

Yorkshire Forest District

Bishop Wood Forest Plan

FP 59

2017

**Outgang Road
Pickering
North Yorkshire
YO18 7EL
0300 067 4300**

Forest Enterprise - Property

Forest District:	Yorkshire
Woodland or property name:	Bishop Wood
Nearest town, village or locality:	Selby
OS Grid reference:	SE 557338
Local Authority district/unitary Authority:	Selby District Council

Areas for approval

	Conifer	Broadleaf	Open
Felling			-
Restocking			-
Continuous Cover regeneration felling	10.0	10.0	

1. I apply for Forest Plan approval for the property described above and in the enclosed Forest Plan.
2. I confirm that the pre consultation, carried out and documented in the Consultation Record attached, incorporated those stakeholders which 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 permission necessary for the implementation of the approved Plan.

Signed

Signed

Forest Management Director

Area Field Manager

District

Area

Date

Date of Approval..... **Date approval ends**.....

CONTENTS

1. Background

2. Describing the Site

- 2.1 Geology and Soils
- 2.2 Tree Species
- 2.3 Wind Damage
- 2.4 Landscape
- 2.5 People and Community
- 2.6 Natural Heritage
- 2.7 Cultural Heritage

3. Describing the Project

- 3.1 Project Brief
- 3.2 Objectives
- 3.3 Constraints
- 3.4 Implementation
 - 3.4.1 Conservation
 - 3.4.2 Timber Harvesting
 - 3.4.3 Landscape
- 3.5 Plan
- 3.6 Areas
 - 3.6.1 Breakdown of felling areas within the period of the plan
 - 3.6.2 Breakdown of constituent areas
- 3.7 Methods/Forest Operations
 - 3.7.1 Planning
 - 3.7.2 Standards
 - 3.7.3 Harvesting
 - 3.7.4 Haulage
 - 3.7.5 Restocking

4. Monitoring

- 4.1 Clearfells
- 4.2 Continuous Cover
- 4.3 Forest Plan
- 4.4 Habitat Condition
- 4.5 UKWAS Compliance

5. Determination of Impact Significance and Mitigation

- 5.1 Ancient and Native Woodland
- 5.2 Flora
- 5.3 Other Objectives

APPENDICES

- 1. Consultation Record**
- 2. Priority woodland bird species**
- 3. CCF Justification**
- 4. Restock species by soil type**

Bishop Wood

Hectares: 340.7 ha

Period of Plan: 2017 - 2026

1. Background

Bishop Wood Forest is part of a network of forests managed by Forest Enterprise (FE), Yorkshire Forest District, located within the York Beat. It is situated approximately 5 kilometres west of Selby within the south-east corner of Selby District

The forest is leasehold land secured by the Forestry Commission between 1921 and 1953 and was previously managed woodland having previously felled during the 1914-1918 war.

2. Describing the Site

2.1 Geology and Soils (FP Map 01)

The flat landscape is formed on drift geology remnant from lake deposits laid down during and after the last Ice Age across what was Lake Humber. These superficial glaciolacustrine and fluvial deposits are laid over bedrock of Triassic Mercia Mudstone where as a consequence of glacial activity and meltwater processes, silts and clays were deposited.

The soils at Bishop Wood are predominantly poorly drained groundwater gleys with drier parts of the wood providing areas of brown surface-water gley. Based on the Forest Research Ecological Site Classification, soils are classed as 'moist' soil moisture regime (SMR) and 'medium' soil nutrient regime (SNR). These characteristics present a wide range of species suitable for growing across the site and one that would be expected to give rise to lowland woodland types; mixed broadleaved with bluebell (W10) and alder-ash with bottle sedge (W7).

2.2 Tree Species (FP Map - 02)

Broadleaves are the dominant species group at 60% of the woodland area with pines at 34% and the remainder comprised of other conifer species and open/felled land. There are few areas of mappable permanent open ground within the wood due to its fertile nature and ability to quickly regenerate once cleared of trees. However, forest roads and rides provide an excellent resource for herb-rich verges and can account for up to 13 hectares of open space. The tables below provide a more detailed record of species present and the degree of change over the last plan period:

Broadleaf species (ha)		Conifer species (ha)	
BI	45.09	SP	59.00
SY	40.57	CP	58.04
AH	38.35	JL	2.44
PO	37.86	NS	1.22
OK	34.88	LP	0.90
BE	3.36	GF	0.57
GWL	2.05	SS	0.56
MB	0.88	HL	0.35
ROK	0.75	DF	0.24
		WH	0.11
Open/felled	13.48		

Species	2004 (%)	2017 (%)
broadleaf	45	60
pine (other conifers)	43	34
larch	1	1
spruce	1	0
open/felled	10	5

2.3 Wind Damage

The wind throw hazard classification indicates a relatively stable forest where 98% of the area is intermediate hazard class 3 or less (1 most stable, 6 least stable) where thinning options need to take timing, pattern and intensity of thinning into consideration to avoid precipitating the onset of windthrow.

2.4 Landscape (Photographic montage)

The forest is situated in the Humberhead Levels national character area¹, characterised by large geometric highly productive agricultural fields bounded by ditches and drains. The area of ancient woodland is low at just 1%, reflecting the fact that much of the lands has been relatively recently reclaimed.

Under the previous plan there has been a gradual shift from evergreen conifers to a greater proportion of broadleaf species. Across a relatively flat, level landscape this change is not

¹ NCA 39 Humberhead Levels

necessarily evident when viewed externally, although regular visitors walking through the wood will be aware of subtle changes in species composition.

2.5 People and Community (FP Map – 04)

Although there are no formal public rights of way through the wood, it is well served by a network of forest roads, rides and tracks that are popular throughout the year with walkers, dog walkers, cyclists and horse riders. Dutchman's car park is maintained off Scalm Lane minor county council highway.

Due to the terms of the woodland lease, potential for increasing and developing recreational use and facilities are limited.

2.6 Natural Heritage (FP Map – 04)

Bishop Wood Forest is designated as a Site of Nature Conservation Interest (SNCI) and is locally important for a range of flora, fauna and bio-diverse habitats.

Ancient woodland, particularly conifer Plantation on Ancient Woodlands Sites (PAWS) is important at Bishop Wood, accounting for 70% of the forest area. The previous plan recognised this and the benefit of restoring these and other sites to support site-native broadleaf species. As a result, 3.3 ha of small-scale felling and 106.4 ha of thinning work have been carried out across these sites over the last 12 years.

The forest is home to a wide range of national and regionally important declining woodland birds including Woodcock, Willow Warbler, Garden Warbler, Lesser Redpoll and Willow Tit (see Appendix 2).

The forest has previously supported the Argent and Sable moth although future surveys need to confirm if this is still the case.

A network of drains and ditches pass through and adjacent to the forest, providing a large area of riparian habitat. These sites typically support a more diverse woodland structure where native broadleaf tree species, shrubs and ground flora can naturally regenerate, providing ecologically diverse habitat corridors across the forest. An Internal Drainage Board drain passes through the wood.

2.7 Cultural Heritage

There are no recorded heritage features within or contiguous with the wood.

3. Describing the Project

3.1 Project Brief

- increase the proportion of native broadleaf cover, particularly across areas of PAWS and riparian zones and,
- consider the selection of site-appropriate tree species that will contribute toward a greater range of species diversity to maintain or increase timber productivity and increase resilience to plant health and biosecurity threats,
- increase the diversity of the age structure by use of appropriate silvicultural systems.

3.2 Objectives

Environmental

- Maintain and improve the ecological, cultural and heritage value of these woods, to be measured by Non-Government Organisations and FC systems accordingly.
- Improve the resilience of the natural environment and realise the potential of these woods for nature and wildlife, to be measured by FC systems accordingly.

Social

- Encourage communities to become involved across these woods, its management and direction through consultation in planning and participation in volunteering.
- Maintain and improve the forests contribution to the surrounding landscape character by increasing species and structural diversity, to be measured by external and internal fixed-point photography.

Economic

- Maintain the land within our stewardship under UKWAS certification, to be measured by independent surveillance audits.
- Improve the economic resilience of these woods from a more diverse range of site appropriate conifer and broadleaf species, to be measured by the Production Forecast and Sales Recording Package.

3.3 Constraints

- Potential forest health issues on pine species (*Dothistroma*) and ash (*Chalara*),
- Terms of the lease restrict development for public recreation,
- Adjacent land-use contributes to the lack of habitat connectivity with the surrounding landscape.

3.4 Implementation

3.4.1 Conservation

Protect and, where appropriate, enhance all known sites of ecological importance:

Ecological sites

All work sites are surveyed prior to any operations being carried out, both to audit the accuracy of information already held on record and to identify opportunities to further improve the ecological value of the woodlands. For Bishop Wood this will include:

- Managing Veteran trees and PAWS as set out in – ‘Ancient Woodland on the Forestry Commission Estate in England (March 2002)’ and ‘FEE Operations Instructions No. 3 (rev.2012), Ancient Woodlands’.
- Increase and improve the deadwood resource as set out in – ‘Managing deadwood in forests and woodlands Practice Guide (2012)’. Areas of high ecological value across which deadwood resources could be encouraged include; riparian zones and ancient woodland.
- Increase the diversity of tree species and age structure that will maintain and improve favourable habitats for target species and identified habitats. This is particularly beneficial for the range of habitats and species recorded at Bishop Wood from which a selection has already been mentioned at 2.6 - Natural Heritage.
- Selby Dam watercourse currently identified as moderate status through the Water Framework Directive (WFD) assessment is linked by a number of drains and ditches passing through Bishop Wood. Work undertaken through this plan will contribute to improving the water quality and aquatic ecology, through replacing existing conifer crops with predominantly broadleaf species and considering opportunities to address known issues. The implementation of continuous cover forestry systems will avoid significant lengths of watercourse being felled at any one time throughout the approval period of the plan.

Minimum Intervention - Natural Reserves

Natural Reserves are sites that are predominantly woodland which have been set aside where biodiversity is the prime objective. As far as reasonably practicable this is a permanent designation and will be managed on a minimum intervention system.

There are currently no areas of Natural Reserve designated across Bishop Wood.

Long Term Retentions (LTR)

These are stable stands or clumps of trees that are important to retain for landscape or biodiversity reasons and will be retained beyond their economic rotation but still managed under an appropriate silvicultural system i.e. thinning may still be carried out.

As the whole of Bishop Wood will be managed by CCF systems, the above definition can be applied across a large proportion of the site. To avoid double-accounting we will not designate a specific area for LTR.

Invasive species

Himalayan Balsam is present across parts of the wood where the extensive network of drains has brought seed from upstream sources. Future spread and impact will be monitored and control will be carried out as required.

3.4.2 Timber Harvesting

We will continue to sustainably harvest timber from small-scale group felling and thinning's, and where appropriate develop broadleaf stands to increase their contribution to timber production. These operations will be planned and controlled to ensure due regard for all other objectives of management at Bishop Wood.

3.4.3 Landscape

Bishop Wood is located on the Humberhead Levels, an area of flat arable farmland with few remaining woods of this size. Due to the flat terrain, external views are limited to those experienced from adjacent county highways and the high-speed East Coast railway line which bisects the south-west quarter.

On a scale of low/medium/high, landscape sensitivity is considered to be low.

The forest is gradually evolving from one that was previously conifer-dominant toward a range of lowland mixed broadleaf woodland types. The ongoing management by CCF systems is helping to create a more varied forest structure and species composition which is evident when viewed internally from forest roads and rides.

The combination of continued CCF management, small-scale group felling and identifying stands of long term retention will continue to develop an increasingly species and structurally diverse woodland that will make a positive contribution within the landscape.

3.5 Plan (FP Map 05)

The design concept map shows the key factors we need to address. These are taken forward and used to form the basis of a practical plan set out in the management and future habitat maps.

3.6 Areas (FP Map 06 and 07)

3.6.1 Breakdown of felling areas within the period of the plan.

A map showing the location of felling sites can be found in the Forest Plan folder.

Felling	Area - hectares	% of total area	Projected volume (m ³)
Continuous Cover* 2017 - 2026	10.0	3	2,500

* As the whole of Bishop Wood will be managed using CCF silvicultural systems, by definition there will be no clearfelling. Where advanced regeneration is present, canopy gaps up to 0.5 ha will be created to release the regeneration. There will be no felling above this limit in the proposed plan. During the plan period, it is proposed all areas of CCF will receive a silvicultural intervention. As a result of this intervention, the above area of woodland cover will be felled through the processes of group felling and shelterwood systems and restocked by natural regeneration.

3.6.2 Breakdown of constituent areas.

A Future Habitat and Species map showing the location and detail of the constituent areas can be found in the Forest Design Plan folder.

Habitat type - (based on principal species established)	Area – hectares			% age of total area		
	2017	2067	2117	2017	2067	2117
Conifer	123.45	68.14	34.07	35	20	10
Broadleaf	203.78	255.52	289.59	60	75	85
Open ground/felled*	13.47	17.04	17.04	5	5	5

* Includes unmappable road and ride verges.

3.7 Methods / Forest Operations

3.7.1 Planning

Before any major forest operations are undertaken an “Operational Site Assessment” is completed. This document details the proposed work and outlines all known environmental, social and operational considerations. The “Operational Site Assessment” then becomes an important reference document during the planning phase, the pre commencement meeting before scheduled works begin and for supervisory visits during the operation.

For routine maintenance operations (e.g. fencing, ride mowing, survey work etc.) the Yorkshire District policy on timing of operations to minimise wildlife disturbance will be followed.

3.7.2 Standards

All operations within the forest will be carried out in accordance with the certification standard for the U.K. Woodland Assurance Standard and the U.K Forestry Standard 2011 i.e. Forests and biodiversity, Forests and climate change, Forests and historic environment, Forests and landscape, Forests and people, Forests and soils, Forests and Water.

3.7.3 Harvesting

See 3.4.2. Forestry Commission staff will monitor work through regular site visits to ensure all guidelines and contract conditions are adhered to.

Clearfell V's Continuous Cover Forestry

All plans are required to consider lower impact silvicultural systems (LISS) in windfirm conifer plantations as opposed to traditional clearfell systems. This decision is based upon the methodology provided in FC Information Note 40 – 'Transforming Even-aged Conifer Stands to Continuous Cover Management'.

Using the FC Forest Research Agency, Ecological Site Classification system (ESC), a range of conifer species are considered 'optimum' to 'unsuitable' for CCF where timber production is considered as an objective.

See Appendix 3 – CCF Justification.

3.7.4 Haulage

As in our other woodland blocks we will continue discussions with the relevant Highways Authority to agree haulage routes and discuss annual tonnages.

All timber traffic will be managed in line with the Road Haulage of Round Timber Code of Practice, Fourth Edition (2012), which aims to improve the safety and environmental standards of the timber haulage industry.

3.7.5 Restocking

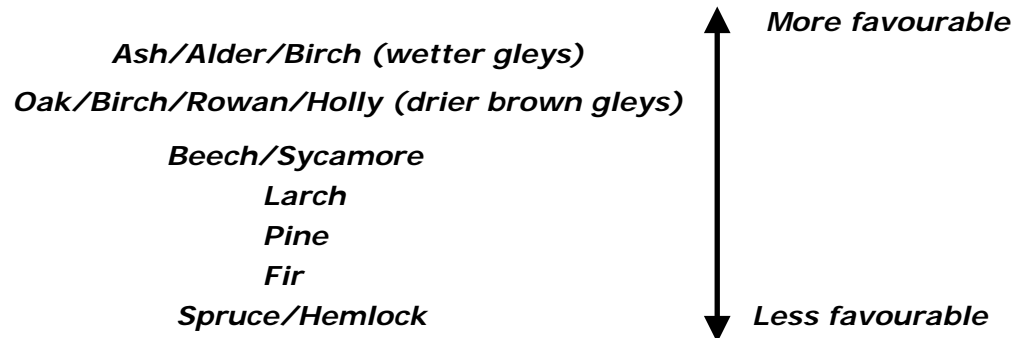
Broadleaf

The areas of PAWS will be restored to the appropriate range of native woodland types where this is influenced by underlying soil nutrient and moisture regimes. Restoration will be achieved through a combination of thinning and small-scale group felling and will be managed through CCF systems; restocked by natural regeneration with planting undertaken as necessary should natural regeneration fail to achieve 2000 sph evenly spread over 90% of the site.

The impact of *Chalara* on ash natural regeneration will be monitored during the life of the plan, although the acceptance of other site-native species will be considered as an acceptable alternative to achieve PAWS restoration.

On non-PAWS sites planned for conversion to broadleaf woodland, we will accept natural regeneration of both native and non-native species i.e. beech, sycamore.

Species regeneration on PAWS areas



Natural regeneration in PAWS woodland will be assessed and the risk it poses to the objectives of the plan considered. Where dense shade or invasive species (i.e. Western hemlock, Sitka spruce) threatens the native woodland community, it will be removed as soon as practicable. Where the risk is lower it will be allowed to reach a harvestable size and removed as part of a routine felling or thinning operation.

4. Monitoring

4.1 Clearfells

Through this plan we do not anticipate carrying out any clearfelling.

4.2 Continuous Cover

Continuous cover areas will be monitored using the methods and procedures contained in OGB*7. Similar in scope to the methods employed for restock areas, where timber production is the aim we need to have at least 2000 saplings per hectare after 10 – 15 years, these should be evenly spread over 90% of the site.

4.3 Forest Plan

All forest plans are formally reviewed as part of a “5-year mid term review” and the plan’s aims and objectives and its success at achieving those aims and objectives. This plan will be formally reviewed in 2021. This time period can be shortened if circumstances change significantly or if parts of the plan prove detrimental to the overall aims and objectives.

*Operational Guidance Booklet

4.4 Habitat condition

We will achieve improving ecological heritage value of these woods through PAWS restoration by increasing their semi-naturalness. Over the lifetime of the plan, we will monitor and record levels of change through the Sub-Compartment Database and the resulting Semi Natural Class scores. This will take several thinning cycles whereby existing broadleaf trees will be managed to increase crown development and allow successive broadleaf regeneration to establish.

Class 1	Semi-Natural Woodland
Includes native coppice woodland and high forest or site-native plantation with a relatively high percentage of native self-sown or coppice understorey.	
Class 2	Reasserting Semi-Natural Woodland
Plantation or ex-plantation with 50-80% site-native species. Includes coppice regeneration and/or strong natural regeneration amongst planted trees.	
Class 3	Plantation
Plantation with 20-50% site-native trees under established plantation stands	
Class 4	Plantation
Plantation with less than 20% site-native species. Includes all non-native broadleaves and beech planted outside its natural range in England.	

4.5 UKWAS Compliance Table

	Forest Plan Area (ha)	Forest Plan Percentage	Forest District Area (ha)	Forest District Percentage
Total Area	340.7	100	20,971	100
Total Wooded area	327.2	96	16,535	79
Natural Reserves – Plantation (1%)	Nil	0	170	1
Natural Reserves – Semi-natural (5%)	Nil	0	85	6
Long-term Retentions and Low Impact Silvicultural Systems (>1%)	340.7	100	6,909	33
Area of conservation Value (15%) Including Designations; PAWS, AW, ASNW, NR, LTR and LISS	340.7	100	8,666	41

5. Determination of Impact Significance and Mitigation

5.1 Native Woodland

Threats to our native woodlands can be immediate and absolute (e.g. loss to infrastructure or development) or slower and subtler (e.g. shading from conifer species or invasive species such as Rhododendron). There are also more widespread environmental changes, such as diffuse pollution and climate change, which may threaten in the long term. (www.forestry.gov.uk/keepersoftime)

Major threats to native woodland are:

- Climate change and fragmentation
- Excessive browsing and grazing by deer & livestock
- Inadequate or inappropriate management
- Invasive and problem species
- Diffuse pollution
- Loss

Through this plan, we will continue to apply local and national policy and best practice guidance for the management and development of our native woodlands.

5.2 Other Objectives

Concentrate on developing habitat-rich riparian corridors with marshes, meadows, woodlands, trees in farmlands. These would pass through both woodland and farmland.

(G. Peterken – Native Woodland Development in the North York Moors and Howardian Hills)

We will continue to apply local and national policy and best practice guidance to the management of riparian corridors across Bishop Wood. This will improve and enhance the habitat network within the woodlands and benefit protected species. Continuing development of both species and structural diversity will benefit habitats for a range of species throughout the woodland (Appendix 2 – Priority woodland bird and lepidoptera species).

Consultee	Date Contacted	Date response received
Statutory Consultees		
Forest Services	06/04/2017	
Natural England	15/05/2017	08/06/2017
Internal Drainage Board	15/05/2017	
Non Governmental Organisation		
Environment Agency	15/05/2017	23/05/2017
Neighbours		
Scalm Park	15/05/2017	
Mr Caslake, Bishopwood Cottage	15/05/2017	
Mr Lamb, Hagg Farm	15/05/2017	
Community Groups		
Selby District Council	15/05/2017	
Selby Parish Council	15/05/2017	31/05/2017
		14/06/2017
Cawood Parish Council	15/05/2017	
Wistow Parish Council	15/05/2017	08/06/2017

Forest District 06/04/2017

Others

Dr David Chesmore 02/03/2017

15/05/2017

BTO 28/02/2017

08/03/2017

Savills (Agents for Church
Commissioners - freeholder) 15/05/2017

Issues Raised

Overview of previous plan performance provided, draft objectives and issues/opportunities agreed for plan renewal as part of the internal scoping meeting.

Project brief and objectives sent to inform process of Forest Plan renewal.

Although no statutory designations to consider, NE are happy to receive a copy of the plan to consider Sect41 or protected species issues.

Project brief and objectives sent to inform process of Forest Plan renewal.

Project brief and objectives sent to inform process of Forest Plan renewal.

Request to consider further natural flood measures within the wood.

Project brief and objectives sent to inform process of Forest Plan renewal.

Project brief and objectives sent to inform process of Forest Plan renewal.

Project brief and objectives sent to inform process of Forest Plan renewal.

Project brief and objectives sent to inform process of Forest Plan renewal.

Project brief and objectives sent to inform process of Forest Plan renewal.

Herbicide/pesticide policy, woodland ownership, school engagement, litter/dog waste.

Project brief and objectives sent to inform process of Forest Plan renewal.

Project brief and objectives sent to inform process of Forest Plan renewal.

No objections.

Overview of previous plan performance provided, draft objectives and issues/opportunities agreed for plan renewal as part of the internal scoping meeting.

Email sent asking if Dr Chesmore still surveyed lepidoptera at Bishop Wood

Project brief and objectives sent to inform process of Forest Plan renewal.

Data received, acknowledged and relevant data included in plan documentation.

Project brief and objectives sent to inform process of Forest Plan renewal.

District response to issues

A range of internal issues were discussed reviewing past and future objective. A record of issues raised and discussed was shared with participants 02/05/2017.

Agreed to forward plan documentation to Martin Fuller for review on biodiversity issues.

All points raised were answered except query regarding bunds for which clarification was asked.

A range of internal issues were discussed reviewing past and future objective. A record of issues raised and discussed was shared with participants 02/05/2017.

Reply confirmed Yorkshire Naturalist Union still involved at the wood and happy to be included in consultation.

Data request for Bird Atlas data 2007 - 2011

Appendix 2 – Priority woodland bird and lepidoptera species

Bird Species ¹	Forest location	Habitat enhancement
Woodcock	Throughout Wood – particularly along rides and in Wet Woodland areas	Restructure closed canopy/conifer stands through thinning and sequential felling to develop wide rides, small clearings/glades for flight paths and to allow the development of a well-structured understorey of dog's mercury, bramble and scrub. Expand areas of wet woodland and wet corridors to link habitats throughout the wood.
Song Thrush Lesser Redpoll Garden Warbler Willow warbler Willow Tit Bullfinch Dunnock Yellowhammer	Throughout block, rides and woodland edges.	Continue works on PAWS restoration throughout the block through thinning of closed canopy and conifer stands to improve woodland structure and species diversity. Work through operations to enhance rides and the creation of a more diverse and graduated woodland edge. Create and maintain successional woodland/birch scrub and manage wood to encourage/maintain standing deadwood.

Lepidoptera	Forest location	Habitat enhancement
Argent and Sable moth	Birch woodland	Prefers open woodland with birch regrowth. Develop habitat corridors to extend current range. Maintain birch within restock sites and develop successional sites along road/ride edges and wetter sites.

¹ Source – BTO Bird Atlas data for SE53 Grid Square

The Breeding Bird Survey is run by the British Trust for Ornithology (BTO) and is jointly funded by the BTO, the Joint Nature Conservation Committee (JNCC) (on behalf of the statutory nature conservation bodies: Department of Agriculture, Environment and Rural Affairs - Northern Ireland, Natural England, Natural Resources Wales and Scottish Natural Heritage), and the Royal Society for the Protection of Birds (RSPB).

Appendix 3 – CCF justification

Site Factor	Suitability Score	Comment
Wind Hazard Classification: Classes 1 to 3	1	Tree stability should not be an issue across these WHC classes where crops have a regular thinning history.
Soil fertility (soil nutrient regime): Medium (typical SWG)	2	Soft grasses and bramble can present competition issues where these become established before natural regeneration is secured.
Current species suitability: Nil P.oak, Sycamore, Red oak, Common alder Silver birch	1 – Optimal 2 – Suitable 3 – Marginal	Existing species offers a reasonable selection that can be developed for natural regeneration with good advanced regeneration of birch, alder, sycamore and willow.

With a combined score ranging from 5 to 6, initial analysis indicates significant areas of Bishop Wood achieve a Moderate site ranking for transformation to CCF. Current species are based upon long-term viability of future broadleaf timber production using the ESC 2080 Hi scenario due to its PAWS status.

Stand form - Form is good across a range of species.

Thinning history - Thinning operations are broadly consistent where crops have been managed over a regular cycle, developing crowns that can act as potential seed-bearing trees.

Currently there is good evidence that a number of broadleaf species are capable of developing as natural regeneration across suitable sites. As a naturalised species we will accept sycamore regeneration as a substitute for ash due to the future threats posed by *chalara*.

Access – Bishop Wood has a good network of forest roads and rides.








































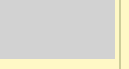










On the basis of the above information, we will continue CCF management across Bishop Wood. Although we don't currently restock with larch, we will accept this where it appears as natural regeneration.

We will adopt a Group Shelterwood system through a combination of thinning, group felling (0.25 to 0.50 ha) and managing natural regeneration with suitable species.

The Forest Research ESC table below supports the range of target species considered for natural regeneration and those where enrichment planting will increase species diversity.

Bishop Wood SE555342. Future Climate Analysis - 5km Area Projection UKCIP02

Species	Baseline			2050 Lo			2050 Hi			2080 Lo			2080 Hi		
	Lim Factor	Suitability	YC	Lim Factor	Suitability	YC	Lim Factor	Suitability	YC	Lim Factor	Suitability	YC	Lim Factor	Suitability	YC
Downy birch	MD		4	MD		4	MD		2	MD		2	AT5		0
Silver birch	SMR		6	SMR		6	SMR		6	SMR		6	AT5		2
Big leaf maple	SMR		14	SMR		14	SMR		14	SMR		14	AT5		8
Norway maple	SMR		8	SMR		8	SMR		8	SMR		8	AT5		4
Sycamore	SMR		8	SMR		8	SMR		8	SMR		8	AT5		4
Beech	SMR		4	SMR		4	SMR		4	SMR		4	MD		2
Roble beech	SMR		4	SMR		4	SMR		4	SMR		4	AT5		2
Ash	MD		8	MD		6	MD		2	MD		4	MD		0
Pedunculate oak	DAMS		8	MD		8	MD		6	MD		6	MD		4
Red oak	SMR		4	SMR		4	SMR		4	SMR		4	SMR		4
Sessile oak	SMR		2	SMR		2	SMR		2	SMR		2	SMR		2
Aspen	DAMS		10	MD		10	MD		8	MD		8	AT5		2
Black poplar	SNR		8	SNR		8	SNR		8	SNR		8	SNR		4
Rauli beech	SMR		0	SMR		0	SMR		0	SMR		0	SMR		0
Common alder	DAMS		10	DAMS		10	DAMS		10	DAMS		10	AT5		6
Red alder	MD		10	MD		10	MD		8	MD		8	MD		2
Grey alder	MD		12	MD		12	MD		10	MD		8	AT5		2
Italian alder	CT		8	CT		8	CT		8	CT		8	AT5		6
Shining gum	SMR		22	SMR		22	SMR		22	SMR		22	SMR		12
Cider gum	SMR		28	SMR		28	SMR		26	AT5		24	AT5		8

Rowan	SMR		4	SMR		4	SMR		4	SMR		4	AT5		2
True service tree	SMR		0	SMR		0	SMR		0	SMR		0	SMR		0
Wild service tree	SMR		2	SMR		2	SMR		2	SMR		2	SMR		2
Black walnut	SMR		0	SMR		0	SMR		0	SMR		0	SMR		0
Common walnut	SMR		0	SMR		0	SMR		0	SMR		0	SMR		0
Hornbeam	SMR		8	SMR		8	SMR		8	SMR		8	SMR		8
Small-leaved lime	SMR		8	SMR		8	SMR		8	SMR		8	MD		4
Wych elm	SNR		6	SNR		6	MD		6	MD		6	MD		2
Wild cherry	SMR		8	SMR		8	SMR		8	SMR		8	MD		4
Sweet chestnut	SMR		0	SMR		0	SMR		0	SMR		0	SMR		0

Yorkshire Forest District

Bishop Wood Forest Plan—FP59



Forestry Commission
woodlands have
been certified in
accordance with the
rules of the Forest
Stewardship Council.



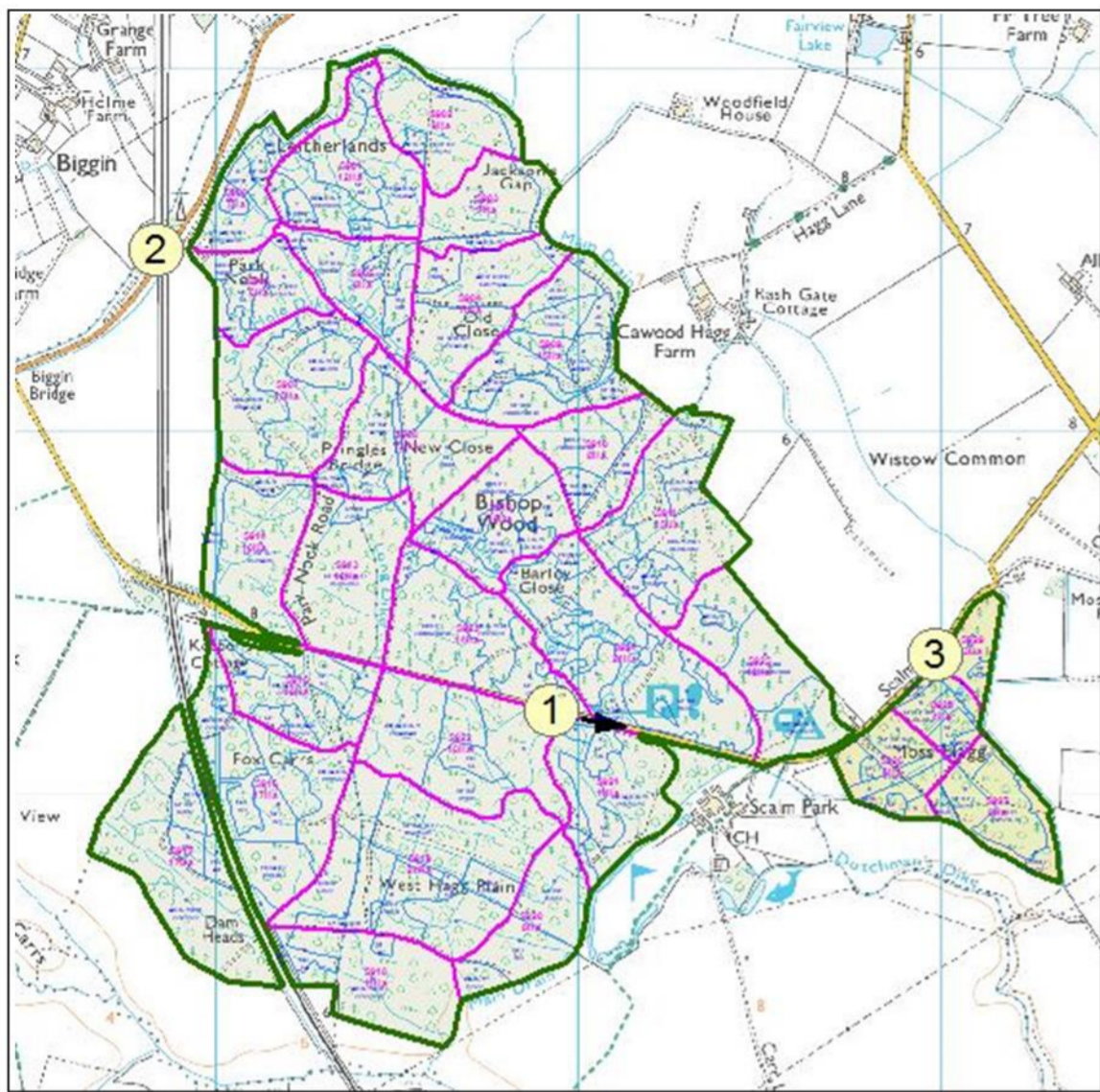


Forestry Commission
Scale: 1:110,000
when drawn @ A2
Printed: July 2017



Bishop Wood

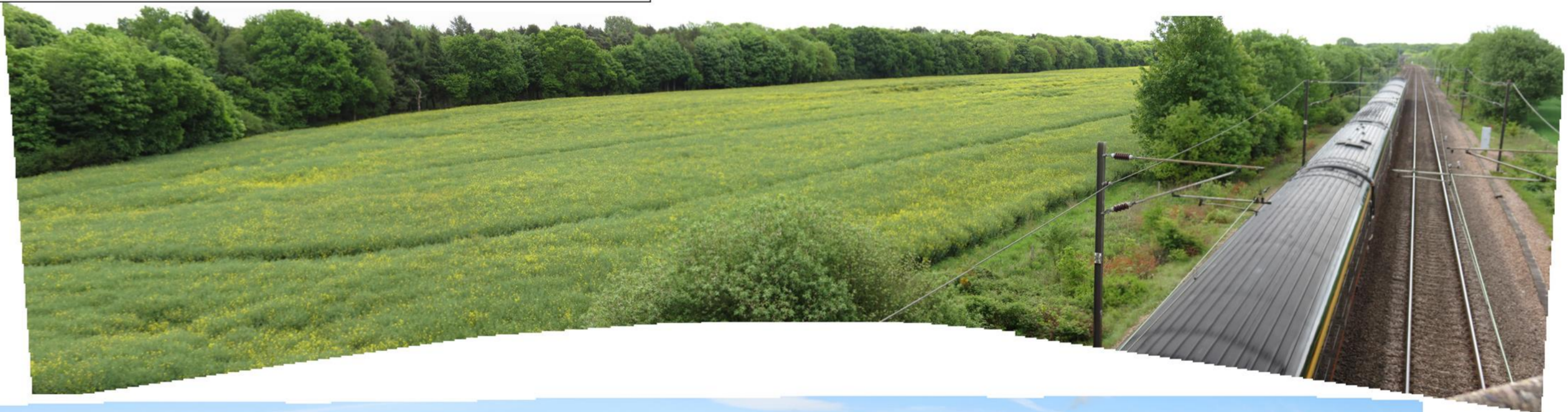
Bishop Wood Forest Plan



View 1: Scalm Lane. Scalm Lane bisects the wood, and occupants in the fast-moving traffic experience a close and intimate view of mature mixed woodland. Thinning operations within these stands will look to improve site-lines from gated entrances and where tree safety issues require selected tree removal.



View 2: Looking onto Bishop Wood from the railway bridge on the B1222 Bishopdyke Road. This is a relatively long-term view of mature mixed broad-leaves consisting of sycamore, ash, birch and oak that is unlikely to change under future management proposals. Surrounding farmland abuts directly onto the woodland boundary with no headlands or field margins to buffer between the two land uses.



View 3: The eastern edge as viewed from Scalm Lane. This part of the forest offers a more structurally diverse woodland edge where previously felled pine have now become established with a mixture of naturally regenerated birch and willow and planted Corsican pine. This view provides an indication of how species-diverse the wood is with a wide range of broadleaves and conifers present.

Bishop Wood Forest Plan

A detailed map of the Bishop Wood Forest Plan. The map shows the layout of the forest, with various sections and management zones outlined in different colors. Key locations labeled include 'The Netherlands', 'Jackson Gap', 'Woodfield House', 'Rash Gate Cottage', 'Cawood Hagg Farm', 'Wistow Common', 'Bishop Wood', 'Barley Close', 'Scalm Park', 'Fox Carrs', and 'Dunham's Dale'. There are also several numbered markers (4, 5, 6) indicating specific points of interest or management areas.

View 4: Recently thinned P83 pine. The majority of Bishop Wood is classified as Plantation on Ancient Woodland Site where previous and future management is committed to restoring conifer stands to broadleaf woodland. The main management tool will be regular thinning of stands as shown here, allowing light to develop the shrub layer and broadleaf tree species.

A photograph of a recently thinned P83 pine forest. The trees are tall and straight, with a dense ground cover of shrubs and grasses. The sunlight filters through the canopy, creating dappled light on the forest floor.

A photograph of mature mixed broadleaf woodland. The trees are large and mature, with a dense understory of shrubs and grasses. The sunlight filters through the canopy, creating dappled light on the forest floor.

View 5: Mature mixed broadleaf woodland. This view shows mature broadleaf woodland with a developing understory and species rich shrub layer that is typical of large parts of the southern half of Bishop Wood. Future management through continuous cover forestry systems will look to maintain and enhance species diversity. Ash is a significant component of these woods and the potential presence and future impact of chalara will be monitored and managed in line with national guidance.

A photograph of a forest path. The path is a dirt track winding through a dense forest of tall trees. The ground is covered in grass and low-lying vegetation.

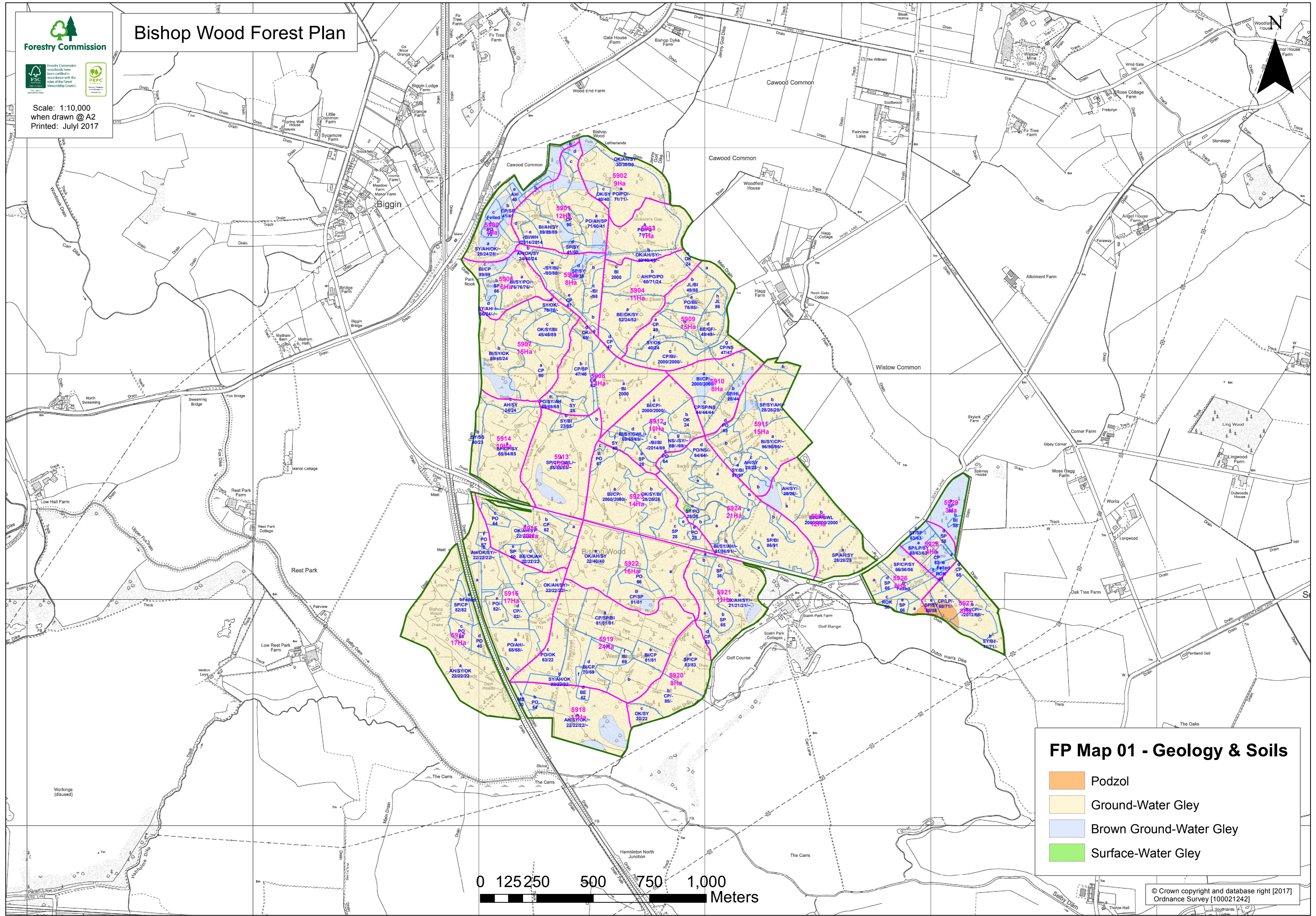
View 6: Forest roads, tracks and rides. Internal access routes provide opportunities to develop a network of semi-natural habitat corridors with herb-rich verges adjacent different forest canopy layers. Ongoing woodland management will maintain these for the benefit of a wide range of wildlife and visitors alike.



Bishop Wood Forest Plan

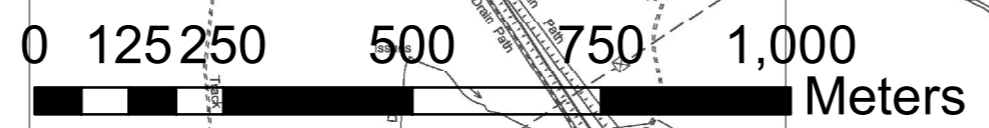


Scale: 1:10,000
when drawn @ A2
Printed: Jul'17



FP Map 01 - Geology & Soils

- Podzol
- Ground-Water Gley
- Brown Ground-Water Gley
- Surface-Water Gley

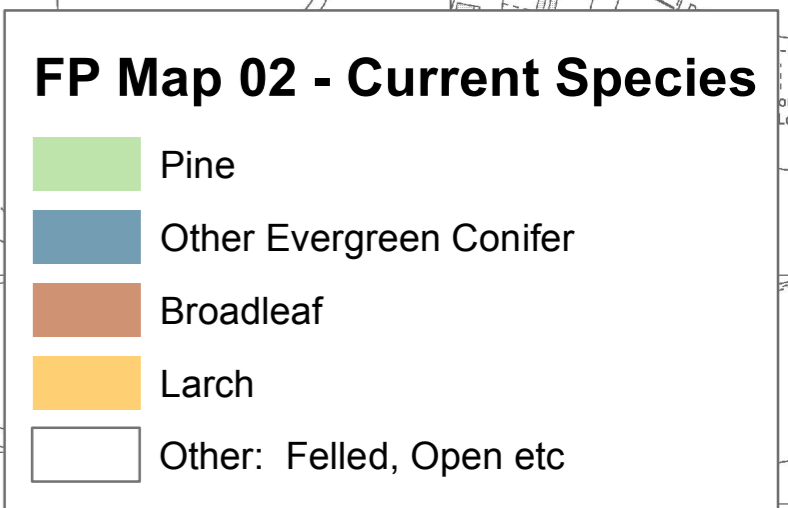
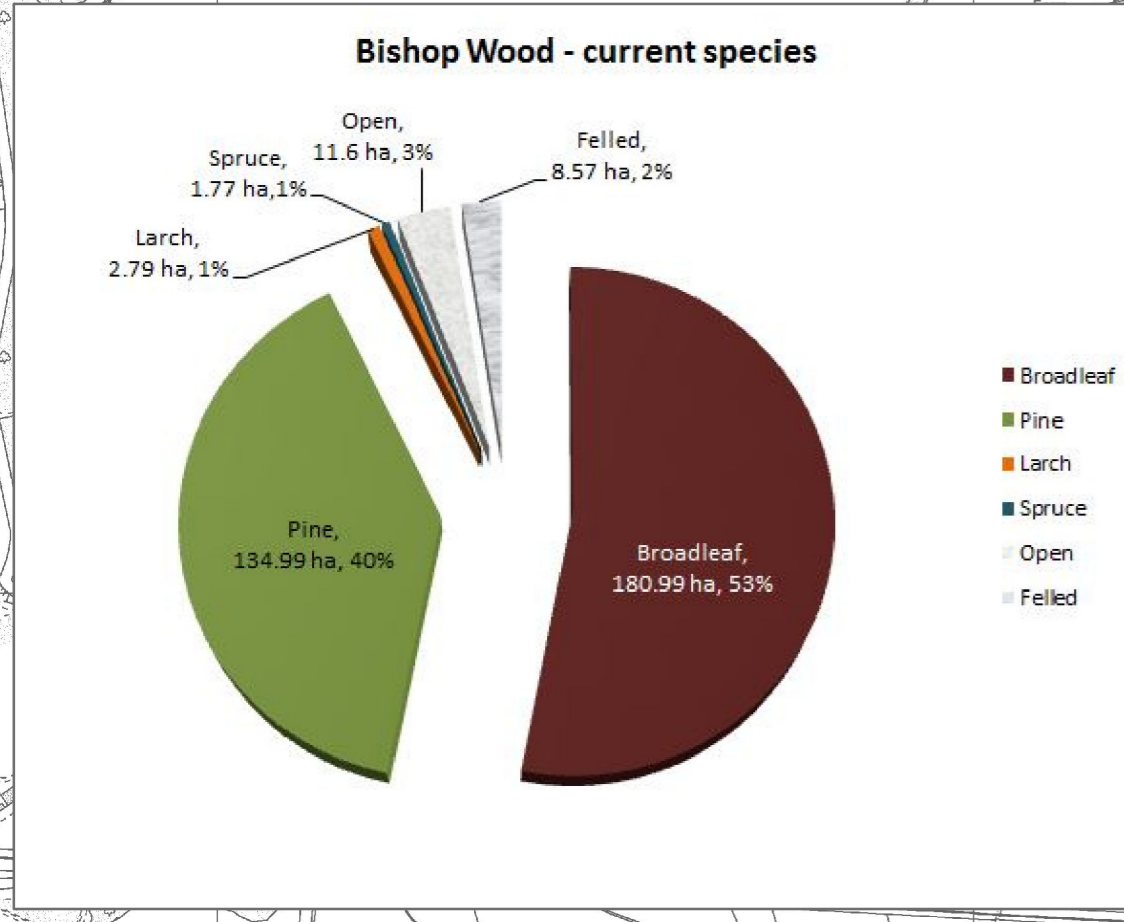
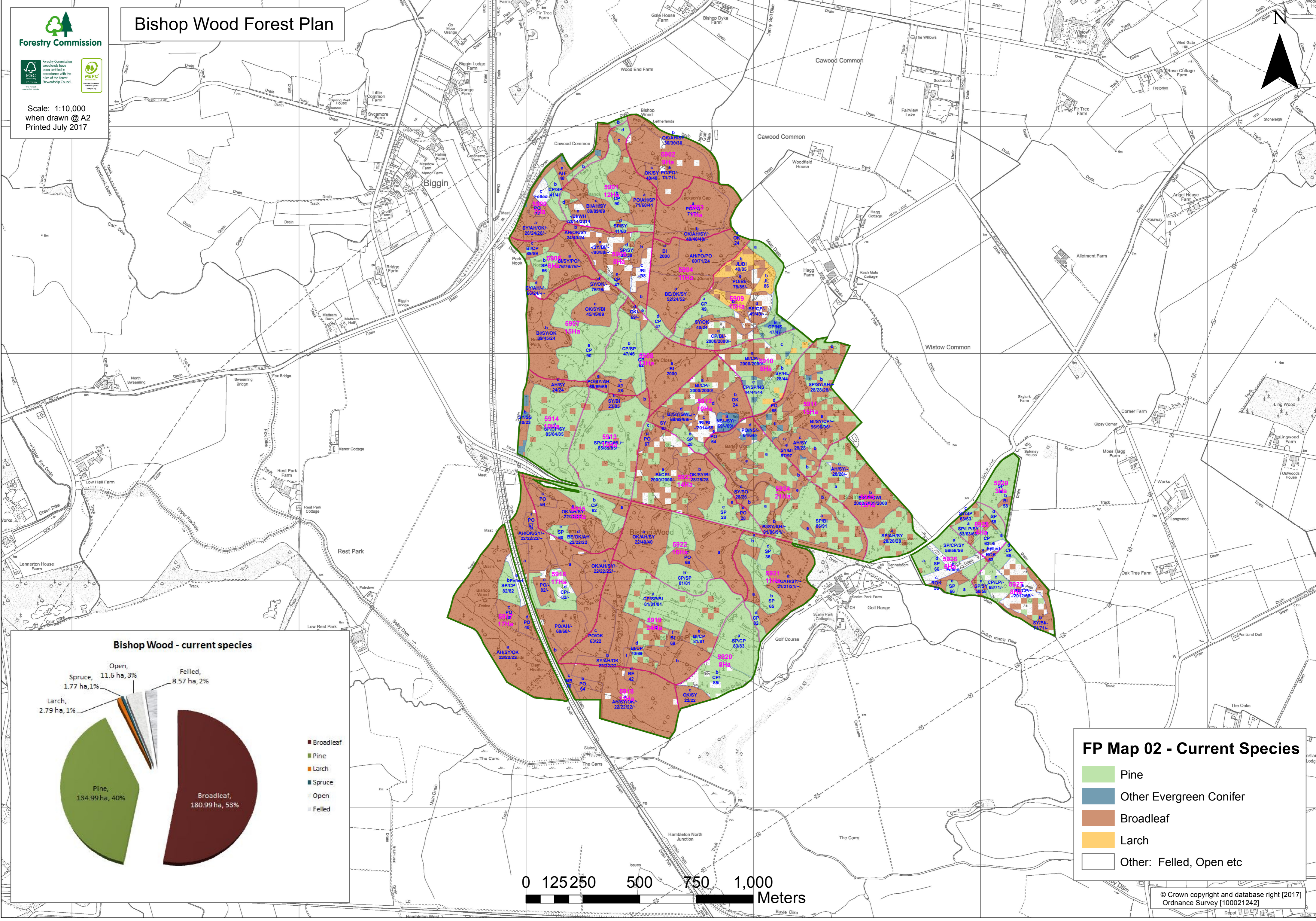


© Crown copyright and database right [2017]
Ordnance Survey [100021242]



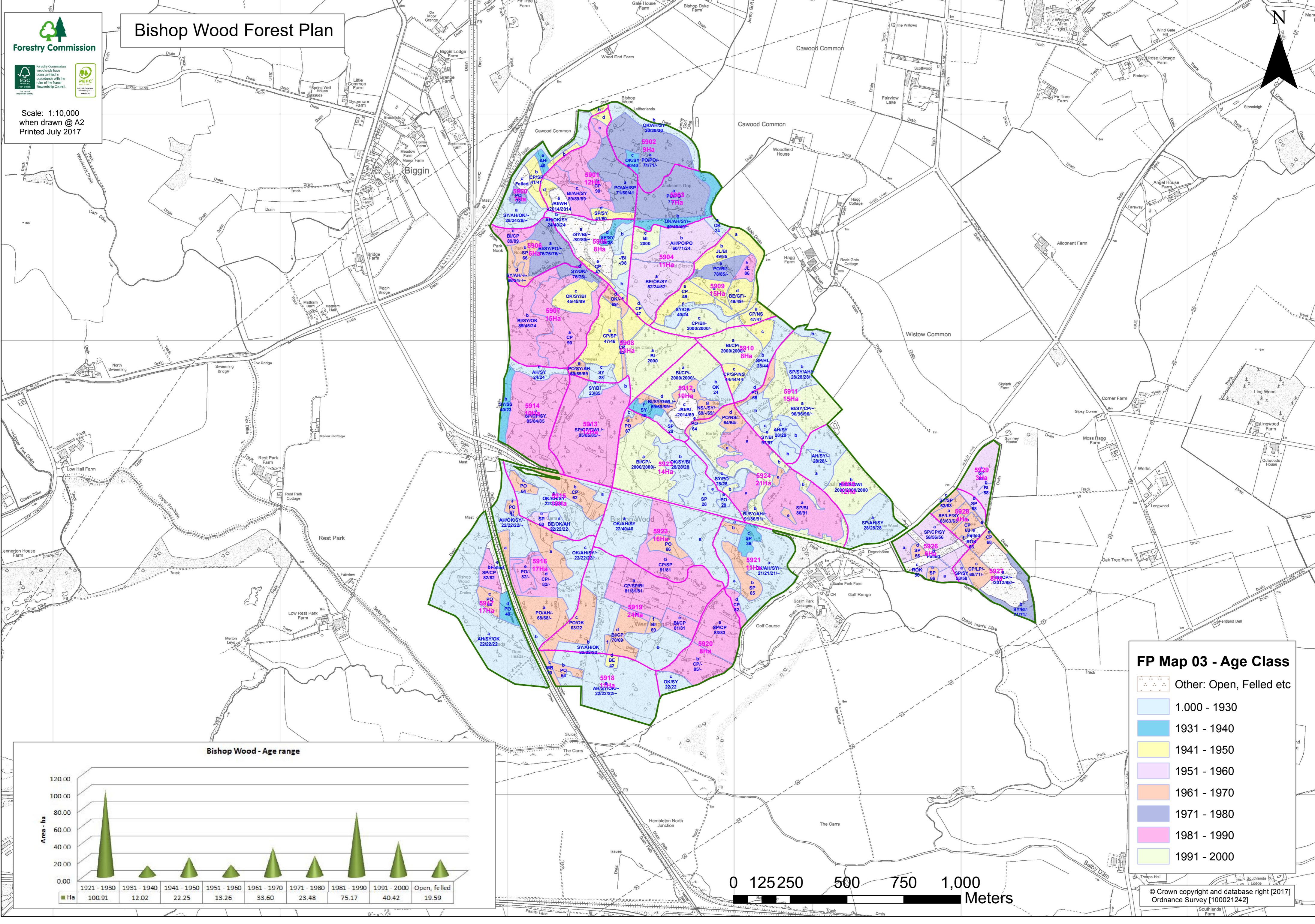
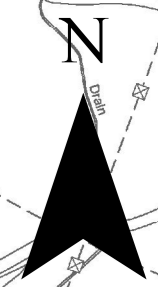
Bishop Wood Forest Plan

Scale: 1:10,000
when drawn @ A2
Printed July 2017



Forestry Commission
 PEFC
 Scale: 1:10,000
 when drawn @ A2
 Printed July 2017

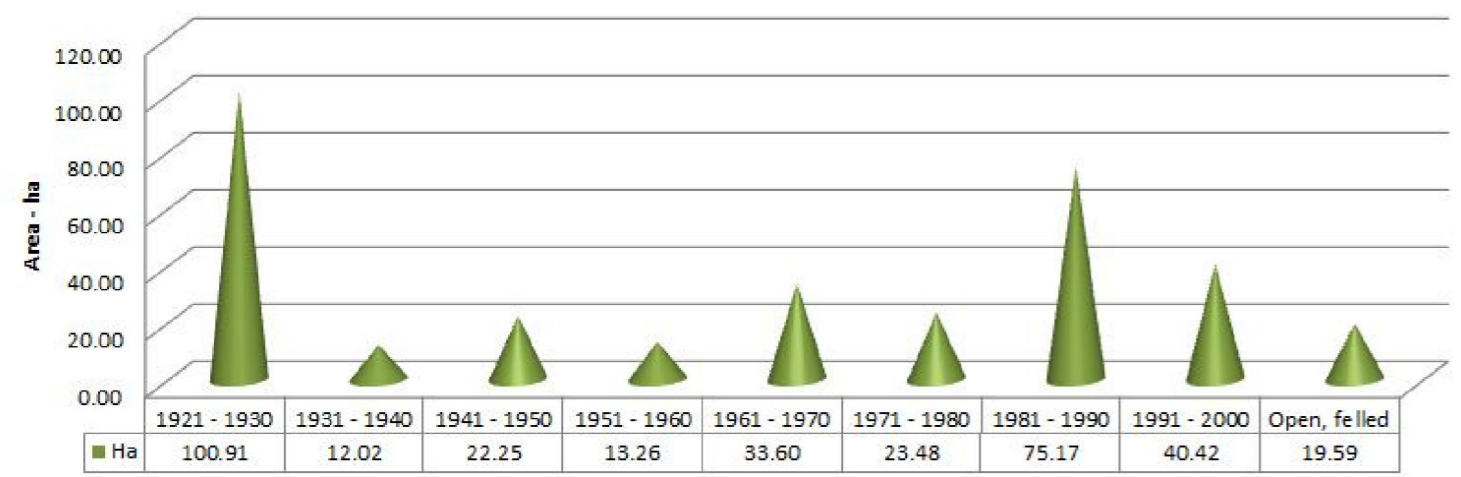
Bishop Wood Forest Plan



FP Map 03 - Age Class

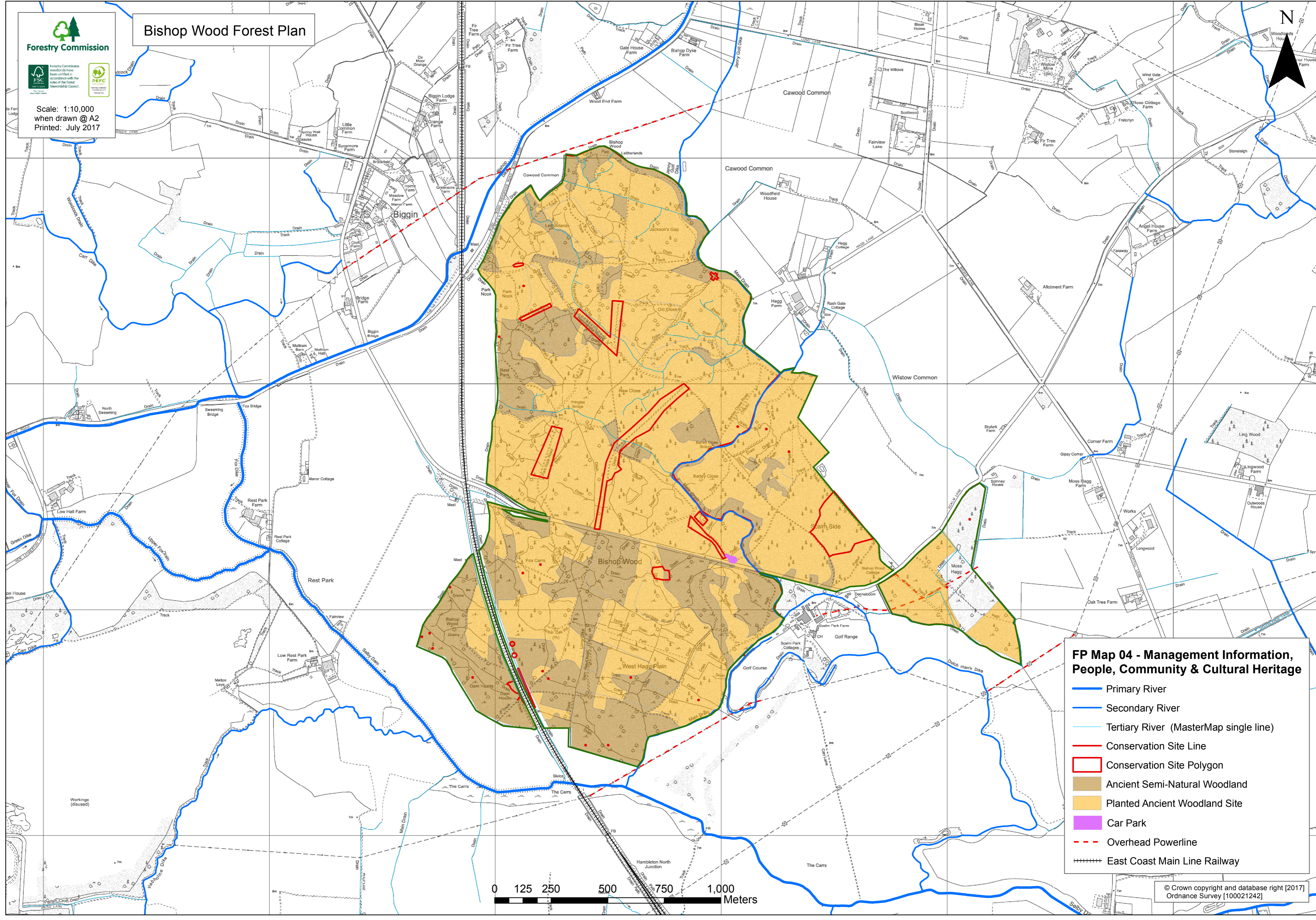
- Other: Open, Felled etc
- 1.000 - 1930
- 1931 - 1940
- 1941 - 1950
- 1951 - 1960
- 1961 - 1970
- 1971 - 1980
- 1981 - 1990
- 1991 - 2000

Bishop Wood - Age range



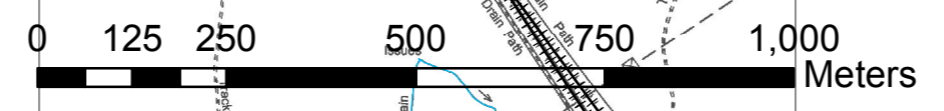
Forestry Commission
Scale: 1:10,000
when drawn @ A2
Printed: July 2017

Bishop Wood Forest Plan



FP Map 04 - Management Information, People, Community & Cultural Heritage

- Primary River
- Secondary River
- Tertiary River (MasterMap single line)
- Conservation Site Line
- Conservation Site Polygon
- Ancient Semi-Natural Woodland
- Planted Ancient Woodland Site
- Car Park
- Overhead Powerline
- East Coast Main Line Railway

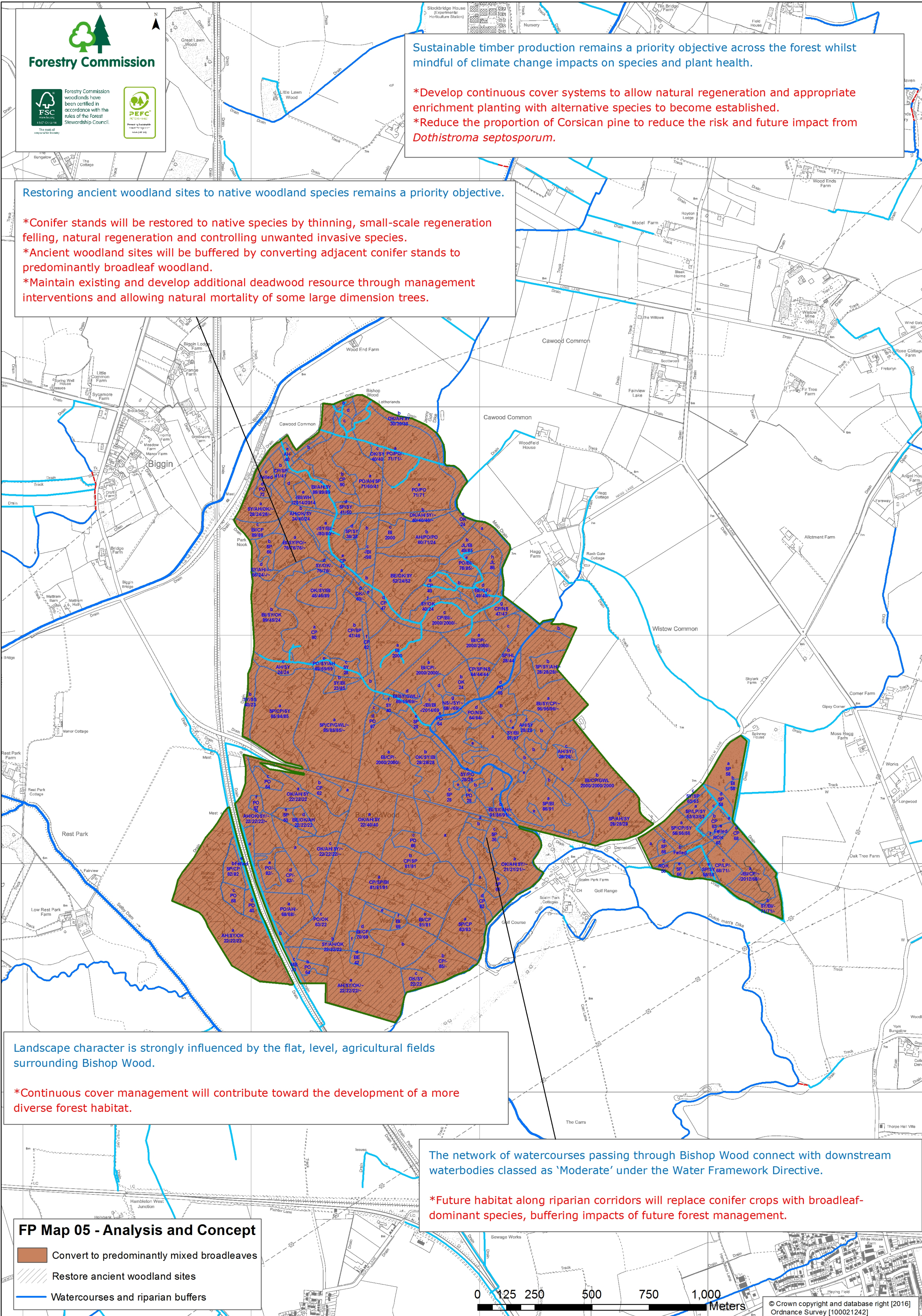


Sustainable timber production remains a priority objective across the forest whilst mindful of climate change impacts on species and plant health.

- *Develop continuous cover systems to allow natural regeneration and appropriate enrichment planting with alternative species to become established.
- *Reduce the proportion of Corsican pine to reduce the risk and future impact from *Dothistroma septosporum*.

Restoring ancient woodland sites to native woodland species remains a priority objective.

- *Conifer stands will be restored to native species by thinning, small-scale regeneration felling, natural regeneration and controlling unwanted invasive species.
- *Ancient woodland sites will be buffered by converting adjacent conifer stands to predominantly broadleaf woodland.
- *Maintain existing and develop additional deadwood resource through management interventions and allowing natural mortality of some large dimension trees.



Landscape character is strongly influenced by the flat, level, agricultural fields surrounding Bishop Wood.

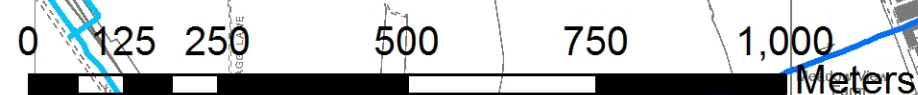
- *Continuous cover management will contribute toward the development of a more diverse forest habitat.

The network of watercourses passing through Bishop Wood connect with downstream waterbodies classed as 'Moderate' under the Water Framework Directive.

- *Future habitat along riparian corridors will replace conifer crops with broadleaf-dominant species, buffering impacts of future forest management.

FP Map 05 - Analysis and Concept

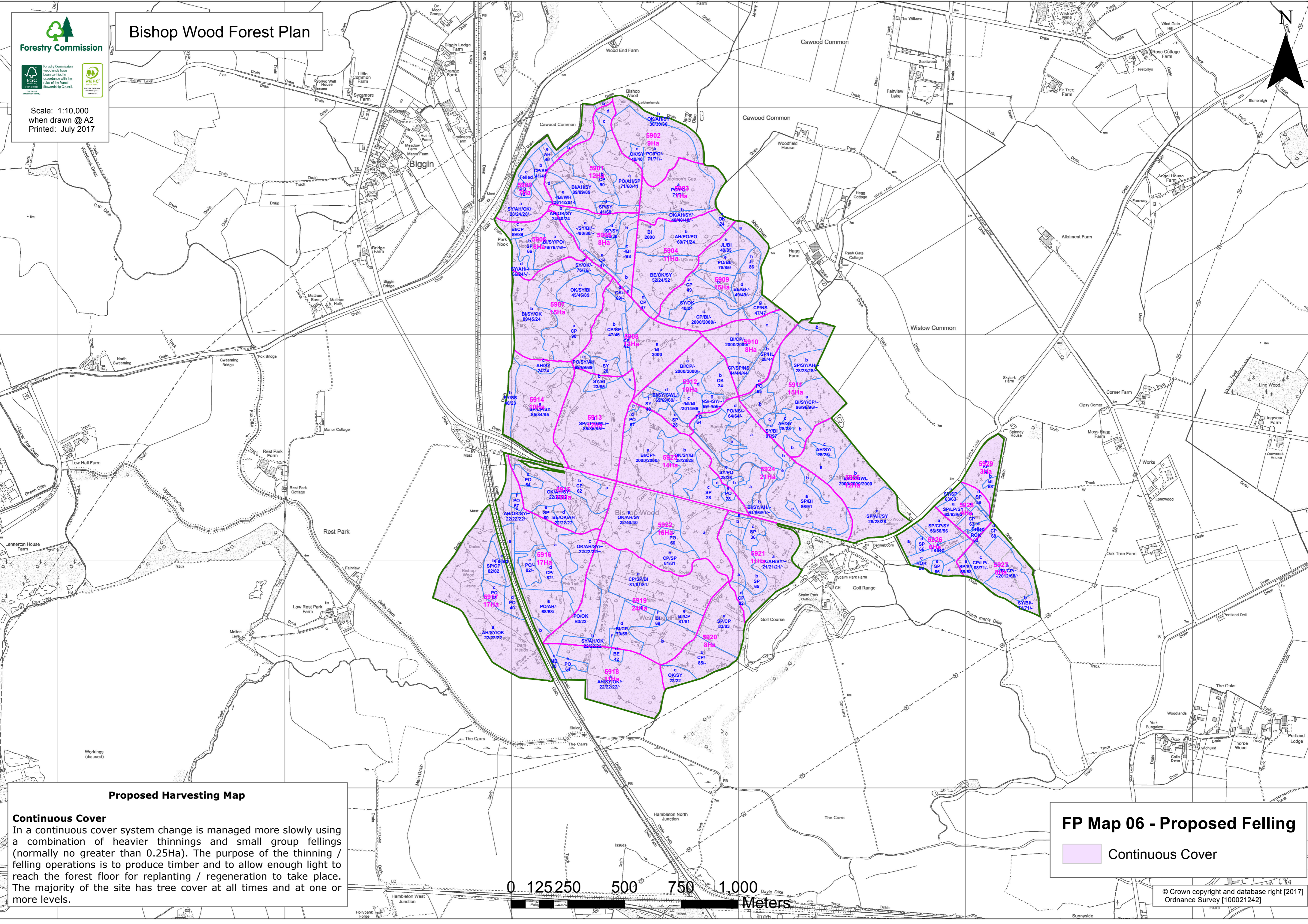
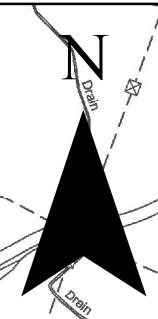
- Convert to predominantly mixed broadleaves
- Restore ancient woodland sites
- Watercourses and riparian buffers





Scale: 1:10,000
when drawn @ A2
Printed: July 2017


Bishop Wood Forest Plan

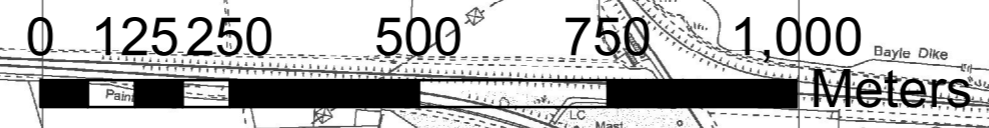


Proposed Harvesting Map

Continuous Cover
In a continuous cover system change is managed more slowly using a combination of heavier thinnings and small group fellings (normally no greater than 0.25Ha). The purpose of the thinning / felling operations is to produce timber and to allow enough light to reach the forest floor for replanting / regeneration to take place. The majority of the site has tree cover at all times and at one or more levels.

FP Map 06 - Proposed Felling

 Continuous Cover

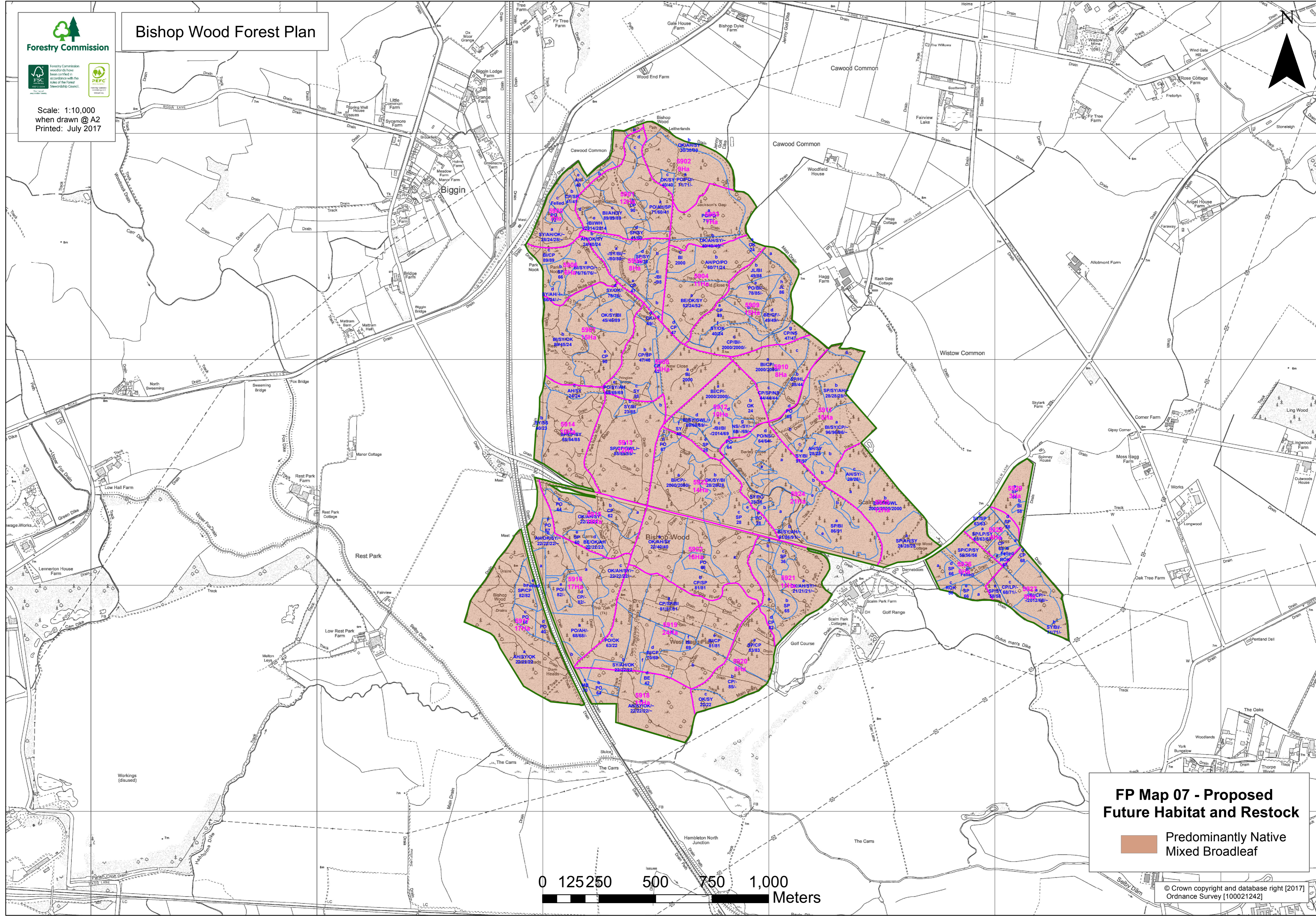





Bishop Wood Forest Plan



Scale: 1:10,000
when drawn @ A2
Printed: July 2017



FP Map 07 - Proposed Future Habitat and Restock

 Predominantly Native Mixed Broadleaf

