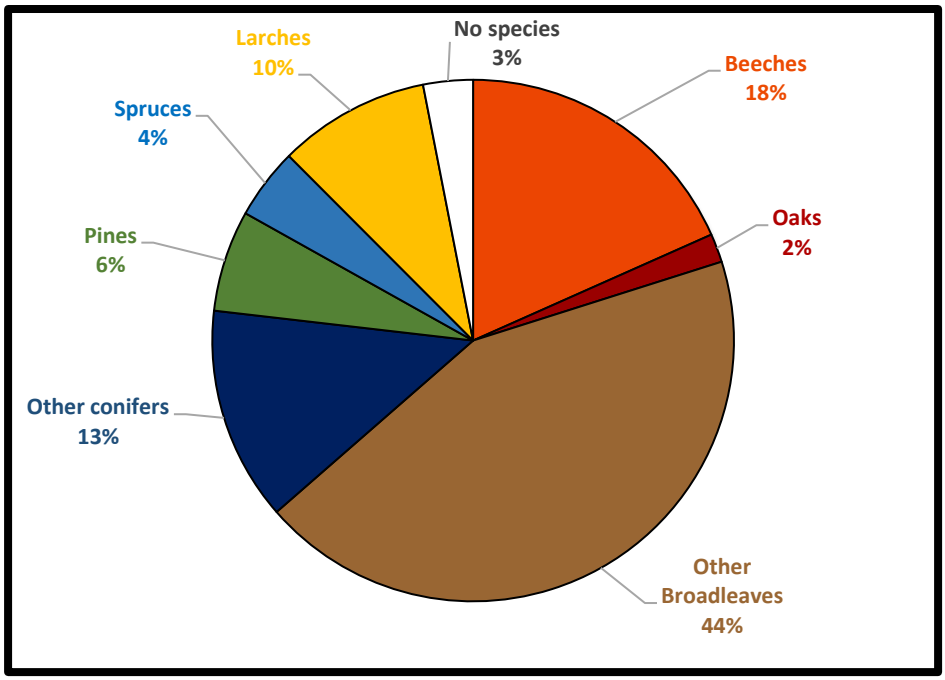


Figure 9 - Chart to show proportions of different species in the Failand Woods

Current age structure - Leigh Woods and Failand Woods

Figures 10 and 11 show how many hectares of tree planting (or natural regeneration following coppicing or felling) took place in Leigh Woods and the Failand Woods in each decade. Although there has been planting in every decade since 1900, there are many crops that date from the 1950s and 60s, which means that parts of the woods are very even aged in structure.

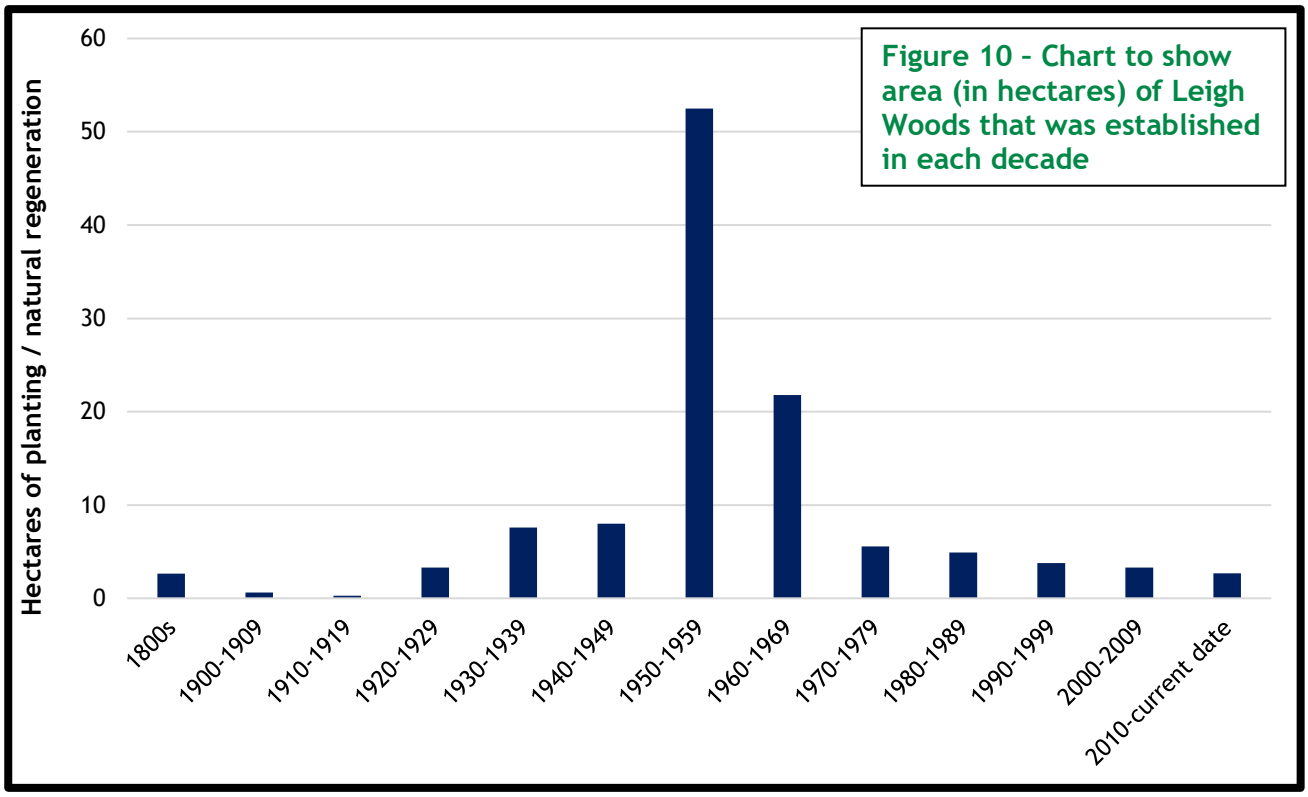


Figure 10 - Chart to show area (in hectares) of Leigh Woods that was established in each decade

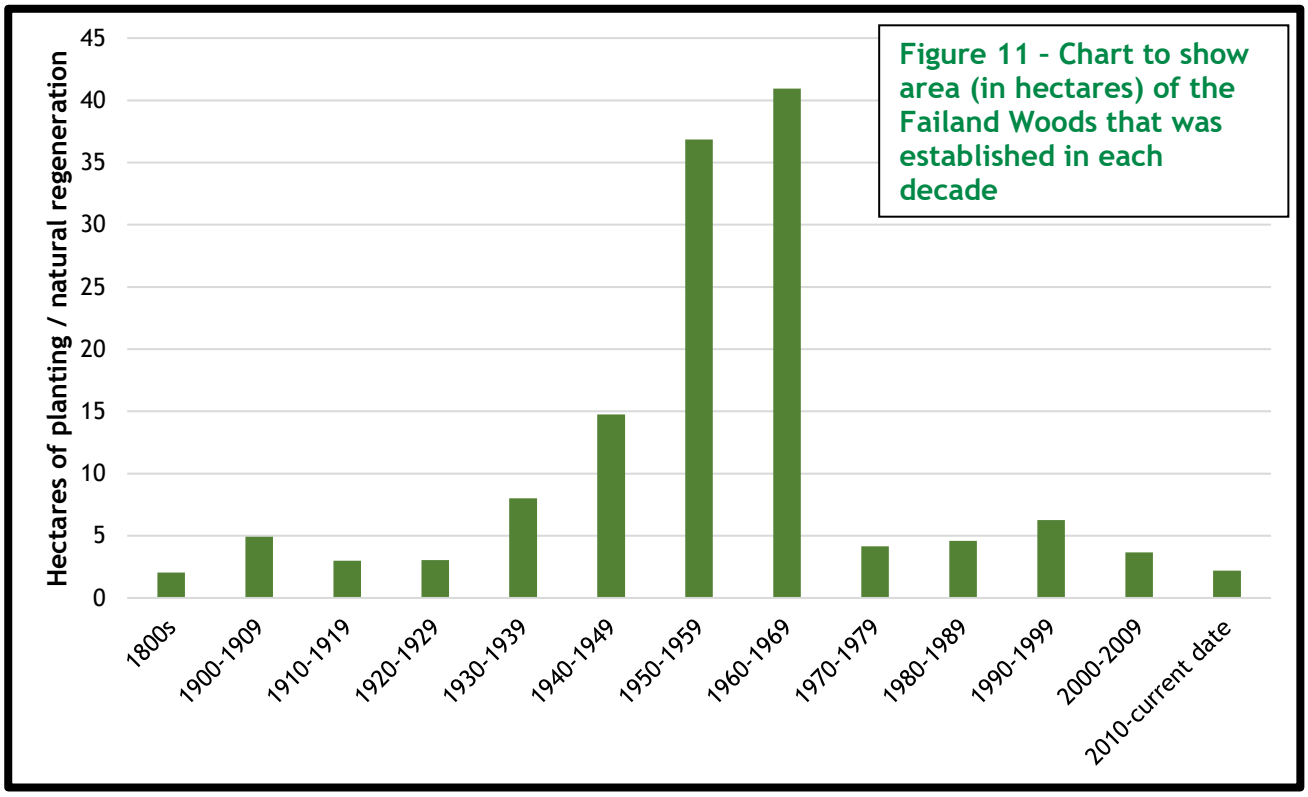


Figure 11 - Chart to show area (in hectares) of the Failand Woods that was established in each decade

Section 3 – What we'll do

Our vision for the Bristol Woods in 100 years…

The Bristol Woods are made up of diverse, carefully planned, complex mixtures of conifers and broadleaves, which are resilient to climate change and pests and diseases. Together they offer a range of benefits to local people, including timber and other wood products, jobs, education and recreation opportunities, as well as other ecosystem services such as water regulation and carbon storage.

Important habitats and individual species are protected through landscape designations and thoughtful forest management. The Bristol Woods support a variety of flora and fauna, including rare whitebeams in Leigh Woods, ancient woodland plants in Ashton Hill, and other species such as bats, dormice and birds of prey across the plan area.

The woods are more structurally diverse than they have been in the past, because they are managed under low impact silvicultural systems, where future generations of trees grow from the seed of the parent crops, supplemented by planting to ensure that the woods are made up of the species and provenances needed to thrive in warmer temperatures.

In the shorter term, for this plan period (2022-2032), our 'analysis and concept' (what is there and what we'll do) for Leigh Woods is shown on **page 17** and for the Failand Woods on **page 18**.

Our action plan, which details the work that we will carry out in the Bristol Woods during the plan period, in order to meet the objectives, is on **pages 19-24**.

Leigh Woods - Analysis (what is there) and Concept (what we'll do)

Analysis: Arboretum (part of designated historic landscape), and many notable veteran trees including sweet chestnut and lime pollards from 1650-1750.

Concept: Work towards the collection being individually numbered and mapped, with plant records or a database, and a plan for new planting and maintenance.

Analysis: Meadow and yew avenue.

Concept: Mow the meadow annually; try to improve / maintain the yew.

Analysis: Grotto (part of designated historic landscape).

Concept: The Grotto, track and fence will be assessed and monitored for safety.

Analysis: SSSI units 8-10 - Paradise Bottom - one area of non-native red oak has recently been removed, and conifers felled along ridesides.

Concept: The clearfelled area will be restocked (to include some specimens of the rare local whitebeam), and the remaining red oak area felled, in the next year or two.

Analysis: Conifer plantation on site of old deer park.

Concept: We have considered felling these conifers, but previous plans recommended retaining them to add to the character of the designed historic landscape. We will therefore seek expert advice as to the most appropriate course of action.

Analysis: Ponds and streams (part of designated historic landscape) - some rather silted up with mud and vegetation.

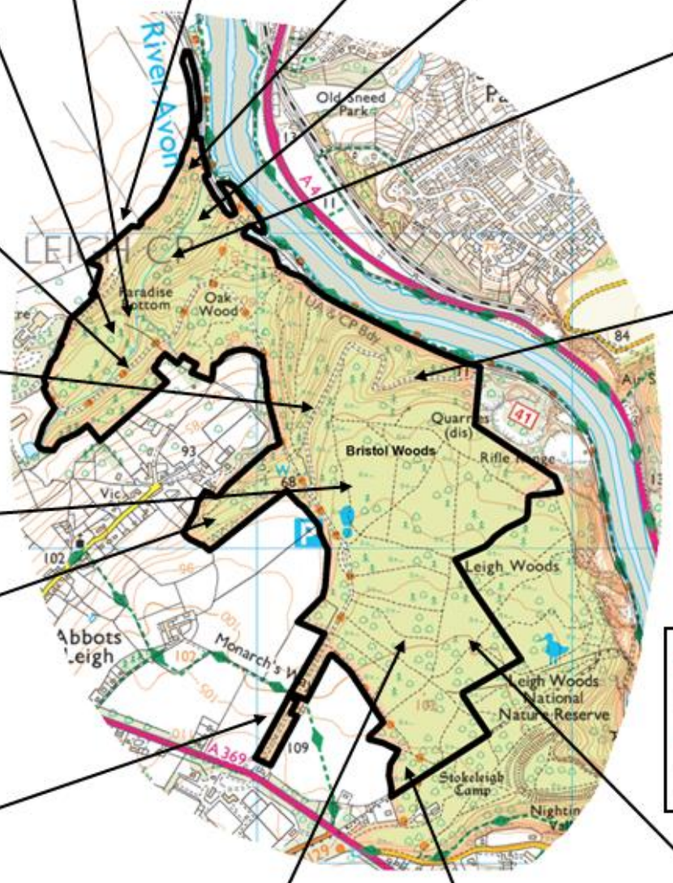
Concept: Remove weed / vegetation from in and around ponds / streams; consider fencing main pond to prevent damage caused by dogs going into it.

Analysis: The eastern edge of Leigh Woods is visible from residential areas and the Bristol Downs recreation area on the opposite side of the River Avon.

Concept: The felling work required by the SSSI management plan in this area has been carried out, meaning that for this plan period, there will be little or no impact on the view from the opposite side of the river.

Analysis: Plantation conifers - outside the SSSI and not on ancient woodland sites.

Concept: Conifers will be thinned on a five year cycle towards clearfell or LISS, dependent on quantity and quality of natural regeneration.



Analysis: SSSI unit 7 - plateau and gorge sides - most conifers have been removed recently through thinning and clearfell.

Concept: The clearfell area will be restocked in 2024 with trees grown from locally sourced seed; thinned areas will be left to regenerate naturally.

Analysis: Metrowest positive management area.

Concept: A programme of coppicing and removal of non-native vegetation, aiming to create a habitat similar to that of the neighbouring SSSI.

Analysis: The numerous walking and cycling trails attract large numbers of visitors to Leigh Woods.

Concept: The site business plan will guide visitor management and recreational development on the site; forest operations will be carefully planned to maximise opportunities to enhance the internal landscape.

Analysis: Main coppice area - 12-15 coupes of 0.2-0.5 hectares have been coppiced at various times during the past 30 years.

Concept: These, and the other coppice coupes, will be worked on a 15-20 year cycle to create temporary open space and a mosaic of woodland of various ages.

Analysis: The land to the south of Forestry England's part of Leigh Woods is owned and managed by the National Trust and is designated a National Nature Reserve.

Concept: We will invite the National Trust, and other relevant organisations and individuals, to comment on the forest plan through our external consultation process.

Analysis: Attractive stand of 1956 coast redwood.

Concept: Retain for aesthetic value.

Analysis: Coronation Avenue - planted in 1953, the avenue of beech extends into the wood, although it is mostly no longer noticeable beyond the entrance road.

Concept: Retain the beech along the entrance road; take opportunities to expose / conserve the beech further into the wood where it was obviously part of the original avenue.

Analysis: *Sorbus bristoliensis* is a type of tree unique to the Avon Gorge - one individual of the species is found on Forestry England land.

Concept: This and other trees of special interest are marked on our maps so that they are protected during forest operations.

Analysis: The majority of the southern half of the site is broadleaved and mixed woodland - predominantly beech and ash, with hazel understorey, and some areas with conifers among the broadleaves.

Concept: Thin broadleaves and mixed stands to encourage natural regeneration, possibly supplementing with planting in future plan periods to increase resilience through species diversification; retain some conifers in mixed stands for visual and structural diversity.

Analysis: Small area dominated by young dead and dying ash.

Concept: The ash will be clearfelled and the area restocked with a mixture of site-appropriate native broadleaves.

Note - this page is best viewed at A3 size

Failand Woods - Analysis (what is there) and Concept (what we'll do)

East Tanpit Wood (6ha) - 67% conifer / 33% broadleaf

Analysis: At the western end, conifers are widely spaced; the centre is a mixture of broadleaves and conifers; the eastern end is a denser mixture of conifers with abundant natural regeneration.

Concept: Maintain continuous cover through LISS - mixtures of mainly conifer, with some broadleaves.

West Tanpit Wood (16ha) - 55% conifer / 45% broadleaf

Analysis: Large sections are dominated by either conifers or broadleaves - at the eastern end: western hemlock and Norway spruce; in the central section: larch; and at the western end: areas of ash and Douglas fir. At the bottom of the site, the stream's tufa formations and surrounding vegetation are of ecological interest, as is a small area of very large old trees in the far west corner.

Concept: Thin and underplant eastern end in a LISS system. Clearfell larch in central area and restock with mixed conifers and broadleaves. In the western end, remove groups of large marketable ash, and clear dead young ash from valley bottom to create temporary open space. Gradually remove conifers from the stream corridor. Consider the possibility of felling some trees into the stream at the western end to create wet woodland. Halo thin selected old trees as future veterans.

Wraxall Piece (13ha) - 10% conifer / 90% broadleaf

Analysis: Heavy recent felling of diseased ash, and subsequent new planting of whitebeam and hazel has created a large amount of temporary open space. There are also scattered conifers throughout the wood.

Concept: Very little work will be required during this plan period, other than establishment of the new crops.

Ashton Hill Plantation (61ha) - 31% conifer / 69% broadleaf

Analysis: The northern third, which has heavy public use, is dominated by diseased ash, with ecologically interesting understorey in places. There are areas of larch and Corsican pine throughout the wood and small patches of yew. Within the bike park, the mature conifers are attractively widely spaced. Parts of Cooks Wood (ancient woodland) have valuable ground flora and have been coppiced in the past, and dormice found. 'Big Tree Grove' is an area of giant redwoods planted in 1870.

Concept: Fell areas of ash along northern edge in consultation with the ecologist - fence and plant with a mixture of site appropriate native broadleaf species. Remove some large marketable beech from the area immediately to the east of Cooks Wood. Retain the mature conifers in the bike park, the yew groves and the giant redwoods for their aesthetic value. Carry out dormouse monitoring in Cooks Wood, then produce a coppicing plan dependent on the results.

Three Cornered Wood (3ha) - 34% conifer / 66% broadleaf

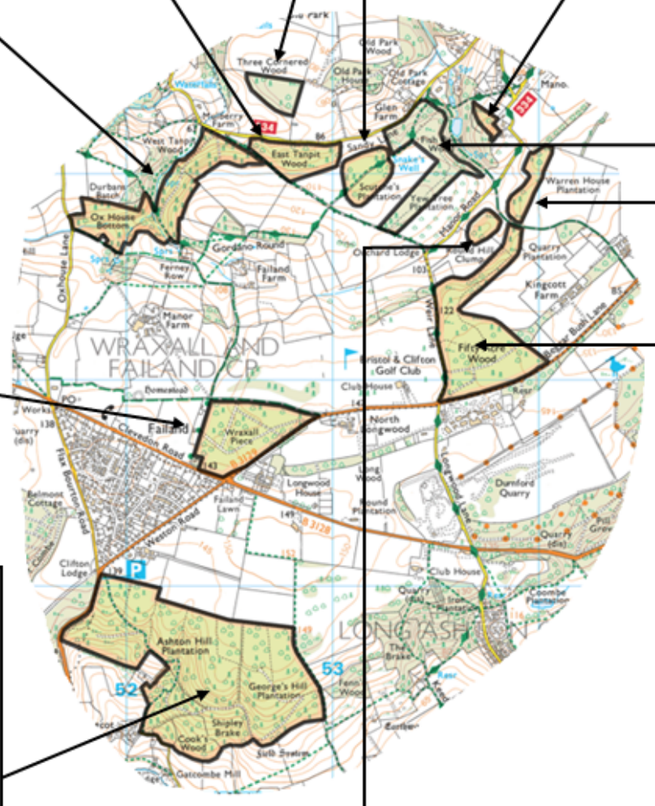
Analysis: The northern two-thirds are broadleaf, mainly sycamore, while the southern section has a variety of conifers, which have been thinned recently. Apart from some lovely old beech, the wood is very even-aged.

Concept: Forest operations - thinning and eventual clearfell - will be used to diversify species and age structure to increase the long-term resilience of the wood.

Round Hill Clump (2ha) - 25% conifer / 75% broadleaf

Analysis: North and east predominantly broadleaf, with more conifers to the south; groups of diseased ash have been removed recently.

Concept: Restock the gaps left by the felled ash, with broadleaf mixtures.



Scutches Plantation (5ha) - 65% conifer / 35% broadleaf

Analysis: The southern half is broadleaf - mainly beech with little understorey. The northern half is mixed conifers with scattered broadleaves. There is a small group of very big pines at the southern entrance, and a large patch of established laurel at the northern end.

Concept: Thin the beech to encourage understorey development. Thin the conifers towards clearfell in a future plan period. Retain the pines for aesthetic value. Attempt to remove the laurel if time and resources allow.

No Name (1ha) - 30% conifer / 70% broadleaf

Analysis: A tiny piece of ash-dominated woodland within a larger Council-owned block - southern boundary unmarked and difficult to identify.

Concept: Heavy thinning will remove most of the diseased ash.

Warren House Plantation (3ha) - 10% conifer / 90% broadleaf

Analysis: Dominated by sycamore, with a variety of scattered conifers, including at least three different pines; groups of diseased ash have been removed recently.

Concept: Restock the gaps left by the felled ash, with broadleaf mixtures.

Snake's Well Wood (10ha) - 48% conifer / 52% broadleaf

Analysis: The western area is a mixture of broadleaves and larch, with a good shrub layer. The central part is mainly sweet chestnut, including some very old trees. The long narrow section to the south was known as 'Yew Tree Plantation', but is roughly equal proportions of larch, Sitka spruce and Scots pine - and a couple of yew trees!

Concept: Thin the broadleaves - possibly with underplanting in the central area to diversify the species mix. Clearfell and restock the conifers over the next 15 years; consider changing to LISS instead of clearfell if there is plentiful natural regeneration.

Fifty Acre Wood (20ha) - 32% conifer / 50% broadleaf / 18% open

Analysis: Parts of the wood are dominated by beech, with varying amounts of understorey. Recent felling of diseased ash has left plenty of temporary open space.

Concept: Felled areas will be restocked with mixed broadleaves; other areas will be thinned as appropriate and two areas will be considered for coppice.

Note - this page is best viewed at A3 size

Forest plan objectives	Action Plan Actions apply in: *All* = all of the Bristol Woods; *LW* = Leigh Woods; *AH* = Ashton Hill; ET = East Tanpipt; *WT* = West Tanpit; *FA* = Fifty Acre; SP = Scutches Plantation	Monitoring

1. Sustainability
We will practice exemplary forest management in the Bristol Woods – endorsed by our continued certification under the UK Woodland Assurance Standard.
	Actions to achieve this objective will include:
	
	1.1 Operations management
	• Soils, woodland habitats and European Protected Species (EPS) will be protected – *All*.
	
	1.2 Internal landscape
	• Temporary open space will be provided through coppicing – *LW and AH*.
	• When thinning, we will take opportunities to:
	  ○ widen rides and junctions – *All*;
	  ○ identify and emphasise strong visual features such as rocky outcrops and fine feature trees – *LW, AH and FA*.
	• Long term retention of conifers (and yew groves) – *LW, AH and SP*.
	• Clearfells will be of an appropriate scale for each individual wood – *All*.
	
	1.3 External landscape
	• Take opportunities to create / improve transitional edge habitat – where woodland joins pasture – *All*.
	• The proposed clearfells will have no impact on external views - *All*.
	
	1.4 Consultation and communication
	• Internal and external consultation and communication of the plan – *All*.
	• Consultation with Natural England (reference the SSSI / SAC) and Historic England (reference the designated historic landscape) – *LW*.
		1.1 – 1.3
		to be implemented by the beat team through:
		• site planning process
		• contract management
		
		and monitored by the forest planner through the forest plan review process
		
		1.4
		• planner to lead on consultation at time of writing the plan
		
		• beat team to maintain communication as needed during the lifetime of the plan e.g. with neighbours

Forest plan objectives	Action Plan Actions apply in: *All* = all of the Bristol Woods; *LW* = Leigh Woods; *AH* = Ashton Hill; ET = East Tanpipt; *WT* = West Tanpit; *FA* = Fifty Acre; SP = Scutches Plantation	Monitoring
2. Resilience We will encourage diversification of species and age structure through active management, so that the Bristol Woods thrive in the face of threats from pests and disease and climate change.	**Actions to achieve this objective will include:** **2.1 Diversification** • Where there is already natural regeneration – e.g. *ET and WT* – low impact silvicultural systems (LISS) will be used to increase age / structural diversity, through thinning to manage light levels. • In areas managed under group selection systems, opportunities will be taken to increase structural diversity through removal of groups up to 0.25ha - *All*. • Where needed, removal of groups will be followed by planting, which can also supplement natural regeneration and increase species and structural diversity - *All*. • When choosing what to plant, species and provenances will be selected that are likely to be suited to the expected climate change, as well as being appropriate for the site and its management objectives - *All*. • Mixtures will be encouraged, and the new 'Forest Development Types' tools considered, once they have been adopted by Forestry England - *All*. **2.2 Pests and diseases** • Squirrel and deer populations / damage will be monitored, and management adapted as appropriate e.g. through use of deer fencing - *All*. • We will be vigilant for signs of new pests and diseases, acting upon these as swiftly and effectively as possible - *All*. • We will observe the ash on all sites, being alert for, and encouraging, trees that appear to be tolerant to dieback - *All*. • There is a research plot in Fifty Acre Wood, where Forest Research's entomology team are monitoring for Ips and Dendroctonus – marked trees shouldn't be felled if possible – *FA*.	2.1 to be implemented by the beat team and monitored by the forest planner through the forest plan review process 2.2 to be monitored by the beat team and planner through ongoing observation

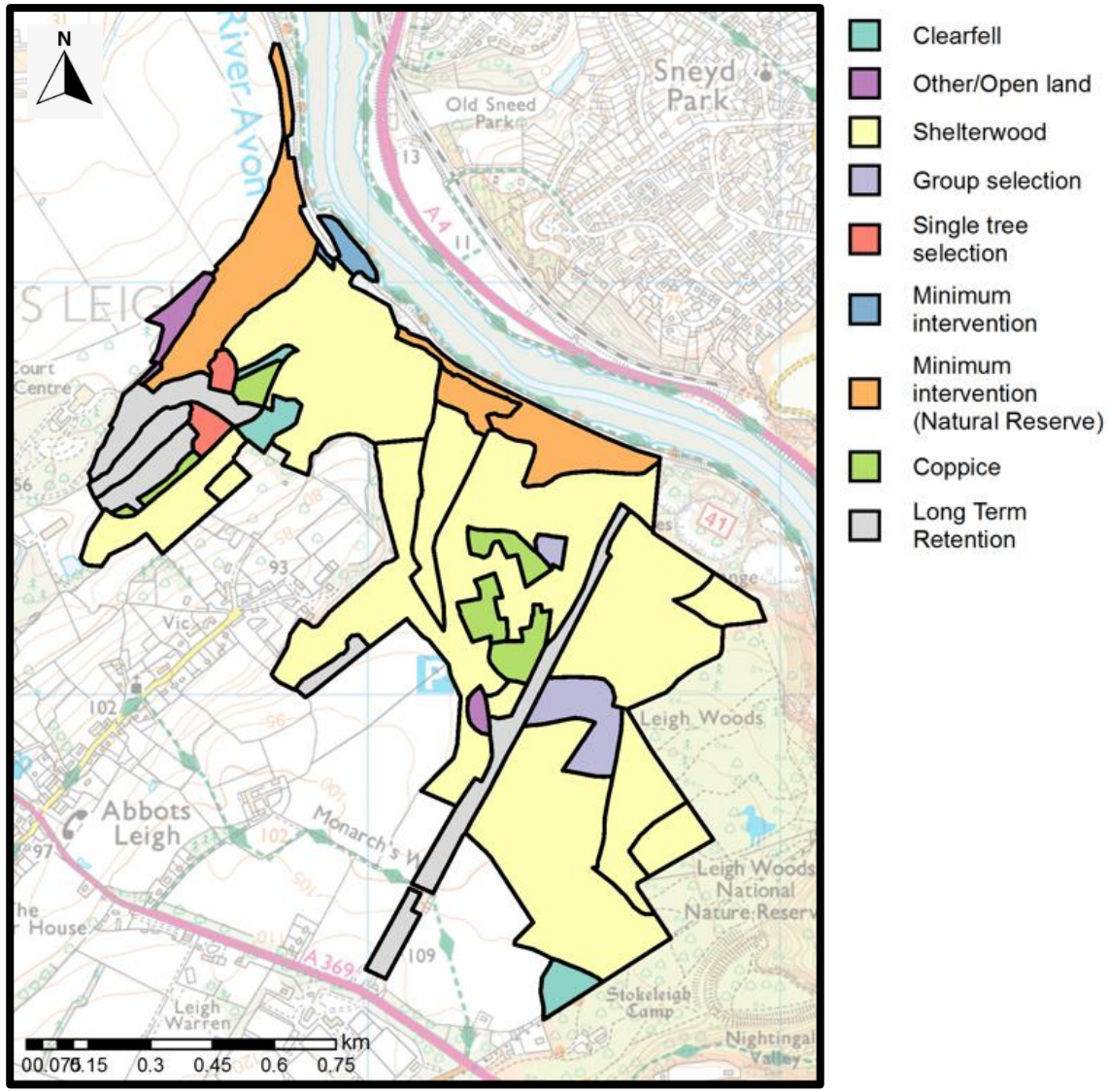
Forest plan objectives	Action Plan Actions apply in: *All* = all of the Bristol Woods; *LW* = Leigh Woods; *AH* = Ashton Hill; ET = East Tanpipt; *WT* = West Tanpit; *FA* = Fifty Acre; SP = Scutches Plantation	Monitoring
3. Biodiversity We will protect and enhance the designated areas in Leigh Woods and will actively look for opportunities to increase biodiversity in all of the woods.	**Actions to achieve this objective will include:** **3.1 SSSI / SAC management plan (until 2026) - *LW*** • Restock clearfelled areas by end of 2024 with species agreed with Natural England. • Continue to treat red oak stumps and rhododendron in clearfell area by railway line until new crop is established. • Ensure that sycamore and sweet chestnut do not become dominant. • Remove laurel / rhododendron in northern section of SSSI as resource allows. • Fell remaining area of red oak in unit 8. • Assess proposed coppice areas, and coppice if appropriate. • Renew / refresh the SSSI management plan (2026). **3.2 Metrowest positive management plan (until 2030) - *LW*** • Coppice areas of small leaved lime, install temporary deer fencing and encourage regrowth by removing competing vegetation. • Selectively remove some mature cherry, conifers and beech through thinning. • Restock of recently clearfelled area to include some rare whitebeam. **3.3 Species / habitat specific projects** • Continue to record trees of special interest and identify future veterans - *All*. • Where it is safe to do so, leave dead and dying trees in situ – to retain habitat and increase deadwood - *All*. • Tufa streams are marked on our maps; protect during forest operations – *LW*, *WT*. • Opportunities to survey and increase biodiversity will be identified by the ecologist, and advice provided to the beat team e.g. breeding bird surveys in *LW* and development of streamside habitat in *WT*. • Ongoing programme of coppicing in *LW* – see coppice management plan. • Survey Cooks Wood in *AH* for dormice, then write an appropriate coppice management plan dependent on their presence / absence.	3.1 – 3.3 to be implemented by the beat team with ongoing advice / informal monitoring by the ecologist followed by more formal monitoring by the forest planner through the forest plan review process 3.1 – the new SSSI plan will be written by the ecologist in 2026 3.2 – the beat team will discuss progress against the positive management plan quarterly with Metrowest 3.3 – the community ranger will carry out the dormouse survey in Cooks Wood within the first year of the plan; the forest planner and ecologist will produce the coppice plan

Forest plan objectives	Action Plan Actions apply in: *All* = all of the Bristol Woods; *LW* = Leigh Woods; *AH* = Ashton Hill; ET = East Tanpipt; *WT* = West Tanpit; *FA* = Fifty Acre; SP = Scutches Plantation	Monitoring
4. Productivity The Bristol Woods will continue to be worked using site-appropriate scale and methods, in order to provide timber to meet current and future demands.	**Actions to achieve this objective will include:** **4.1 Thinning - *All*** • As a general rule, if appropriate when surveyed, broadleaf stands will be thinned every 10 years and conifers every 5 years. **4.2 Clearfelling during the plan period:** • 0.67ha of red oak, 0.68ha of western red cedar and 1.15ha of diseased ash in Leigh Woods; • 1.57ha of larch and 0.88ha of diseased ash in West Tanpit Wood; • 1.45ha of conifers in Three Cornered Wood; • 2.55ha of conifers in Snake's Well Wood; • 10.98ha of diseased ash in Ashton Hill (note that not all will be felled – only the diseased ash, which represents 60-90% of the crops in these subcompartments). **4.3 Coppicing** • Up to 4.59ha will be coppiced – *LW*. • Although coppicing will be carried out predominantly for biodiversity benefits, we will look for opportunities to work with, and support, local coppice contractors / businesses – *LW*, *AH*, *FA*.	4.1 – 4.3 to be implemented by the beat team and monitored by the forest planner through the forest plan review process

Forest plan objectives	Action Plan Actions apply in: *All* = all of the Bristol Woods; *LW* = Leigh Woods; *AH* = Ashton Hill; ET = East Tanpipt; *WT* = West Tanpit; *FA* = Fifty Acre; SP = Scutches Plantation	Monitoring
5. Heritage Historic features and landscape in the Bristol Woods will be protected and enhanced.	**Actions to achieve this objective will include:** **5.1 Leigh Court Grade II Park and Garden - *LW*** • At an appropriate time during the plan period, we will follow up the previous research from the end of 1990s, taking advice to agree an up-to-date management plan for our part of the designated historic landscape, including the ponds and streams, grotto and Coronation avenue. • The Grotto, track and fence will be assessed by a structural engineer for safety within the first half of the plan period. **5.2 Arboretum - *LW*** • We will seek advice from Forest Research, and work towards the numbering and mapping of each individual tree in the collection, with plant records or a database, a simple accession plan (covering new plantings), and a basic maintenance plan. **5.3 Paradise Bottom ponds and streams - *LW*** • We will begin to remove vegetation from in and around the streams and ponds – taking advice from our ecologist. **5.4 Failand Woods** • Historic features, such as the lime kiln in *WP*, are marked on our maps and protected. Other features, such as the numerous walls and former quarries are sometimes not marked, but are also noted and respected during forest operations.	5.1 sourcing historic landscape advice will be initiated by the Planning and Environment Team the beat team will contract the structural engineer 5.2 – 5.4 to be implemented by the beat team and monitored by the forest planner through the forest plan review process

Forest plan objectives	Action Plan Actions apply in: *All* = all of the Bristol Woods; *LW* = Leigh Woods; *AH* = Ashton Hill; ET = East Tanpipt; *WT* = West Tanpit; *FA* = Fifty Acre; SP = Scutches Plantation	Monitoring
6. People The Bristol Woods are enjoyed and valued by people – for recreation, education and conservation.	**Actions to achieve this objective will include:** **6.1 Leigh Woods Business Plan (until 2026) - *LW*** • Implement the objectives and activity as set out in the business plan. • Unauthorised trails will be managed in accordance with the organisation's unauthorised trail guidance. **6.2 Volunteers** • Look for opportunities to work with community groups / volunteers to carry out species / habitat surveys, and practical work – *All*	6.1 to be monitored by the beat team 6.2 to be implemented by the beat team and monitored by the forest planner through the forest plan review process

Our management prescriptions for Leigh Woods



- Clearfell
- Other/Open land
- Shelterwood
- Group selection
- Single tree selection
- Minimum intervention
- Minimum intervention (Natural Reserve)
- Coppice
- Long Term Retention

Most of Leigh Woods will be managed over the coming decades under low impact silvicultural systems, including:

- **shelterwood**, where thinning every ten years or so removes trees from throughout the crop, leaving the remaining trees (overstorey) to provide seed and shelter for the next generation of trees (understorey);
- **selection**, where individuals or groups of trees are removed to create gaps for planting or natural regeneration;
- **minimum intervention** – once the felled areas have been restocked, the SSSI will mainly be left alone for ecological benefits.

Three areas will be **clearfelled** during this plan period for the benefit of the woodland environment and its wildlife - diseased ash will be removed from a small area in the south of the site, and non-native conifers and red oak from two ancient woodland sites in Paradise Bottom. This will provide valuable temporary open space for a couple of years, after which the areas will be restocked with native broadleaves. We will look at the NVC (National Vegetation Classification) description of the type of woodland, which suggests which trees would grow naturally on a site, and may use this to guide species choice.

The meadow in Paradise Bottom and the main car park will be kept **open**.

Areas to be managed as **coppice** will have 0.25-0.5 hectare coupes cut on a 15-20 year cycle to create a mosaic of different aged woodland and temporary open space for wildlife benefits – see separate coppice management plan (page 31-34).

The Paradise Bottom Arboretum and neighbouring conifers, the Coronation Avenue and an area of redwoods will be **retained in the long term** for their aesthetic and / or historical value.

Our management prescriptions for the Failand Woods

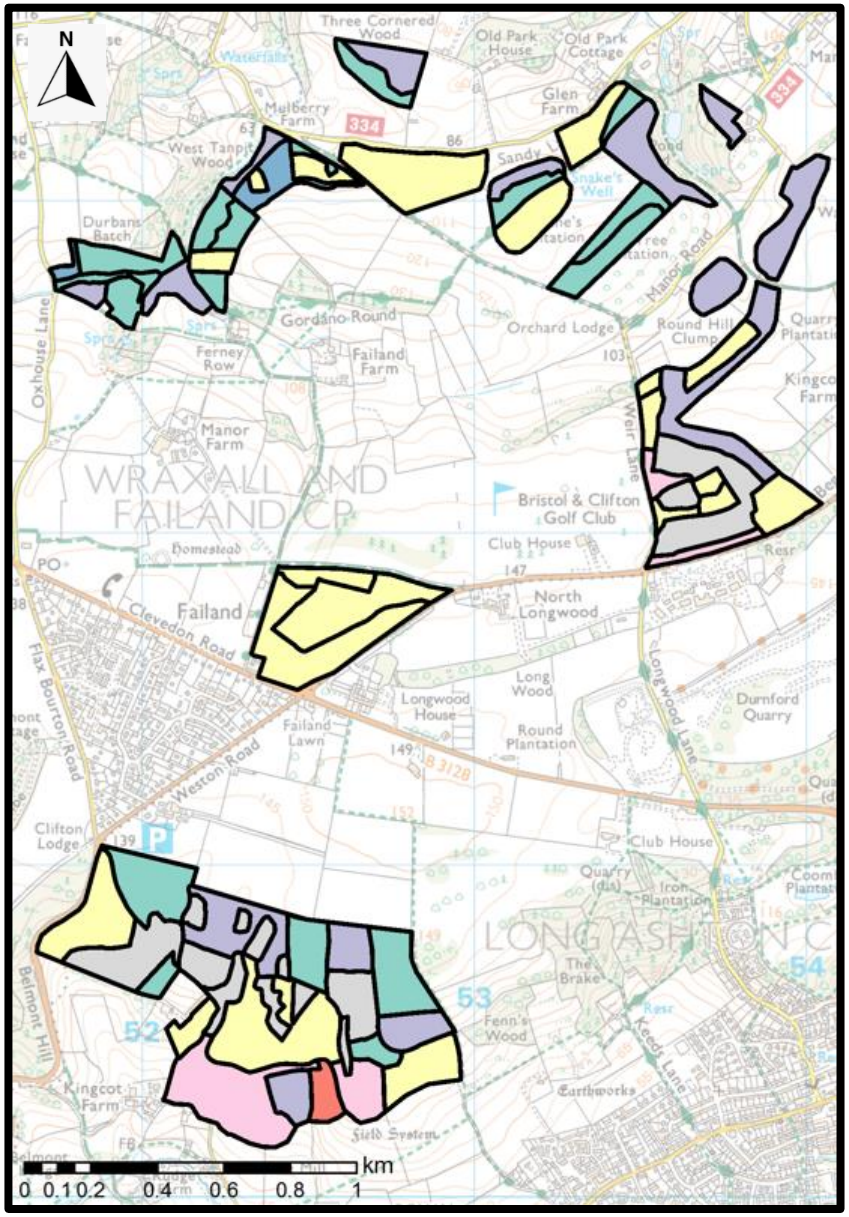
Most areas will be thinned (approximately every five years for conifers and ten years for broadleaves) and some eventually clearfelled – not all in this plan period! **Clearfells** for the next ten years include diseased ash crops in Ashton Hill, and conifers in West Tanpit and Snake's Well Woods. After clearfelling, the areas will be restocked with mixtures of conifers and broadleaves that are appropriate and resilient to the future climate and can meet the needs of future generations in terms of timber, amenity and wildlife. We will look at the NVC (National Vegetation Classification) description of the type of woodland, which suggests which trees would grow naturally on a site, and may use this to guide species choice.

Other parts of the Failand woods will be managed under low impact silvicultural systems, including:

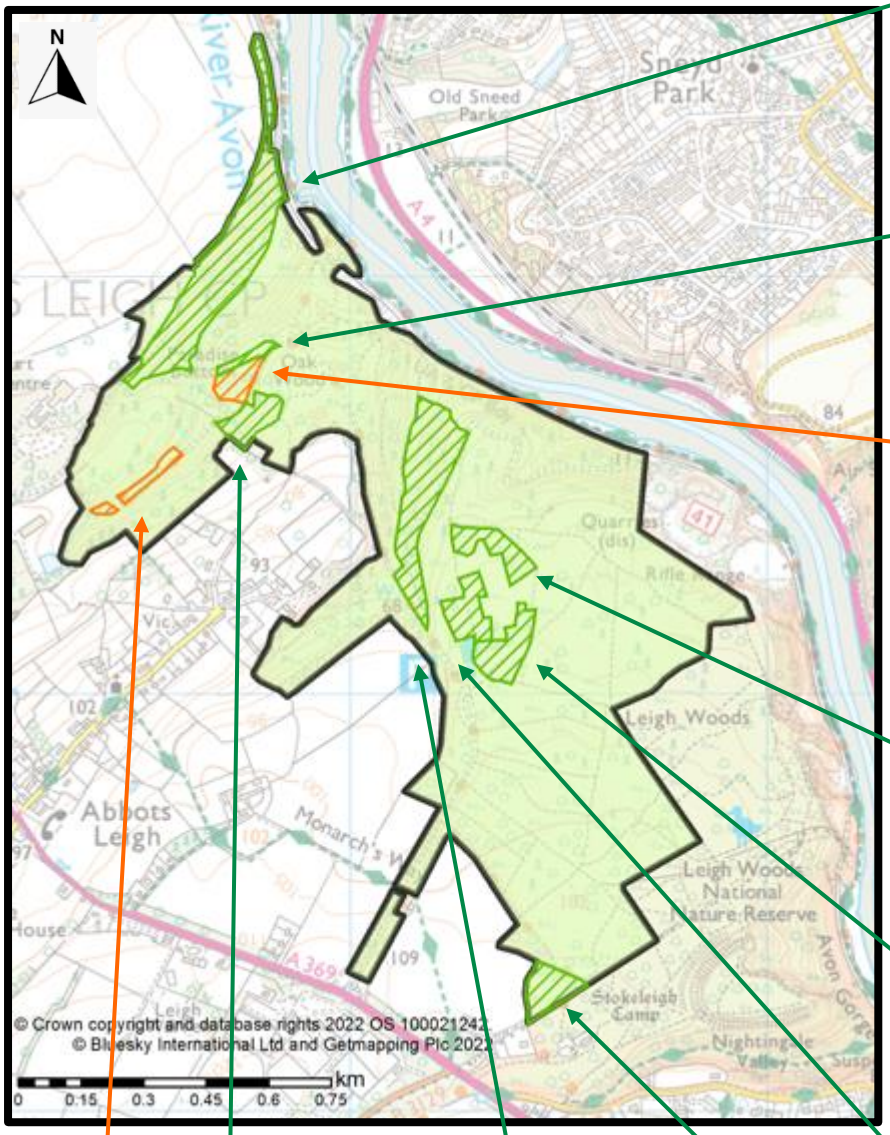
- **shelterwood**, where the overstorey provides seed and shelter for the next generation of trees;
- **selection**, where individuals or groups of trees are removed to create gaps for planting or natural regeneration;
- **minimum intervention** – two areas in West Tanpit Woods will be left alone for this plan period for ecological reasons.

Coppicing will be carried out, as time and resource allow, in parts of Ashton Hill and Fifty Acre Wood and **standards** (un-cut trees allowed to grow to full height) left within the stands.

Aesthetically interesting conifers, such as the giant redwoods and yews in Ashton Hill, will be **retained** in the **long term**.



Leigh Woods felling plan 2022-2032



Coppice coupe 50018

If appropriate, one or two 0.25ha coupes will be coppiced as per the SSSI plan – total = 0.5ha

Clearfell coupe 50009 (0.31ha)

Clearfell red oak for PAWS restoration

Restock with native broadleaves to be managed as coppice in future – probably mainly hazel

Coppice coupe 50010

May be coppiced towards the end of this plan period or at the beginning of the next – total = 0.73ha

Coppice coupe 50013

Coupe consists of three small coppice coupes of different ages – we will coppice two in total = 1ha

Coppice coupe 50015

Coupe consists of four small coppice coupes of different ages – we will coppice two in total = 0.8ha

Coppice coupe 50014

Coupe consists of four small coppice coupes of different ages – we will coppice two in total = 0.75ha

Coppice coupe 50011

Coppice in sections towards the end of the plan period – total = 0.51ha

Clearfell coupe 50008 (1.04ha)

Clearfell western red cedar and red oak for PAWS restoration

Restock with site appropriate native broadleaves; NVC type is W10 woodland, so oak, birch, wych elm, lime and wild cherry could be suitable

Coppice coupe 50012

Coppice sections that are most appropriate for regenerating old lime stools as per the Metrowest plan – total = 0.3ha

Clearfell coupe 50005 (1.15ha)

Clearfell young ash; retain other species; thin conifer group at same time

Restock with native broadleaf mixture; it is W8 woodland, so species could include lime, field maple, hazel and wild cherry

Felling year

2022-2026 2027-2031

Failand Woods felling plan 2022-2032

Clearfell coupe 50022 - West Tanpit (0.88ha)

Clearfell dead young ash in valley bottom

Natural regeneration / dynamic habitat

Clearfell coupe 50025 - West Tanpit (1.57ha)

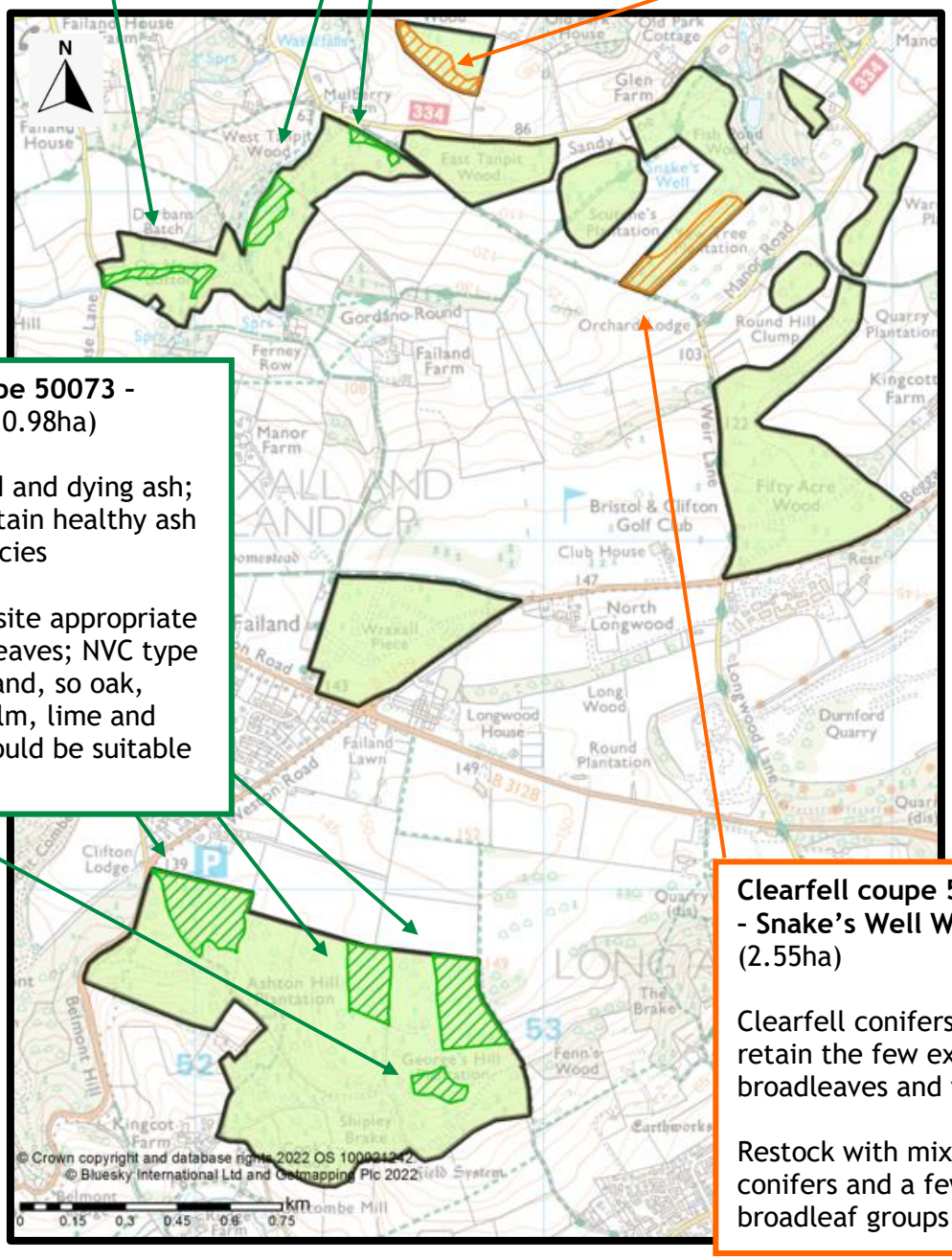
Clearfell larch; protect existing broadleaves

Restock with mixed conifers and groups of broadleaves

Clearfell coupe 50033 - Three Cornered Wood (1.45ha)

Clearfell groups of conifers; retain existing broadleaves

Restock with mixed conifers



Clearfell coupe 50073 - Ashton Hill (10.98ha)

Clearfell dead and dying ash; survey and retain healthy ash and other species

Restock with site appropriate native broadleaves; NVC type is W10 woodland, so oak, birch, wych elm, lime and wild cherry could be suitable

Clearfell coupe 50035 - Snake's Well Wood (2.55ha)

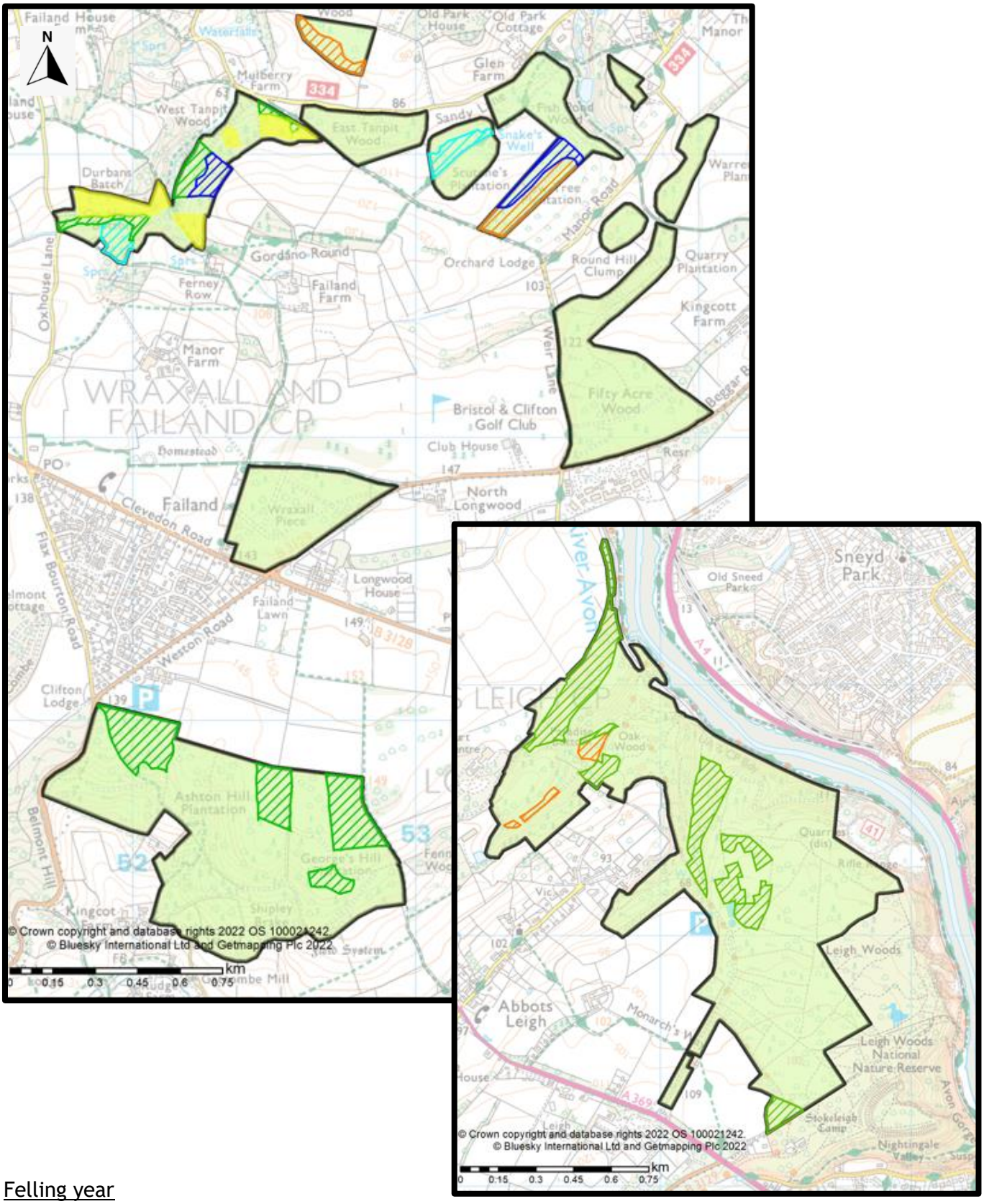
Clearfell conifers; retain the few existing broadleaves and yew

Restock with mixed conifers and a few broadleaf groups

Felling year

2022-2026 2027-2031

Bristol Woods - longer term felling plan - 2022-2052



Felling year

2022-2026 2027-2031 2032-2036 2037-2041 2042-2046 2047-2051

Future habitats and species

Notes on the 2022-32 felling maps above suggest which species we anticipate using to restock the clearfelled areas in Leigh Woods (page 27) and the Failand Woods (page 28) within this plan period. We don't anticipate any significant change in the proportions of conifers and broadleaves during this time.

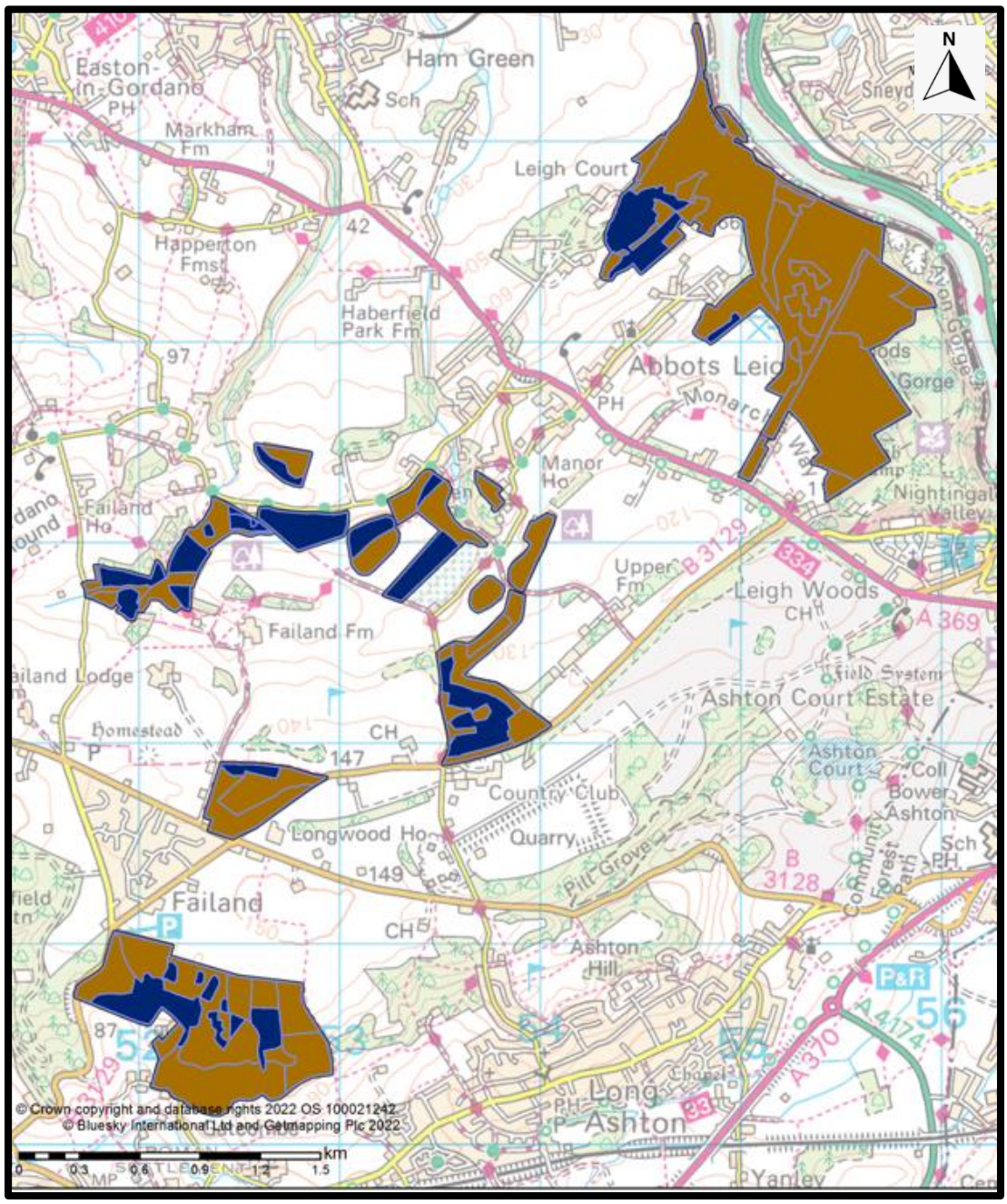
Beyond 2032, future restock species choice will be guided by our need to ensure that the Bristol Woods are resilient to changes in climate and pests and diseases. Wherever native broadleaf trees are felled, they will be replaced by site-appropriate native broadleaves. We will consider the National Vegetation Classification (NVC) woodland type and other site features, such as aspect and soil in order to choose the species. Where conifers are felled outside native woodland areas (ie most of the Failand Woods), we may replace them with resilient conifer mixtures, often with a broadleaf component to add diversity.

The map to the right gives a broad overview of the future species – showing whether we expect the next crop (rotation) to be dominated by broadleaves or conifers.

The map does not represent any specific date because the crops will all reach maturity and be replaced at different times.

Future species will be predominantly broadleaf

Future species will be predominantly coniferous



Appendix 1 – Bristol Woods coppice management plan 2022 – 2032 - to be read alongside the Bristol Woods forest plan (2022)

Coppicing is a traditional woodland management method, which involves cutting trees in areas of woodland (or coupes) down to the stump. This allows new shoots to grow, producing small diameter stems which may be used for broom handles, firewood, fencing stakes and hurdles. Coppicing can rejuvenate a tree and allow it to last for many years. It also benefits woodland flora and fauna, including the European protected dormouse, butterflies and other insects, by providing a mosaic of woodland habitats of different ages and temporary open space.

Current situation (2022)
Forestry England has coppiced several coupes in Leigh Woods during the past 30 years, and smaller areas in Cooks Wood (part of Ashton Hill Plantation) and Fifty Acre Wood. There are other areas which have been coppiced in the more distant past that may be suitable for future coppicing. A coppice management plan was written for Cooks Wood in 2013 but was not implemented due to a lack of resources. Dormice have been recorded in Cooks Wood and Leigh Woods.

Proposed coppice plan for Leigh Woods (2022-2032)

- The map and accompanying table below provide the location and details of the known coupes in Leigh Woods, and the proposed coupes in the SSSI and Metrowest positive management area.
- We will endeavour to coppice at least one coupe (of 0.25 – 0.5 hectares) in Leigh Woods every year and, where possible, will install deer fencing around the coppiced areas.
- As a general rule, coupes will be coppiced every 15-20 years, but we will adapt frequency and location if advised by the ecologist, or if a market opens up for a product of a particular size.
- Coppicing will mainly be carried out by volunteers, but we will look for opportunities to work with local coppice contractors / small businesses.
- On our GIS system, these areas will be recorded as 'coppice', but they may be managed as 'coppice with standards' – retaining 10-15 mature trees per hectare.
- Species within each coupe will generally be recorded as 'mixed broadleaves'.
- Coppicing should be carried out in the winter months, and ecologist advice sought if dormice are likely to be present.

Proposed coppice plan for Ashton Hill

- The ecologist has identified that Cooks Wood needs to be re-surveyed for dormice. This will be carried out during 2022-23, and will guide the production and implementation of a new coppice management plan, which will be added to the forest plan as an appendix.

Coppicing in the other Bristol Woods

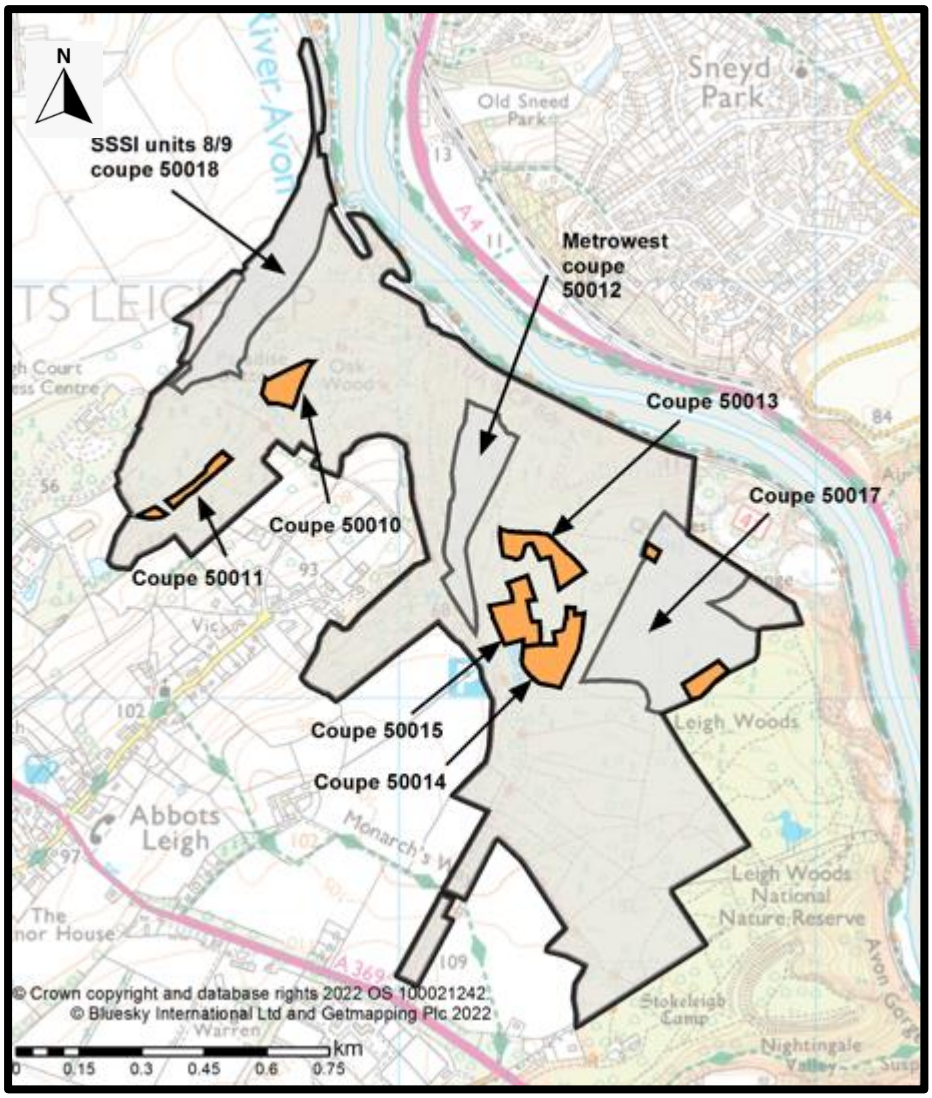
- Opportunities for coppicing in Fifty Acre Wood have been noted in the forest plan management prescriptions. These minor areas do not require their own additional plan and will be carried out as time allows through the delivery of the forest plan.

Monitoring

- We will record, in a spreadsheet (as below), which coupes have been cut, and will monitor the success of the regrowth.

Coupe number	Date cut	Who cut it?	Objectives / products	Fenced?	Notes
e.g. 5000a	*2025*	*Contractor*	*Dormouse habitat*	*Yes*	*Regrowth?*

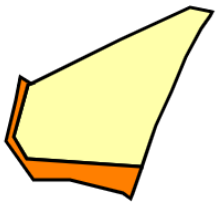
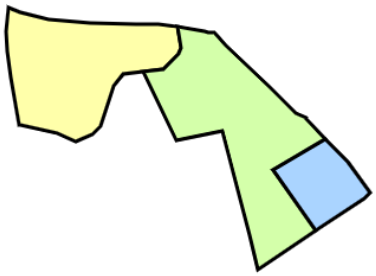
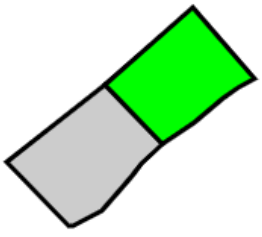
Location (and management coupe number) of each of the proposed coppice coupes in Leigh Woods – for more detail about each coupe, see table below

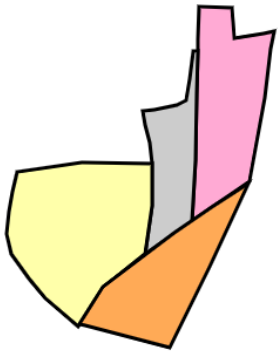
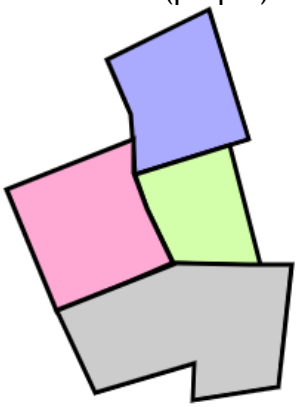


Note about table (below):

- The amount of coppicing proposed for the first half of the plan period (2022-2026) is ambitious. The coupes are ready to be coppiced, but won't come to any harm if they need to be delayed until later.

Coupe number / area	Location and current situation	Proposal – flexible dependent on resource availability and ecologist advice	Maximum area to be coppiced in this plan period 2022-2032
Management coupe 50018	SSSI unit 8/9 – two 0.25ha coupes identified in the SSSI management plan	Beat team will assess these areas to determine whether they are still suitable for coppicing. If so, they will be coppiced in the first half of the plan period.	0.5ha

Coupe number / area	Location and current situation	Proposal – flexible dependent on resource availability and ecologist advice	Maximum area to be coppiced in this plan period 2022-2032
Management coupe 50010 0.73ha	SSSI unit 8 – two different age areas: • 10% 2003 (orange) • 90% 2013 (yellow) 	Consider coppicing whole coupe towards end of plan period (2027-31) or at beginning of the next (2032-36) – be aware of adjacency to neighbouring strip of red oak due to be clearfelled 2023/24	0.73ha
Coupe 50011 0.51ha	Adjacent to stream in Paradise Bottom - partly open; some parts coppiced in 2002	Coppice in sections throughout the second half of this plan period (2027-31) and / or the next (2032-36)	0.51ha
Metrowest coupe 50012	Metrowest positive management area – three areas identified as suitable for coppicing – locations are flexible	Coppice sections which are most appropriate for regenerating the old lime stools – 2022-26	0.3ha
Management coupe 50013 1.15ha	Central Leigh Woods – three different age areas: • 50% 1996 (green) • 40% 2000 (yellow) • 10% 2014 (blue) 	Coppice older two coupes (green and yellow) 2022-26; coppice blue section in next plan period – 2032-36	1ha
Within management coupe 50017 0.3ha	Leigh Woods eastern boundary – two different age areas: • 50% 2014 (grey) • 50% 2016 (green) 	Coppice in next plan period – 2032-36	-

Coupe number / area	Location and current situation	Proposal – flexible dependent on resource availability and ecologist advice	Maximum area to be coppiced in this plan period 2022-2032
Within management coupe 50017 0.05ha	SSSI unit 7 – coppiced 2020	Coppice in next plan period – 2037-41	-
Management coupe 50014 1.45ha	Central Leigh Woods – four different age areas: • 15% 1999 (grey) • 40% 2003 (yellow) • 25% 2012 (pink) • 20% 2022 – being coppiced while plan is being written (orange) 	Coppice older two coupes (grey and yellow) 2022-26; coppice pink section in next plan period – 2032-36	0.75ha
Management coupe 50015 1.21ha	Central Leigh Woods – four different age areas: • 25% 1989 (pink) • 40% 2003 (grey) • 10% 2016 (green) • 25% 2018 (purple) 	Coppice older two coupes (pink and grey) 2022-26; coppice pink section in next plan period – 2032-36	0.8ha

Section 5 - Consultation record

Summary of external responses to be added - after consultation