Gilling Forest Plan
FP 54
2022

Yorkshire Forest District

Forestry England - Property

Forest District:	Yorkshire
Woodland or property name:	Gilling
Nearest town, village or locality:	Ampleforth
OS Grid reference:	SE 588760
Local Authority district/unitary Authority:	North Yorkshire County Council

Areas for approval

	Conifer	Broadleaf	Open
Felling	20.5		
Lower Impact Silvicultural Systems regeneration felling	40.8		
Restocking	41.3	17.2	2.8

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

2. I confirm that the pre-consultation, carried out and documented in the Consultation Record attached, incorporated those stakeholders which FS 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 all permissions necessary for the implementation of the approved Plan.

CONTENTS

Gilling

542.2 Hectares

Period of Plan: 2022 - 2032

1. Background

Gilling Forest is part of a network of forests managed by Forestry England (FE), Yorkshire Forest District, located within the York Beat. It is situated approximately 7km south of Ampleforth within the Howardian Hills Area of Outstanding Natural Beauty.

The forest is a leasehold property with the majority of Gilling Wood acquired in 1931 which was planted soon afterwards and the surrounding blocks known locally as Oulston Moor, Grimston Moor and Coulton Moor were added in the 1950's and 1960's.

2. Describing the Site

2.1 Geology and Soils (FP Map 01)

Underlying geology varies between a complex range of Jurassic sedimentary bedrock of sandstone, siltstone and mudstones.

The soils at Gilling are heavily influenced through a combination of geology and slope resulting in a variety of soil types; surface-water gleys and gleyed brown earths dominate the valley sites with their associated watercourses whereas freeing draining ironpan and podzolic brown earths occupy higher elevation sites across the flatter plateau. Based on Forest Research Ecological Site Classification (ESC), soils range between slightly dry-fresh soil moisture regime (SMR) and very poor soil nutrient regime (SNR) across the plateau, and very moist-moist SMR and fertile-very poor SNR across the valley sites. The difference between SMR and SNR impacts on the range of 'suitable' species supported by ESC that can be considered for restocking/regenerating although objectives and silvicultural management may vary between site types.

2.2 Tree Species (FP Map - 02)

Species	2009		2021	
	Ha	%	Ha	%
Larch	173.53	32	151.97	28
Pine	108.45	20	108.25	20
Other evergreen	81.34	15	70.75	13
Spruce	65.07	12	63.14	12
Broadleaves	75.92	14	112.56	21
Open/other	37.96	7	19.37	3
Felled	0	0	15.74	3

The more notable changes in species composition over the past ten years has been the reduction in larch (European, Japanese, Hybrid) and an increase in broadleaf species (birch, oak, ash, willow, alder). Open/other and felled categories have been separated for 2020 whereas these were combined in 2009. Areas that were felled in 2009 have subsequently regenerated with either conifer or broadleaf species.

2.3 Wind Damage

The overwhelming majority of sub-compartments are Windthrow Hazard Class 1 or 2 where thinning regimes are relatively unconstrained. A small number of sites are in the intermediate hazard class 3 where thinning options can be more limiting and particular care needs to be taken over the timing, pattern and intensity of thinning to avoid precipitating the onset of serious windthrow. To date there is little evidence of windthrow across this forest block and thinning over the last ten years has been carried out across more than half of the forest area.

2.4 Landscape (Photographic montage)

The forest covers two distinct character areas[1]; 'Plateau' and 'Upland Fringe' with the latter further sub-divided into 'Northern plateau fringe and Southern plateau fringe' and is located toward the western quadrant of the AONB. The forest is referenced in the document with the following descriptions;

Plateau

'Retain and reinforce the 'isolated almost upland' character, resist unsympathetic development and explore opportunities to diversify and soften the impact of 'hard-edged' woodlands'

Under the previous plan clearfelling has been carried out at Grimston and Coulton Woods at a number of locations, creating softer and more irregular external boundaries. Fixed-point photographs of both external and internal views support the changing structure across the forest and demonstrate how this provides a positive contribution to the overall landscape.

Upland fringe – Northern plateau fringe

'Seek opportunities to diversify and soften the impact of woodlands and restore key elements of the former historic parkland character'

To date, recent felling of *phytophthora* infected larch across Park Wood has seen an increase in the proportion of broadleaf woodland on this ancient woodland site, diversifying and softening the visual impact of conifer woodland.

2.5 People and Community (FP Map – 03)

A number of public rights of way pass through the property and there is informal use of the forest roads and rides by local dog walkers, particularly across Park Wood, Piper Hill, Yearsley Moor and Windygates.

There is no formal provision for recreation within the area as this is not supported by the terms of the leases across the property.

2.6 Natural Heritage (FP Map – 03)

Gilling Forest hosts a range of flora, fauna and bio-diverse habitats, of which the following features are identified in the AONB Management Plan[1];

Calcareous ash woodland, sessile oak woodland, alder wet woodland, calcareous and neutral grasslands and flushes, sphagnum mire, veteran Scots pine and heathland vegetation.

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[1] Howardian Hills AONB Management Plan 2019-2024

There are 111 ha of ancient woodland sites located across two sites; 90.04 ha at Park Wood/The Wilderness and 21.0 ha at Pond Head Wood/Moorside Plantation. Although predominantly Plantation Ancient Woodland Sites, parts are classed as Ancient and Semi-natural Woodland. Over the course of the previous plan significant areas of conifer have been restored to site-native broadleaf species.

The forest supports a wide range of national and regionally important bird species across different habitat types (see Appendix 1):

Priority woodland birds in decline – Tree pipit, Bullfinch, Dunnock, Lesser redpoll, Marsh tit, Willow tit, Spotted flycatcher, Willow warbler, Song thrush, Lesser spotted woodpecker, Redstart and Woodcock,
Woodland specialist – Firecrest, Wood warbler,
Farmland / woodland edge – Turtle dove, Linnet, Yellow hammer and Kestrel.

The property also supports Schedule 1 birds of prey.

A network of streams, water courses and open water bodies 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.

2.7 Cultural Heritage (FP Map 03)

The property has a wide range of heritage features including 9 scheduled Bronze-age monuments across Yearsley, Grimston and Coulton. Gilling Castle Grade II registered park and gardens designation covers the majority of Gilling main block.

All scheduled monuments have approved management plans as agreed with Historic England through which 6 are at 'vulnerable – improving', 1 at 'vulnerable – stable' and 1 at 'low risk'. One monument is 'at risk' status and is being managed for bracken encroachment.

The forest supports over 60 unscheduled features including 13th to 19th century bell pits, Roman period through to 19th century quarries, 14th century boundary wall/deer park/park pale and prehistoric dyke.

During the previous plan, the site of a previously unrecorded water corn mill at Yearsley Moor was found, and as part of the Yearsley Mill Research Project formed an excavation project to learn more of the site.

3. Describing the Project

3.1 Project Brief

- manage natural and cultural heritage sites in accordance with their requirements as per agreed management plans and district policy,

- increase the proportion of native broadleaf cover, particularly across conifer PAWS, along riparian buffer zones and parts of Pond Head Wood.

- consider the selection of alternative main 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 forest age structure and landscape impact by use of appropriate silvicultural systems.

3.2 Objectives

People

- Encourage communities to become involved across these woods, its management and direction through consultation in planning and participation in volunteering. To be measured by FC systems.

- Maintain and improve the woodlands contribution to the landscape character within the Howardian Hills character types. To be measured by fixed-point photography.

Nature

- Improve the resilience of the natural environment to pests, diseases and wildfires and realise the potential of these woods for nature and wildlife, to be measured by FC systems.

- Maintain the cultural and ecological heritage value of these woods, to be measured by Historic England, Howardian Hills AONB and FC systems.

Economy

- All of our forests and woodlands are certified to the Forest Stewardship Council®(FSC®) licence code FSC-C123214 and the Programme for the Endorsement of Forest Certification (PEFC) licence code PEFC/16-40-1001 standards. We will maintain the land within our stewardship certified against the UK Woodland Assurance Standard, as independently assessed by annual 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 FC systems.

3.3 Opportunities & Constraints

- Larch species are the largest component across the forest and present a significant risk from infection by *Phytophthora ramorum* (PR). Since its discovery in 2015 PR has been managed through a number of Statutory plant health notices and deployment of biosecurity measures to reduce the impact of future infections.

- *Rhododendron ponticum* is recorded across various locations and as an invasive species can have a negative impact across a range of semi-natural habitats. It is also a host species to *P.ramorum* and can act as a vector for future infections.

- Mature ash infected by *Chalara* may pose an increasing risk where associated with informal access routes and site safety.

- The increasing incidence of mountain bike wild trails and the associated impact on staff resource, site safety, natural and cultural heritage sites.

- Good levels of natural regeneration across Gilling offer opportunities to regenerate increasing areas managed through Low Impact Silvicultural Systems (LISS). Although Roe deer are present there are low levels of browsing pressure.

3.4 Implementation

3.4.1 Conservation

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

Archaeological sites

All sites, regardless of their designation, will receive the same level of care during the planning and execution of forest operations. The Operational Site Assessment (OSA) system will ensure they are recognised and the proper measures for their protection are in place before work begins. This planning system also ensures that, where possible, opportunities to enhance the condition of archaeological interest are taken during routine forest work through liaison with Historic England and Howardian Hills AONB.

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 Gilling this will include:

- Increase and improve the deadwood resource as set out in – 'Deadwood - Policy, Procedures, Guidance (PPG) 51 (2018)'. Areas of high ecological value across which deadwood resources could be encouraged include; Ancient Woodland, riparian zones, Long Term Retention sites and areas of broadleaf woodland.

  Increasing quantities of *chalara* infected ash, particularly across ancient woodland sites provide opportunities for deadwood development but need to be managed in line with the District Tree Safety Management policy where visitor numbers are high and safety is paramount.

- 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'.

  'FC – Managing England's woodlands in a climate emergency' provides guidance to implement adaptation actions including the acceptance of naturalised species and assisted migration.

- Increase the diversity of tree species and age structure that will maintain and improve favourable conditions for target species and identified habitats. This is particularly beneficial for the range of habitats and species recorded at Gilling from which a selection has already been mentioned at 2.6 - Natural Heritage.

- A number of watercourses currently identified through the Water Framework Directive (WFD) assessment are located within and adjacent Gilling. Work undertaken through this plan will contribute to improving their water quality and aquatic ecology, through replacing existing conifer crops with predominantly broadleaf species and considering opportunities to address known issues. Management using LISS and phasing of felling will avoid significant lengths of watercourse being felled at any one time throughout the approval period of the plan.

Minimum Intervention – Candidate Natural Reserve

Sites that have the potential to deliver greatest biodiversity benefit but without the formal designation as defined by UKWAS. There are 7.11 ha located at Moorside Plantation.

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.

Through this plan 14.25 ha are designated LTR.

Invasive species

As previously highlighted, *rhododendron* can be problematic, and its control will need to be prioritised depending on the level of risk it poses to priority habitats. Likewise, *Himalayan balsam* and Japanese knotweed is recorded within the locality and its potential progress in-wood will be monitored and the level of risk it poses will be assessed at that time.

3.4.2 Timber Harvesting

We will continue to sustainably harvest timber from clear felling, Lower Impact Silvicultural Systems (LISS) and thinning. Where appropriate we will 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 Gilling.

3.4.3 Landscape

Gilling Forest lies within the Howardian Hills Area of Outstanding Natural Beauty, a protected and designated landscape, where felling as viewed from various viewpoints has softened the impacts of hard geometric boundaries and even-aged plantation forest. The mosaic of habitats developing across these sites provides opportunities to manage a more diverse forest with a wider range of tree species and age classes.

Appropriate scale felling across the coniferous parts of the forest will continue the process of restructuring, moving away from even-aged, single species stands to a more mixed conifer/broadleaf woodland.

Over time LISS with associated smaller-scale felling will contribute toward a more varied and intimate internal forest landscape, where simple and complex stand structures create a more diverse visitor experience within the forest.

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

3.5 Plan (FP Map 04)

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 fell and restock maps.

3.6 Areas (FP Maps 05, 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 (m³)
2022 – 2026 Clearfell	14.2	2.6	3,560
2027 – 2031 Clearfell	6.3	1.1	3,400
LISS regeneration felling*	40.8	7.5	10,200

* A proportion of Gilling will be managed using LISS through the Strip Shelterwood and Group Shelterwood silvicultural systems. During the plan period, it is proposed areas of LISS where crops are over 25 years old will receive a silvicultural intervention (thinning or regeneration felling). As a result of this intervention, the above area of woodland cover will be strip-felled and regenerated through a combination of restocking and natural regeneration, removing no more than 25% of the stems within any single compartment over the plan period.

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 Plan folder.

Habitat type	Area - hectares			% age of total area		
	2022	2032	2072	2022	2032	2072
Conifer	394.1	374.5	313.3	73	69	58
Broadleaf	112.6	129.8	169.9	21	24	31
Open inc. agriculture, felled, riparian corridors, roadside/ride side verges etc	35.1	37.9	59.0	6	7	11

3.7 Methods / Forest Operations

3.7.1 Planning

Before any major forest operations are undertaken an OSA is completed. This document details the proposed work and outlines all known environmental, social and operational considerations. The OSA then becomes an important reference document during the planning phase, at the pre commencement meeting before scheduled works begin and for supervisory visits during the operation. The OSA is kept along with other documents relating to the operation in the main office.

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.

Regarding wildfire, we will follow guidance as set out in 'FC Practice Guide – Building wildfire resilience into forest management planning'. This will be applied proportionately dependant on a particular forest or woodland.

3.7.2 Standards

All operations within the forest will be carried out in accordance with the following standards;

- U.K. Woodland Assurance Standard
- U.K Forestry Standard (published 2017).

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 LISS

All plans are required to consider 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'. Where existing coupes are not identified for LISS management, we may consider managing these on an extended rotation basis to be thinned and monitored for future consideration for conversion to LISS.

Using the FC Forest Research Agency ESC system, a range of conifer species are considered 'optimum' to 'suitable' for LISS where timber production is considered as an objective. Through this plan the area to be managed under LISS has increased from 226 ha to 468 ha.

See Appendix 2 – LISS 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, Fifth Edition (2020), which aims to improve the safety and environmental standards of the timber haulage industry.

3.7.5 Restocking

Conifer

The areas of LISS regeneration felling will be established through a combination of natural regeneration and replanting using alternative productive conifer species to diversify species and age structure to continue to provide a sustainable timber resource, whilst mindful of the projected impacts of climate change. The FC Forest Research Agency, Ecological Site Classification system (ESC) will aid species choice and selection. A range of timber producing conifer species as set out in Appendix 2 and Appendix 3 'Species by soil type' will help inform restocking options.

Reference to Predominantly Mixed Conifer on the Future Habitat & Species Map will be used to describe those areas where a range of species will be planted and/or regenerated, where conifer species will comprise at least 80% of the component mix.

As indicated at 3.7.1, the Operational Site Assessment will provide site-specific data on soils and other site factors that will help inform the correct choice of species on a site-by-site basis.

All sites will achieve at least 2500 conifer stems per hectare through planting, natural regeneration or a combination of both.

Broadleaf

There are 111 ha Ancient Woodland Sites across Gilling Forest which currently ranges between semi-natural class 1 or 4 (see section 4.1 Habitat Condition). Where Conifer PAWS are either clear felled

or managed through LISS regeneration felling through this plan, regeneration will be carried out through a combination of planting site-native species and natural regeneration. Sites will achieve at least 1100 broadleaf stems per hectare. We will accept 'naturalised' species i.e. beech and sycamore where these can enhance resilience to impacts of climate change.

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 part of routine felling or thinning operations.

Broadleaf regeneration (indicative)

Oak/Ash/Alder (lower slopes)   ↑ *Preferable*

Oak/Birch/Rowan/Holly (mid to upper slopes)

Beech/Sycamore

Larch

Pine

Fir

Spruce/Hemlock   ↓ *Less preferable*
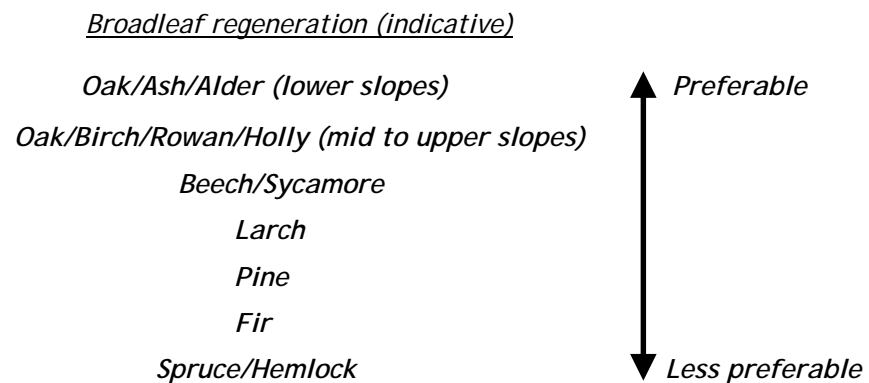
Reference to Predominantly Mixed Broadleaf on the Future Habitat & Species Map will be used to describe those areas where a range of species will be planted and/or regenerated, where broadleaf species will comprise at least 70% of the component mix.

Where conversion from conifer to predominantly broadleaf woodland is proposed, sites will achieve at least 1100 broadleaf stems per hectare though natural regeneration, planting or a combination of both.

3.7.6 Wildlife Management

Although Roe deer are present there are low levels of browsing pressure.

4. Monitoring

See Appendix 4 – Monitoring Plan

4.1 Habitat condition

Over the lifetime of the plan where maintaining semi-naturalness is important, such as Ancient Woodland Sites, we will monitor and record levels of change through the Sub-Compartment Database and the resulting Semi Natural Class scores. Across these sites we will maintain stands at SN Class 1 and gradually manage other sites towards this target composition.

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.

4.2 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 2027 with opportunity to share information where requested. This time period can be shortened if circumstances change significantly or if parts of the plan prove detrimental to the overall aims and objectives.

Where an amendment to the Forest Plan is required, the Forestry Commission Practice Delivery Note 01 – Tolerance Table will be applied as set out in Appendix 5.

4.3 UKWAS Compliance Table

Maintain the land within our stewardship certified against the UK Woodland Assurance Standard, as independently assessed by annual independent surveillance audits.

	Forest Plan Area (ha)	Forest Plan Percentage	Forest District Area (ha)	Forest District Percentage
Total Area	542.2	100	20,971	100
Total Wooded area	507.9	94	18,594	89
Natural Reserves – Plantation (1%)	Nil	Nil	294	1.7
Natural Reserves – Semi-natural (5%)	Nil	Nil	101	5.6
Long-term Retentions and Low Impact Silvicultural Systems (>1% Wooded area)	482.8	89	9,356	45
Area of conservation value(>15% Total area) including designations; PAWS, ASNW, NR, LTR, LISS	491.76	91	9,356	45
Planned Open (Managed/Successional)	35.1	6	3,203	15

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. Keepers of time: ancient and native woodland and trees policy in England (publishing.service.gov.uk)

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 existing and new native woodlands.

5.2 Flora

Heathland is a UKBAP Priority Habitat

Within woods, concentrate on open space habitat expansion and management, developing heathland, neutral grassland and acid mires.

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

This plan will continue the management and development of heathland where this will improve habitat networks across Gilling forest. Maintaining a mixed resource of temporary and permanent open space with heathland flora will provide suitable habitat for priority woodland bird species. There are no plans to create new areas of permanent open heathland through this Forest Plan.

5.3 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 Gilling. 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 priority woodland bird species throughout the woodland (Appendix 1 – Priority woodland bird species).

Appendix 1 – Priority woodland bird species

Bird Species [1]	Forest location	Habitat enhancement
Woodcock Dunnock Linnet	Developed shrub layer	Continue selective thinning and regeneration felling as part of LISS management, this will allow the development of shrub layer structure and increased structural and species diversity. Expand diverse riparian woodland habitat, create and maintain successional woodland (birch and oak)/scrub habitat and standing deadwood.
Willow warbler Garden warbler Spotted flycatcher Starling Willow tit Marsh tit Bullfinch Yellowhammer Lesser redpoll Tree sparrow	Woodland edge, ride, glade	Continue selective thinning and regeneration felling as part of LISS management, this will allow the development of shrub layer structure and increased structural and species diversity. Expand diverse riparian woodland habitat, create and maintain successional woodland (birch and oak)/scrub habitat and standing deadwood.

[1] Source – BTO Bird Atlas and Breeding Bird Survey data for NZ80 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 2 – LISS justification

Site Appraisal

Site Factor	Suitability Score	Comment
Wind Hazard Classification: Majority of the forest is WHC 1 and 2	1	ESC indicates rooting depth ranges between 40 cm to 100 cm.
Soil fertility: Brown surface-water gley/Typical iron pan	1	Competing ground vegetation is generally that associated with poor sites although localised areas of bramble indicate increased fertility.
Podzolic brown earth	2	More fertile conditions can lead to issues with competing vegetation. Apply appropriate vegetation management and/or manipulate upper canopy to reduce light levels reach forest floor.
Current species suitability: JL, HL, SP, SS, Oak, Alder, Sycamore DF, NS, EL, Silver birch, Beech, Ash,	1 – Very suitable 2 - Suitable	Advanced natural regeneration already occurs across a range of conifer and broadleaf species, either as developing understorey where light levels are favourable or across clear fell sites.

With a combined score ranging between 3 and 4, initial analysis indicates significant parts of Gilling achieve a Good site ranking for transformation to LISS. Remaining areas achieve Medium ranking with a score of 5.

Stand Appraisal

Stand form – Overall stand form across the majority of conifer species is good but more variable across broadleaf species.

Thinning history – Regular thinning has been carried out across the majority of 1st rotation conifer stands resulting in good crown development. First thinning has also been carried out across 2nd rotation conifer stands where threshold basal area has been reached, providing opportunities for subsequent selective thinning to improve crown development. The majority of 1st rotation broadleaf stands have been thinned. Currently there is good evidence that a range of conifer and broadleaf species are capable of developing through natural regeneration across sites.

The impact from *P.ramorum* and *Chalara* on larch and ash species will need to be monitored as to how this might impact on future stand composition, depending on what the management objectives are for those sites. True Hybrid larch is showing some tolerance to PR and as a productive conifer species will still be considered as very suitable.

Access – This is not a limiting factor as good infrastructure exists across the majority of the forest areas.

On the basis of the above information, we will consider LISS across conifer, broadleaf and mixed species stands with the aim of increasing species diversity through the establishment of natural regeneration and enrichment planting using a wide-range of species identified as Very Suitable/Suitable on the site suitability reports overleaf, aiming initially for a simple stand structure.

We will adopt a Strip Shelterwood system across conifer and mixed species stands, where strips will aim to be between 20 to 25 m wide and a Group Shelterwood system across broadleaf stands.

Some areas of high forest/clearfell coupes will be managed on an extended rotation basis and will be monitored for development of natural regeneration. Where appropriate these will be considered for developing toward LISS management as set out above.

Future wildlife management issues may arise where deer browsing could impact across strips as more palatable species are introduced. Temporary deer fencing, site monitoring and adherence to the District Deer Management strategy will help inform future management.

The Forest Research ESC table below supports the range of target species considered for natural regeneration and those identified as very suitable (dark green) and suitable (light green) where enrichment planting will increase species diversity. For Gilling, enrichment planting could consider the introduction of Macedonian pine, Coast redwood, Western red cedar, Japanese red cedar and European silver across areas to be managed as productive, conifer dominant woodland and Hornbeam, Wild cherry and Small-leaved lime for productive broadleaf dominant areas.

Ecological Site Classification Report

Eastings(m)	Northings(m)	Grid Reference	Climate Scenario	Site Class	Filter	Brash	Drainage	Fertiliser/Nurse
458900	475600	SE589756	Medium-High 2080 (A1b/3g0) AWC method	Very warm - Sheltered - Slightly dry	Conifers only	Brash present aged less than 18 months	No drainage installed	Mixture applied

Site Description and Variables

The site has a very warm, sheltered and slightly dry climate. The soils are slightly dry moisture status and vp3 very poor nutrient status. On shallow/sandy soils there are increased risks of drought related stem crack to fast growing conifers such as Grand fir and Noble fir. The analysis assumes that site management (e.g. CCF), the use of deep rooting species and/or soil properties will help mitigate climatic moisture deficits. Brash will be redistributed evenly across the site to provide nutrients and avoid uneven growth. Nutrient deficiencies are primarily due to nitrogen availability, and will be ameliorated through planting target species in an intimate mixture with one or more of Scots pine, Alaskan Lodgepole pine, Larch, Birch or Alder. The site DAMS score has been reduced due to either a) an intention to underplant species with the benefit of shelter from established trees or b) local observations of additional shelter/less exposure.

Modifications	AT	CT	DAMS	MD	SMR	SNR
Default	2537.0	9.0	11.0	225.0	6.0(Slightly dry)	1.0(VP3 Very poor)
Brash						0.5
Nursing mixture						0.5
Dams Modifier			-2			
Final	2537.0	9.0	9.0	225.0	6.0(Slightly dry)	2.0(Poor)

Species	Abbr.	Suit(Ecol)	Suit(Timber)	Yield	Limiting	AT	CT	DAMS	MD	SMR	SNR	Version
Corsican pine	CP	●	●	16	SNR	●	●	●	●	●	●	3.3(A)
Lodgepole pine	LP	●	○	10	SNR	●	●	●	●	●	●	3.1(A)
Macedonian pine	MCP	●	●	11	SMR	●	●	●	●	●	●	3.1(C)
Maritime pine	MAP	●	●	11	CT	●	●	●	●	●	●	3.1(C)
Monterey/Radiata pine	RAP	●	●	17	CT	●	●	●	●	●	●	3(C)
Scots pine	SP	●	●	12	SNR	●	●	●	●	●	●	3.3(A)
Weymouth pine	WEP	○	○	7	SNR	●	●	●	●	●	○	3(C)
Norway spruce	NS	○	△	11	ATS	○	●	●	○	○	○	3.3(A)
Oriental spruce	ORS	○	○	13	SNR	●	●	●	●	●	●	3(C)
Serbian spruce	OMS	○	△	10	SNR	●	●	●	●	●	●	3(B)
Sitka spruce	SS	○	○	16	SNR	●	●	●	○	○	○	3.4(A)
Sitka spruce (Imp.)	Imp.SS	○	○	18	SNR	●	●	●	○	○	○	3.4(A)
Douglas fir	DF	○	○	18	SNR	●	●	●	●	●	●	3.1(A)
Hybrid larch	HL	●	●	13	SNR	●	●	●	●	●	●	3(A)
Japanese larch	JL	●	●	11	SMR	●	●	●	●	●	●	3(A)
European larch	EL	○	○	8	SNR	●	●	●	●	●	●	3(A)
Western red cedar	RC	○	○	16	SNR	●	●	●	○	○	●	3.1(A)
Japanese red cedar	JCR	○	○	15	SNR	●	●	●	●	●	○	3(B)
European silver fir	ESF	○	○	13	SNR	●	●	●	●	●	○	3(B)

Ecological Site Classification Report

Species	Code												
Grand fir	GF	🔺	🔺	12	SMR	🟢	🟢	🟢	🟢	🔺	🟢	3(A)
Noble Fir	NF	🔴	🔴	0	AT5	🔴	🟢	🟢	🔴	🔺	🟢	3(A)
Nordmann fir	NMF	🟢	🟢	13	SNR	🟢	🟢	🟢	🟢	🟢	🟢	3(C)
Pacific fir	PSF	🟢	🟢	13	SMR	🟢	🟢	🟢	🟢	🟢	🟢	3.4(C)
Leyland cypress	LEC	🟢	🟢	13	SNR	🟢	🟢	🟢	🟢	🟢	🟢	3(B)
Western hemlock	WH	🔺	🔴	5	SMR	🟢	🟢	🟢	🟢	🔺	🟢	3(A)
Giant redwood	WSQ	🔺	🔺	10	SNR	🟢	🟢	🟢	🟢	🟢	🔺	3(B)
Coast redwood	RSQ	🟢	🟢	17	SNR	🟢	🟢	🟢	🟢	🟢	🟢	3(B)
Lawson's cypress	LC	🟢	🟢	14	SMR	🟢	🟢	🟢	🟢	🟢	🟢	3(B)

Ecological Site Classification Report

Eastings(m)	Northings(m)	Grid Reference	Climate Scenario	Site Class	Filter	Brash	Drainage	Fertiliser/Nurse
459200	476200	SE592762	Medium-High 2080 (A1b/3q0) AWC method	Very warm - Sheltered - Slightly dry	Broadleaves only	Brash present aged less than 18 months	No drainage installed	Mixture applied

Site Description and Variables

The site has a very warm, sheltered and slightly dry climate. The soils are moist moisture status and medium nutrient status. The analysis assumes that site management (e.g. CCF), the use of deep rooting species and/or soil properties will help mitigate climatic moisture deficits. Brash will be redistributed evenly across the site to provide nutrients and avoid uneven growth. Nutrient deficiencies are primarily due to nitrogen availability, and will be ameliorated through planting target species in an intimate mixture with one or more of Scots pine, Alaskan Lodgepole pine, Larch, Birch or Alder. The site DAMS score has been reduced due to either a) an intention to underplant species with the benefit of shelter from established trees or b) local observations of additional shelter/less exposure.

Modifications	AT	CT	DAMS	MD	SMR	SNR
Default	2594.0	9.0	9.0	231.0	4.0(Moist)	3.0(Medium)
Brash						0.0
Nursing mixture						0.0
Dams Modifier			-2			
Final	2594.0	9.0	7.0	231.0	4.0(Moist)	3.0(Medium)

Species	Abbr.	Suit(Ecol)	Suit(Timber)	Yield	Limiting	AT	CT	DAMS	MD	SMR	SNR	Version
Downy birch	PBI	▲	▲	3	AT5	▲	●	●	●	●	●	3.2(A)
Silver birch	SBI	●	●	5	AT5	●	●	●	●	●	●	3.2(A)
Big leaf maple	AMA	●	●	7	CT	●	●	●	●	●	●	3.1(C)
Norway maple	NOM	●	●	7	AT5	●	●	●	●	●	●	3(B)
Sycamore	SY	●	●	10	AT5	●	●	●	●	●	●	3.3(A)
Beech	BE	●	▲	5	AT5	●	●	●	●	●	●	3.1(A)
Roble beech	RON	●	▲	9	AT5	●	●	●	●	●	●	3.1(B)
Ash	AH	●	●	6	SNR	●	●	●	●	●	●	3(A)
Pedunculate oak	POK	●	●	8	AT5	●	●	●	●	●	●	3.1(A)
Red oak	ROK	●	●	8	MD	●	●	●	●	●	●	3(B)
Sessile oak	SOK	●	●	6	SMR	●	●	●	●	●	●	3.2(A)
Aspen	ASP	●	●	6	AT5	●	●	●	●	●	●	3.2(A)
Black poplar	BPO	●	●	9	SNR	●	●	●	●	●	●	3.1(A)
Raul beech	RAN	●	●	12	AT5	●	●	●	●	●	●	3.1(B)
Common alder	CAR	●	●	9	SNR	●	●	●	●	●	●	3.2(A)
Red alder	RAR	●	●	7	AT5	●	●	●	●	●	●	3(B)
Grey alder	GAR	●	▲	5	AT5	●	●	●	●	●	●	3.1(B)
Italian alder	IAR	●	●	8	CT	●	●	●	●	●	●	3.2(B)
Shining gum	ENI	●	●	30	AT5	●	●	●	●	●	●	3(C)

Ecological Site Classification Report												
Cider gum	EGU	●	●	15	ATS	●	●	●	●	●	●	3(C)
Rowan	ROW	●	●	3	ATS	●	●	●	●	●	●	3.3(A)
True service tree	TST	●	●	5	SMR	●	●	●	●	●	●	3(A)
Wild service tree	WST	●	●	6	SMR	●	●	●	●	●	●	3(A)
Black walnut	JNI	●	●	8	SMR	●	●	●	●	●	●	3(B)
Common walnut	JRE	●	●	5	SNR	●	●	●	●	●	●	3(B)
Hornbeam	HBM	●	●	10	SMR	●	●	●	●	●	●	3(A)
Small-leaved lime	SLI	●	●	7	SNR	●	●	●	●	●	●	3(A)
Wych elm	WEM	●	●	7	SNR	●	●	●	●	●	●	3(A)
Wild cherry	WCH	●	●	10	ATS	●	●	●	●	●	●	3(A)
Sweet chestnut	SC	●	●	8	SMR	●	●	●	●	●	●	3(A)
White willow	WWL	●	●	6	SNR	●	●	●	●	●	●	3(C)
Holly	HOL	●	●	3	SMR	●	●	●	●	●	●	3(C)

Appendix 3 - Restock species by soil type

Site type		SP	LP	MCP	DF	ESF	GF	WH	WRC	Ley/Law C	Coast R	Giant R	HL	SS	NS	Oriental S
Upland sites	Lowland sites															
Gley						y		y	y	y				Y	Y	y
Iron pan/podzol		Y	y	y	y	y	y				y	y	y		y	y
BE/intergrade		Y		y	Y	y	y	y	y	y	y	y	y	y	Y	y
Calcareous				y		y			y	y						y
	Gley					y		y	y	y	y	y		Y	Y	y
	Podzol	Y	y	y	y	y	y	y	y	y		y	y		y	y
	BE/intergrade	Y		y	Y	y	y		y	y	y	y		y	Y	y

BOLD CAPITAL (Y)/BOLD INFILL COLOUR	**Cat A Major species** - currently widely used with no supply problems and should continue to play an important role
Bold, lower case italics (y), pastel infil colour	**Cat B Minor species** - Species that either currently play a minor role but have demonstrated their suitability being part of a species range to diversify our forests. Climate change may increase or reduce their use
Normal lower case (y), pastel infill colour	**Cat C Secondary species**- Species with little information on forest performance but possible choice based on Arboreta. Use on small-scale experimental basis for now but may increase if favourable results

soucre data   http://www.forestry.gov.uk/fr/treespecies

Refer to cell comments for specific species notes

No planting where >0.5m peat depth

Pacific coast associated forest cover - consider in mixtures as part of management by LISS					
DF	GF	WH	Law C	Coast R	*ESF*

Objective	Method
People	
Maintain and improve the woodlands contribution to the landscape character within the Howardian Hills character types.	Fixed-point photography
Encourage communities to become involved across these woods, its management and direction through consultation in planning and participation in volunteering.	Input data and analyse results through RazorsEdge secure database.
Nature	
Improve the resilience of the natural environment to pests, diseases and wildfires and realise the potential of these woods for nature and wildlife.	Update Forester Web GIS; subcompartment database, Conservation module.
	Review sample of Operational Site Assessments.
Maintain the cultural and ecological heritage value of these woods	Review sample of Operational Site Assessments.
Economy	
Maintain the land within our stewardship under UKWAS certification.	Independent surveillance audit across the organisation.
	Independent surveillance audit across the District.
Improve the economic resilience of these woods from a more diverse range of site appropriate conifer and broadleaf species.	Update Forester Web GIS; subcompartment database, Operational Thinning Layer, Management Coupe Layer.
Site-specific	
Clearfell coupes - boundaries as per approved plan and in compliance with Forestry Commission Practice Delivery Note 01 (FC PDN 01).	GPS unit or equivalent data recorders.
Restock & Future Habitat Coupes - Productive mixed conifer sites. Establish at least 2500 conifer stems per ha by planting and natural regeneration by year 5 since date of initial planting (allowing 2 years fallow for *hylobius*).	On-site stocking density plot surveys.
Restock & Future Habitat Coupes - Mixed broadleaf habitat. Establish at least 1100 broadleaf stems per ha through natural regeneration by year 5 since date of felling.	On-site stocking density plot surveys.
LISS coupes - Productive mixed conifer sites. Establish at least 2500 conifer stems per ha by year 5 after final removal overstorey.	On-site stocking density plot surveys.

PAWS regeneration.	On-site stocking density plot surveys.
Wildlife management - Identify problem sites where mammal damage is affecting crop establishment or degrading woodland flora.	On-site stocking density plot surveys. Damage, Impact and Activity Assessments as set out in YFD Deer Management Strategy.
Plan specific	
Forest Plan mid-term review. Review the plan's aims and objectives and the progress of their implemetation.	Apply a variety of measures as described in the above table.

Forest Monitoring Plan	
Frequency/Timings	**Actions**
Year 0 baseline, 5-year review, 10-year review.	Review visual impact of coupes within the landscape and adjust future coupe shape if necessary.
Quarterly	Review activity across the forest and wider District to measure activity and to provide insight into gaps and future opportunities through volunteering.
As recordable changes occur within the forest environment. At time of Year 0 plan renewal, 5-year review, 10-year review.	Measure changes in diversity across species, age structure, conservation siting's/records and broad habitat types; conifer, broadleaf, open. Ensure positive change through increasing diversity occurs over the lifetime of the plan.
Annually	Provide feedback where management is not compliant with recommendations.
Annually	Provide feedback where management is not compliant with recommendations.

Annually	Implement corrective actions as required.
As per audit sample.	Implement corrective actions as required.
As recordable changes occur within the forest environment and End Of Year updates. Year 0 plan renewal, 5-year review, 10-year review.	Review long-term changes in productive capacity through the Production Forecast at the point of plan renewal and across the wider District.
Upon completion of all harvesting activity.	If significant coupe variation, apply for appropriate ammendment to FC as required as per FC PDN 01 prior to felling. Update Forester Web for completed clearfells.
Beat-up surveys between years 1 to 4. Year 5 stocking assessment, internal guidance OGB4.	Carry out beating up where stocking density falls below prescribed number of trees/ha to achieve full stocking.
Beat-up surveys between years 1 to 5 final year assessment.	Carry out enrichment planting where stocking density falls below prescribed number of trees/ha to achieve full stocking.
Beat-up surveys between years 1 to 4. Year 5 stocking assessment, internal guidance OGB4.	Carry out enrichment planting where stocking density falls below prescribed number of trees/ha to achieve full stocking.

Beat-up surveys between years 1 to 5 year final assessment.	Monitor change from current Semi natural class toward target SN 1 (>80% native). Consider future changes in management that can achieve target score.
Beat-up surveys between years 1 to 4. Year 5 stocking assessment, internal guidance OGB4. Year 9 final assessment.	Target deer control in line with District strategy.
2027	Modify the plans aims and/or objectives where these are no longer compatible with National or District Policy. Significant plan changes will require consultation and formal amendment from the Forestry Commission.

Appendix 5   Agreed Tolerance Table for Yorkshire Forest District, England

	Adjustment to felling coupe boundaries	Swapping of felling coupes	Adjustment to felling operation	Clearance of standing trees associated with wind-blown areas	Timing of restocking - including natural regeneration	Species choice	Tree health
Formal approval by area team required	>25% of the coupe area	Where changes to the felling sequence is likely to result in a significant breach[1] of the UKFS adjacency rules	Thinning to selective felling or clear felling	Clearance of >1 Ha or 10% of the area (whichever is less) in sensitive[2] areas, >5 ha or 25% of the area (whichever is less) in non-sensitive areas	Where this is > 4 planting seasons from the date of felling	From mixed, predominantly Broadleaves to evergreen conifer	Where no SPHN issued and felling required
Written approval only required from area team,[3]	Between 10-25% of the coupe area	Where changes to the felling sequence is likely to result in a minor breach[4] of the UKFS adjacency rules			Where this is at least 2 but no more than 4 planting seasons from the date of felling	Deciduous conifers to evergreen	Thinning >50% but < 65%
Formal approval by area team not required[5]	< 10% of the coupe area	Where changes to the felling sequence does not result in a breach of the UKFS adjacency rules.	Clear felling to selective felling or thinning	Clearance of <1 Ha or 10% of the area (whichever is greater) in sensitive areas, <5 ha or 25% of the area (whichever is greater) in non-sensitive areas	Where this is < 2 planting seasons from the date of felling	Any other changes	Where SPHN is issued or thinning up to 50%

---

[1] Greater than 20% of the coupe boundary

[2] Definition of sensitive areas is as per the EIA guidance

[3] Approval letter retained for compliance inspection purposes
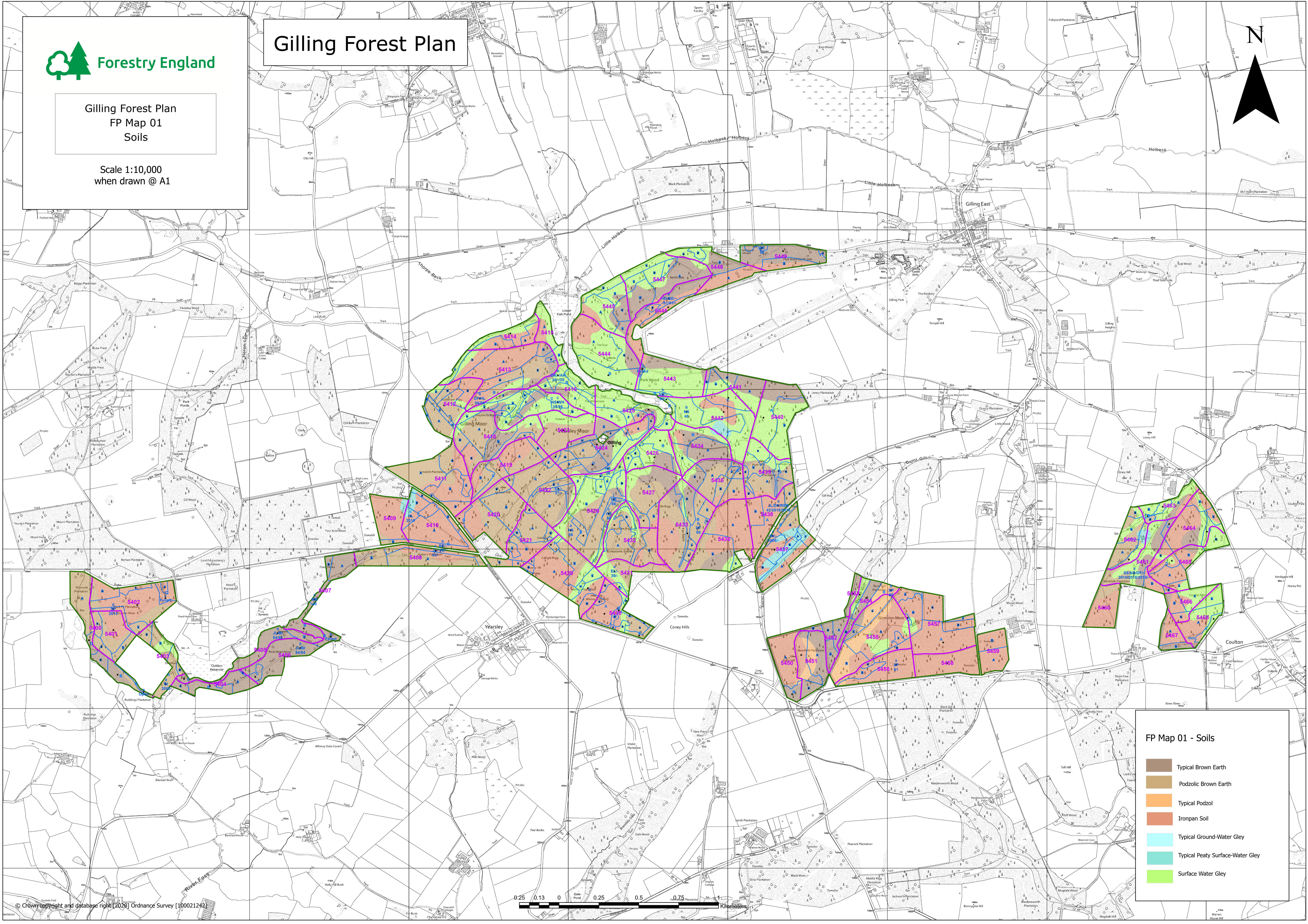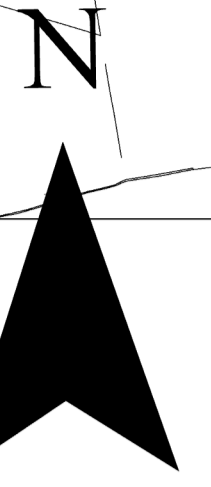
[4] 20% or less of the coupe boundary

[5] District team must retain all relevant documentation for compliance inspections

Forestry England

Title: **Location Map - Gilling**

Date: 11 February 2021

Author: Judith Simpson

Scale @ A1: 1:100,000

Blocks

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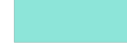© Bluesky International Ltd and Getmapping Plc 2021
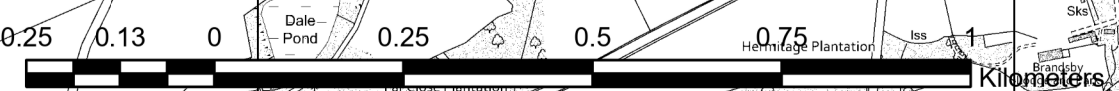
Gilling Forest Plan

Forestry England

Gilling Forest Plan
FP Map 01
Soils

Scale 1:10,000
when drawn @ A1

N

FP Map 01 - Soils

- Typical Brown Earth
- Podzolic Brown Earth
- Typical Podzol
- Ironpan Soil
- Typical Ground-Water Gley
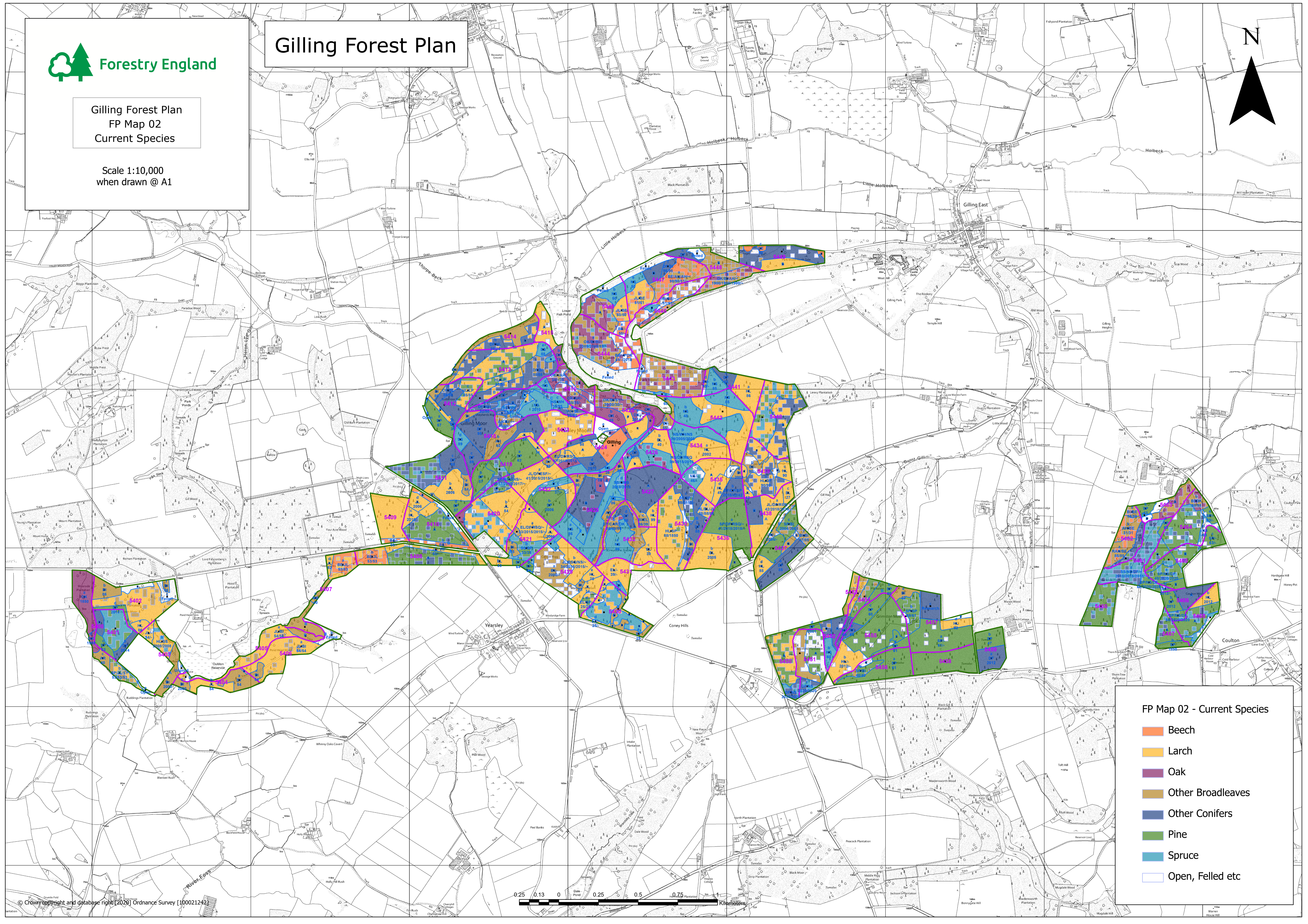- Typical Peaty Surface-Water Gley
- Surface Water Gley

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0.25 0.13 0 0.25 0.5 0.75 1
Kilometers
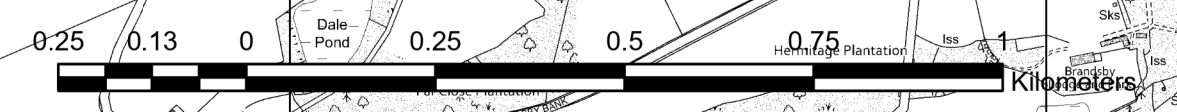
Gilling Forest Plan

Forestry England

Gilling Forest Plan
FP Map 02
Current Species

Scale 1:10,000
when drawn @ A1

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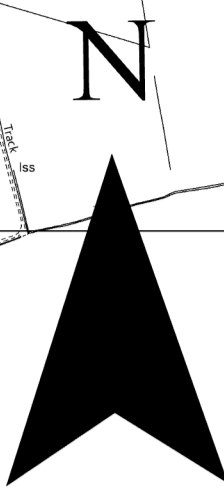
FP Map 02 - Current Species

- Beech
- Larch
- Oak
- Other Broadleaves
- Other Conifers
- Pine
- Spruce
- Open, Felled etc

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0.25 0.13 0 0.25 0.5 0.75 1
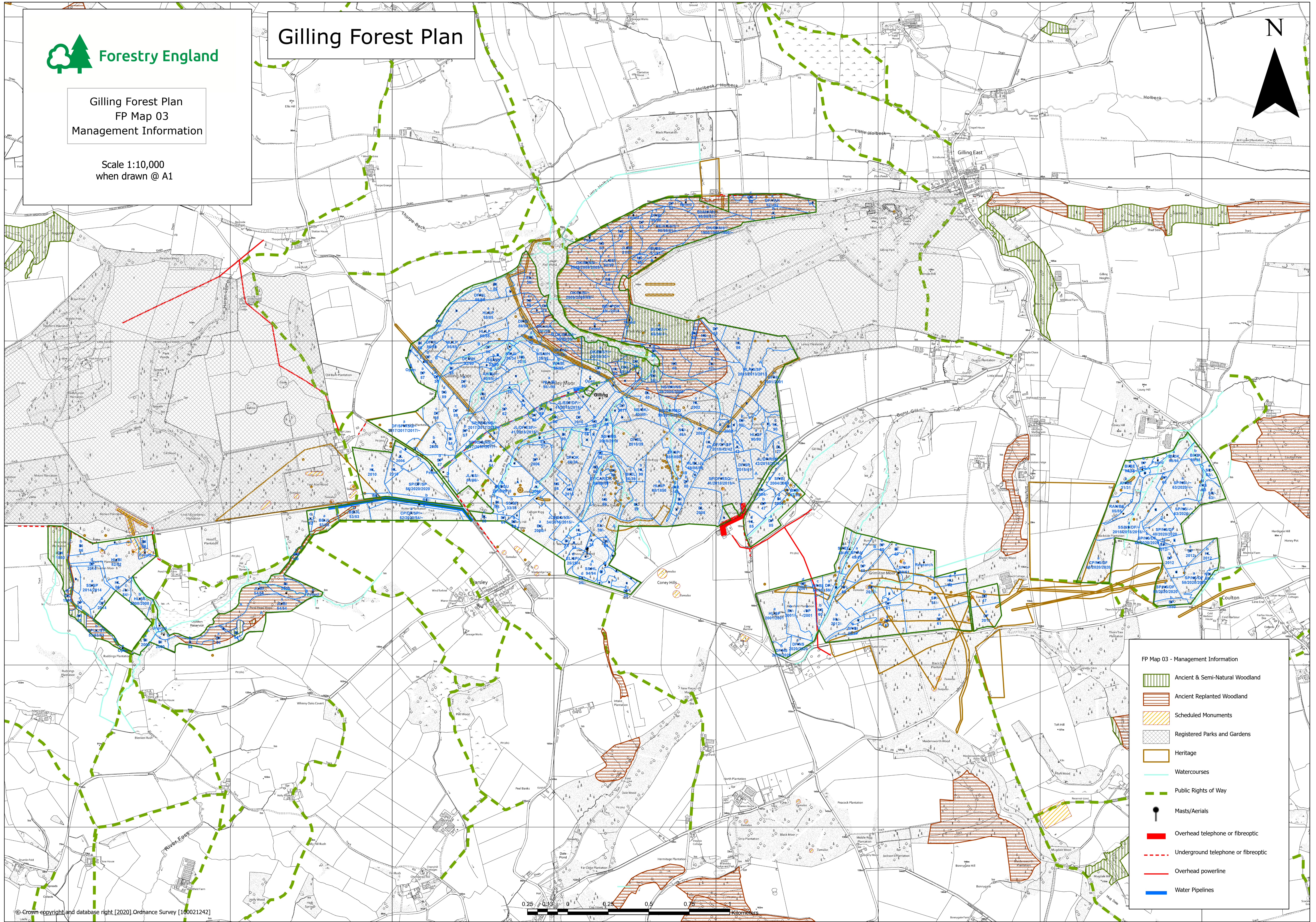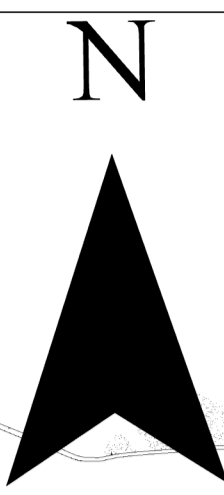Kilometers

Forestry England

Gilling Forest Plan
FP Map 03
Management Information

Scale 1:10,000
when drawn @ A1

Gilling Forest Plan

N

FP Map 03 - Management Information

	Ancient & Semi-Natural Woodland
	Ancient Replanted Woodland
	Scheduled Monuments
	Registered Parks and Gardens
	Heritage
	Watercourses
	Public Rights of Way
	Masts/Aerials
	Overhead telephone or fibreoptic
	Underground telephone or fibreoptic
	Overhead powerline
	Water Pipelines

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0.25 0.13 0   0.25   0.5   0.75
Kilometres

Forestry England

Title: **FP Map 04 - Analysis & Concept**

Date: 11 August 2020

Author: Nigel Rylance

Scale @ A0: 1:10,000

Legend

Manage as predominantly mixed broadleaf woodland.

Maintain as predominantly productive mixed conifer.

Maintain ancient semi-natural woodlands.

Restore and maintain plantation ancient woodland sites.

Develop riparian buffer adjacent watercourses.

Restore and maintain plantation ancient woodland sites.

* Conifer stands will be restored to native species by thinning, small-scale regeneration felling, natural regeneration and controlling and reducing the negative impact of invasive species. Enrichment planting will be carried out where primary species are unlikely to become established through natural regeneration.

* Ancient woodland sites will be buffered by converting adjacent conifer stands to predominantly broadleaf woodland.

* Maintaining existing and developing additional deadwood resource through management interventions and allowing natural mortality of some large dimension trees.

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

* Future habitat along riparian corridors will replace conifer-dominant crops with a greater proportion of broadleaf species and open space, buffering the impacts of future forest management.

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

* Alternative conifer species i.e. Douglas fir, European silver fir, Coast redwood and Macedonian pine will be considered for restocking where conditions are suitable.

* Develop low impact silvicultural systems and extended rotation silviculture to allow natural regeneration and enrichment planting with alternative species to become established.

* Gradually reduce the proportion of larch to manage the risk and further impact from *Phytophthora ramorum*.

Landscape character is influenced by regular conifer boundaries across parts of the 'Plateau' and 'Upland Fringe' character areas.

* Appropriate scale felling across coniferous parts of the forest will continue the process of restructuring, moving away from even-aged, single species stands to more mixed conifer/broadleaf woodland.

Ampleforth

Gilling East

Cawton

Coulton

Yearsley

Brandsby

---

km

0   0.325   0.65   1.3   1.95   2.6   3.25

Gilling Forest Plan

Proposed Harvesting Map

The map shows how we intend to manage tree felling in Gilling in order to meet the multiple objectives of management there.

Clearfells

Clearfells remove all or the majority of trees from the site. They allow significant changes in landscape, species and age class diversity to be achieved in a short space of time. They provide temporary open space followed by a slow succession of different habitat types each exploited by different flora and fauna.
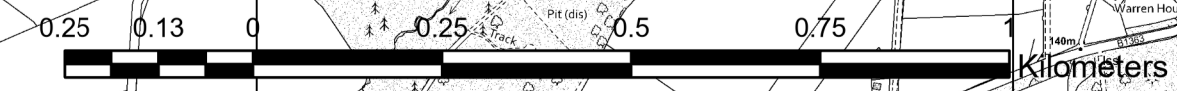
Low Impact Silvicultural Systems

Change is managed more slowly using a combination of heavier thinnings and small group fellings (normally no greater than 0.5ha). The purpose of 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.

N
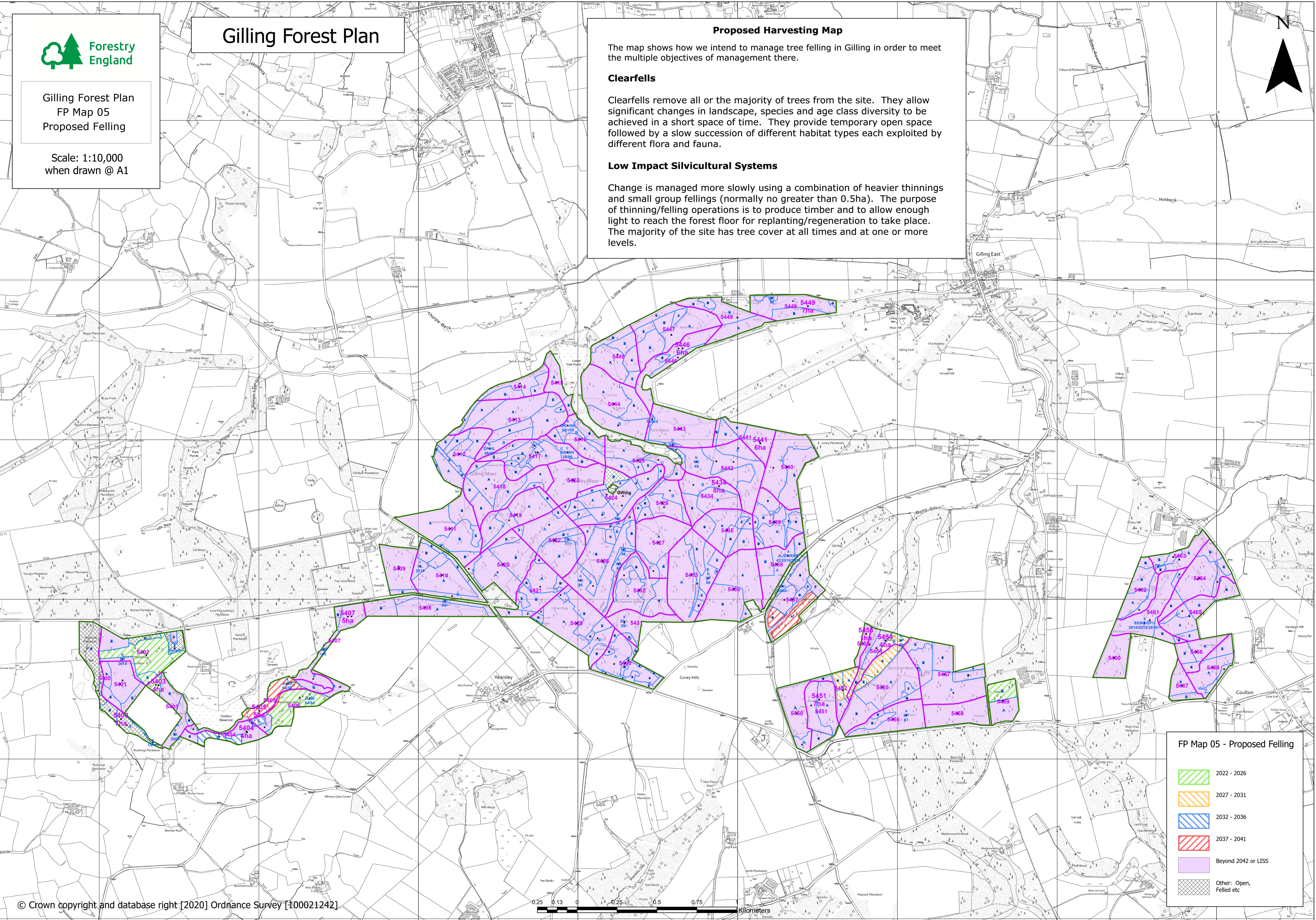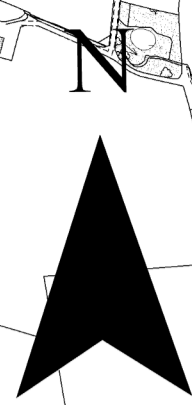
FP Map 05 - Proposed Felling

	2022 - 2026
	2027 - 2031
	2032 - 2036
	2037 - 2041
	Beyond 2042 or LISS
	Other: Open, Felled etc

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Gilling Forest Plan

Forestry England

Gilling Forest Plan
FP Map 06
Management Type

Scale: 1:10,000
when drawn @ A1

N

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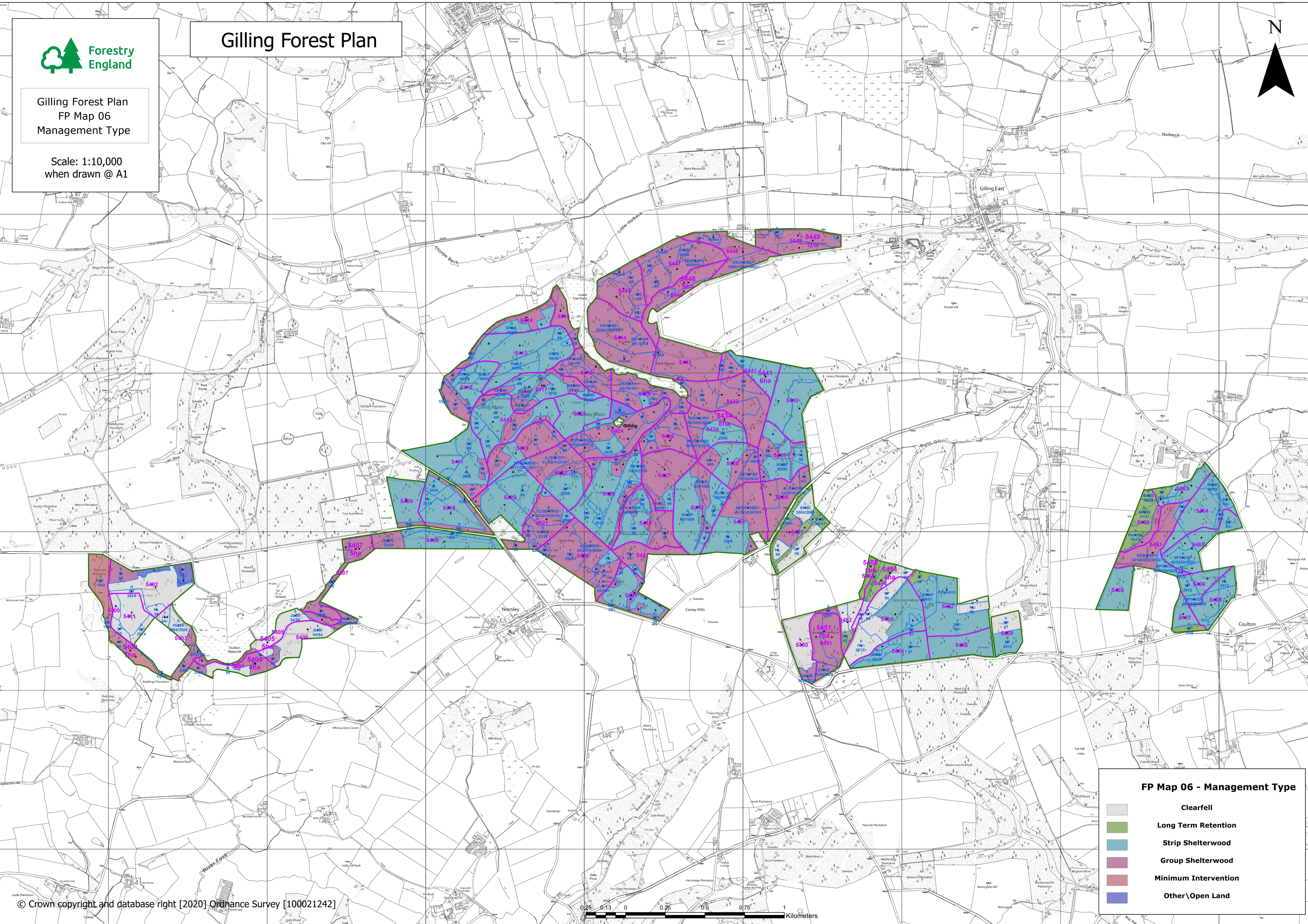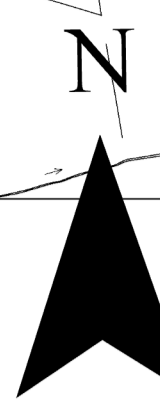
FP Map 06 - Management Type

|	
	Clearfell
	Long Term Retention
	Strip Shelterwood
	Group Shelterwood
	Minimum Intervention
	Other\Open Land

0.25 0.13   0   0.25   0.5   0.75   1
Kilometers

Gilling Forest Plan

This map shows the main species groups that are to be used when restocking felled areas. Due to the constraints of map scale, unplanted areas are not shown unless they are greater than 0.5 hectares in size. This means that unplanted corridors such as along forest roads and rides will not be shown on this map.

Predominantly mixed conifer areas will be regenerated through a combination of planting and natural regeneration with appropriate species, dependent on the underlying site conditions such as soil and topography.

In addition, climate change projections and plant health issues indicate a reduction in the suitability of species such as Corsican pine and larch for restocking. Species showing drought tolerance and disease resistance characteristics such as Macedonian pine, Oriental spruce, European silver fir, Coast redwood and Douglas fir will be considered.

Predominantly mixed broadleaf areas will be restocked by natural regeneration primarily using site-native species. This will be predominantly birch but other species such as rowan, holly and oak are anticipated. We will also accept other species that are not site-native such as beech and sycamore where these meet management objectives. Enrichment planting may be used where there is insufficient regeneration or where we wish to further diversify the range of species present.
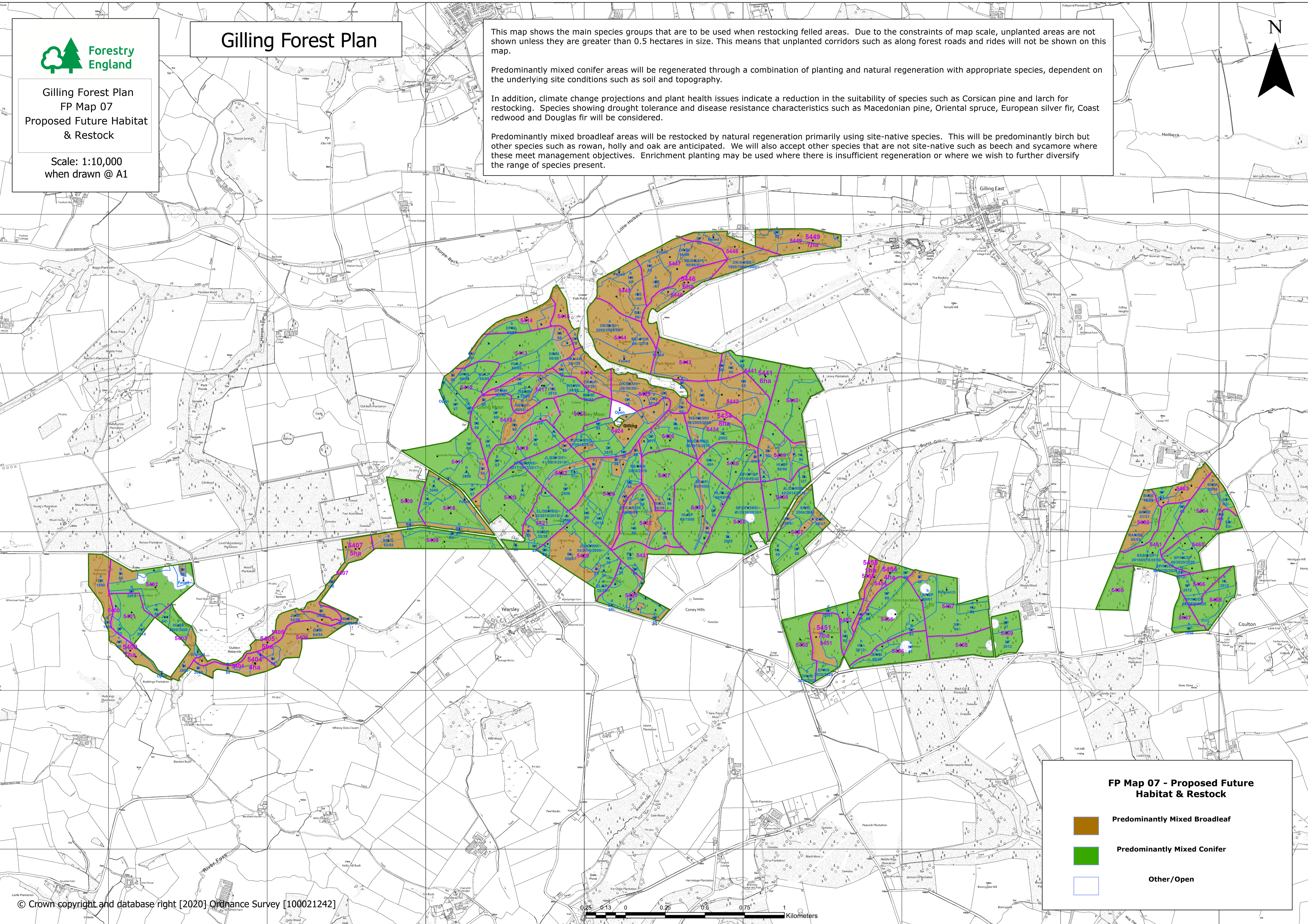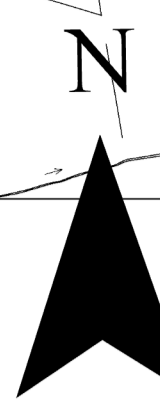
FP Map 07 - Proposed Future Habitat & Restock

- **Predominantly Mixed Broadleaf**
- **Predominantly Mixed Conifer**
- **Other/Open**

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Forestry England

Title: **Photographic Locations**

Date: 26 February 2021

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Scale @ A1: 1:15,000

Blocks

☐ Blocks

0   0.35   0.7   1.4   2.1   2.8   3.5
km

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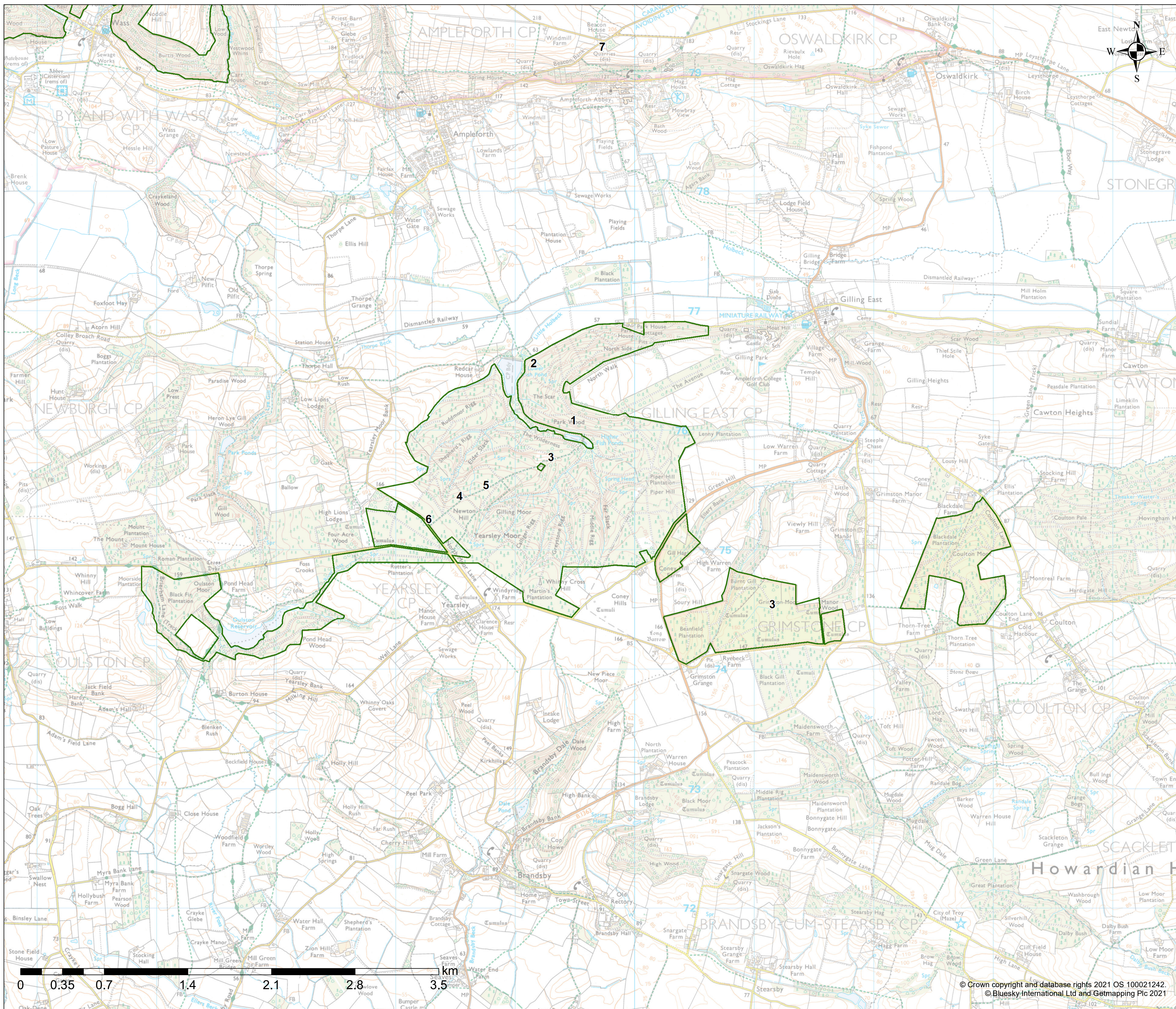
Internal Views

1. View from Park Wood across Yearsley Moor. This view highlights the increasing structural diversity Gilling Forest offers as felling and restocking progresses across the site. From here the viewer can see a range of different aged stands and tree species. This view has been created after felling larch from an ancient woodland site. It is anticipated that native broadleaf species will soon become established.

2. Restoring ancient woodland sites. Across previously planted ancient woodland sites, conifer species are being removed as part of the restoration process. Here, windfirm birch are retained to provide seed trees for future natural regeneration and structure. The viewer can also see an area of planted oak, protected from deer by tree shelters, to ensure this primary species for lowland mixed broadleaved woodland is represented within the developing stand.
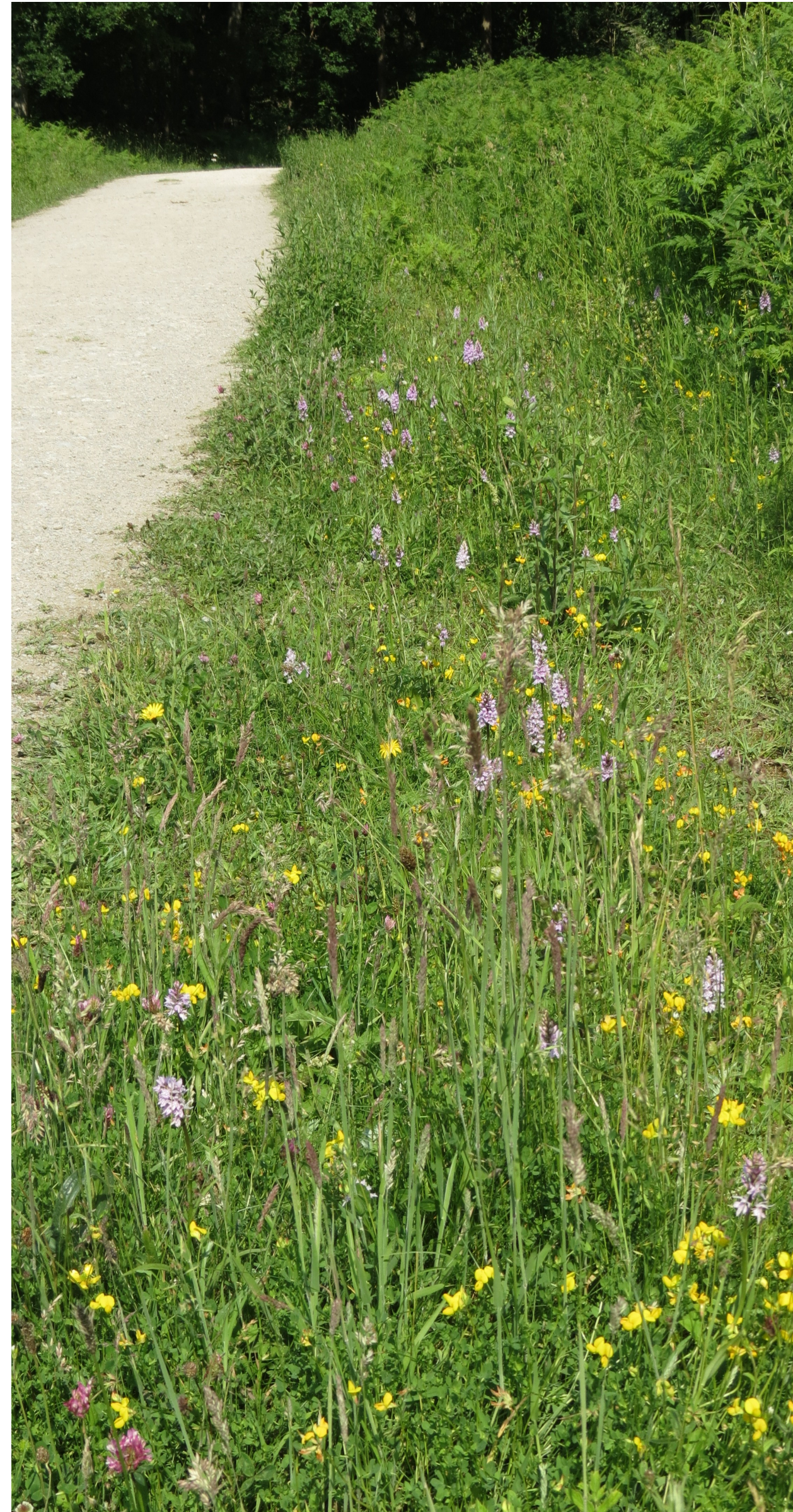
3. Developing habitat corridors along the matrix of roads and rides. Internal access routes provide opportunities to develop a network of semi-natural habitat corridors with heathland ground flora and herb-rich verges adjacent to different canopy layers. Ongoing management will help maintain and develop these for the benefit of a wider range of wild-life and visitors alike.

Internal Views

4. View from Newton Hill across to Ampleforth.
Occasional views outwith the forest are infrequent as clear felling is reduced in favour of lower impact silvicultural systems. Over time, developing stands of mixed species woodland will offer a more intimate experience for the forest visitor.

5. Lower impact silvicultural systems. Managing the mature stands through low impact silvicultural systems causes less rapid change to the landscape and physical environment than clear felling. These sites will establish a range of alternative conifer species such as Douglas fir, Coast redwood and Macedonian pine, as well as naturally regenerating conifer and broadleaf species. The two photographs show differing systems; Strip shelterwood in stands of P62 pine and Group shelterwood in P41 larch.

External Views

6. Entrance to Yearsley main block. A familiar view to visitors accessing this part of the forest via the network of public rights of way. From here, visitors can walk through mixed conifer woodland before crossing into Park Wood where ancient woodlands are being restored from conifer to site-native broadleaved species.

7. View from Beacon Bank Road. When seen from a distance, this panoramic view across significant parts of the forest help reinforce how decades of forest management and restructuring has developed a complex mosaic of tree species and age structure. Future management will further diversify the range of tree species that will be managed across the forest.