

Yorkshire Forest District

Goathland Forest Plan

FP 24

2015

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

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 Restock
- 4.3 Continuous Cover
- 4.4 Design Plan

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. ESC NVC Woodland Analysis**

Goathland

69.6 Hectares

Period of Plan: 2015 - 2024

1. Background

Goathland Forest is part of a network of forests managed by Forest Enterprise (FE), Yorkshire Forest District, located within the North Riding Beat. It is situated 1 kilometre west of Goathland village and is bounded by farmland to the west and the Murk Esk and West Beck watercourses to the east. It sits within the North York Moors National Park.

The woods were initially acquired by the Forestry Commission in the late 1950's and early 1960's. Planting of then unplanted land took place mainly between 1958 and 1963. Established areas of larch and other conifers were included in the purchase as well as areas of semi-natural broadleaved woodland. This is a freehold property.

2. Describing the Site

2.1 Geology and Soils (FP Map 01)

Underlying bedrock geology is predominantly sedimentary sandstones, siltstones, mudstones from a variety of formations, formed in the Jurassic Period. The presence of ironstone from the Eller Beck Formation points towards the 18th and 19th century iron ore mining within the woods and across the locality.

Superficial glacial deposits of clay, silt, sand and gravels of the Quaternary Period can be found along the upper margins.

The soil types have a simple pattern. Brown earths are to be found on the higher, more freely drained slopes while the lower slopes and valley bottoms are surface water gleys. There are a number of areas of rock and scree both geological and as a result of past quarrying. Based on Forest Research Ecological Site Classification, soils have a typically 'moist' soil moisture regime and 'rich' soil nutrient status providing a wide range of broadleaf and conifer species that can be considered as very suitable or suitable for these woods.

2.2 Tree Species (FP Map – 02 and 03)

Deciduous larch and broadleaf species groups are co-dominant across the woods, each accounting for 28% of the planted area followed by non-deciduous spruce (16%), other conifer (16%) and pine (12%).

There are no permanent areas of open space or other land uses within the woods and age structure is limited to recorded planting from 1947 to 1978, although individual specimens or small groups of significant broadleaf trees probably date back to the early 1900's.

2.3 Wind Damage

Generally, wind hazard is not a limiting factor as the woods sit within a sheltered valley and have a Wind Hazard Classification of 1 or 2. However, localised wind blow is occurring on shallow-rooting spruce stands along the exposed western boundary where springs create waterlogged conditions.

2.4 Landscape (Photographic montage)

The woods are situated in the 'Central Valley – Lower Esk' landscape character area¹ within the North York Moors National Park. Landcover is complex and varied and comprises a mixture of farmland with a high density of broadleaved woodland and areas of coniferous and mixed plantations. Elevation ranges from 65 metres in the valley bottom, rising to 155 metres along the upper boundary of Carr Wood.

Their boundaries are generally curvilinear or straight for only short distances and fit in well with the surrounding field and land-use patterns. The woods are an integral part of a larger landscape of forest and farm land.

Being on east-facing sloping ground, the woods are highly visible from the surrounding area; the high number of Public Rights of Way and the presence of well-used tourist routes and attractions underline the woods' visual importance.

2.5 People and Community

There is no formal provision for recreation across these woods although it is dedicated as Open Access land through the Countryside Rights of Way Act (2000). This is a popular forest for residents of nearby towns and villages to drive to for recreational walking and dog walking with visitors seen on most days. The woods are also situated within an important tourist centre being

¹ North York Moors National Park Landscape Character Assessment 2003

close to popular visitor attractions including the North York Moors Railway and Mallyan Spout Waterfall.

Although these are freehold woods, there is limited potential to develop recreational use for people and businesses where these do not conflict with physical constraints (i.e. topography) and the plans' aims and objectives.

2.6 Natural Heritage (FP Map – 04)

Goathland Forest is important for a wide range of flora, fauna and bio-diverse habitats. Statutory sites within the forest include Beck Hole Site of Special Scientific Interest (SSSI), important for a range woodland and grassland habitats. Details of the citation and associated features can be found at <http://www.sssi.naturalengland.org.uk>. Collectively, more than half the woodland area is classified as Ancient Semi-Natural Woodland (ASNW) or Plantation on Ancient Woodland Sites (PAWS).

A complex network of streams, water courses and drains pass through the forest, supporting an increasing area of riparian habitat. These sites typically support a more diverse woodland structure where native broadleaf tree species and ground flora can naturally regenerate. The Murk Esk is currently classed as 'Good' overall as reported under the Water Framework Directive, whereas West Beck is yet to be assessed.

2.7 Cultural Heritage (FP Map 04)

The Forest District maintains an extensive Historic Environment Record (HER) in conjunction with the North York Moors National Park Authority (NYMNPA) and all identified features are considered during the forest plan process. Of particular note in Goathland's woods are the related iron ore workings in Coombs and Carr Wood. These sites are large enough and of significant importance to ensure any operational impact on forest design is given due consideration within the plan.

There are no scheduled monuments within the woods.

3. Describing the Project

3.1 Project Brief

- increase the proportion of native broadleaf cover, particularly across areas of PAWS, areas of high conservation value including riparian zones and along steep-sided scarp slopes
- manage natural and cultural heritage sites in accordance with their requirements as per agreed management plans
- increase the diversity of the age structure by use of appropriate small-scale felling interventions.

3.2 Objectives

- Maintain the land within our stewardship under UKWAS certification, to be measured by independent surveillance audits.
- Maintain and improve the cultural heritage value of these woods, to be measured by Historic England, North York Moors National Park Authority, 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 Natural England, North York Moors National Park Authority and FC systems accordingly.
- Maintain the woodlands contribution to the wooded character within the NYMNPA Lower Esk Valley character type, through the maintenance and development of structural and species diversity that responds to landform. To be measured by the sub-compartment database and fixed-point photography.
- Encourage communities to become involved across these woods, its management and direction through consultation in planning and participation in volunteering, to be measured by stakeholder engagement.

3.3 Constraints

- Physical access, both to the county highway road network and within woods, is very restricted due to a lack of formal infrastructure and steep-sided terrain likely to challenge future management.
- The potential threat of *Phytophthora ramorum* on the highly visible component of larch could have a significant impact on the woodlands contribution across the local landscape.

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 planning 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. For Goathland this could include:

- Working through the NYMNPA 'This Exploited Land HLF project', there are significant opportunities to extend our knowledge of industrial heritage and to conserve and enhance at-risk features.

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 Goathland 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'. See Appendix 2 for Forest Research, Ecological Site Classification NVC Woodland type analysis for ranking of appropriate woodland types that match conditions at Goathland.
- 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 SSSI's and riparian zones. The woods already have a high proportion of standing and fallen deadwood and the potential to increase this through future management is significant.
- Maintaining watercourses in target condition as identified through the Water Framework Directive (WFD) assessment. The implementation of low impact systems will avoid significant lengths of watercourse being felled at any one time. Targeted thinning and group-felling along heavily shaded riparian buffers will increase light levels and improve the development of native ground flora.

Minimum Intervention - Natural Reserves

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

Although there are currently no Natural Reserves designated at Goathland, 11.65 hectares are designated as 'candidate' natural reserve. These sites will be reviewed over the lifetime of this plan with a view to moving them towards Minimum Intervention - Natural Reserves at some point in the future.

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 5.23 hectares at Rhea's Plantation are designated LTR.

Invasive species

Priority will be given to control and progressively remove invasive species (e.g. Western hemlock) across Ancient Woodland Sites and other sites identified as being of High Conservation Value.

3.4.2 Timber Harvesting

Due to limitations of the site through topography, lack of roading infrastructure and ecological sensitivities, conventional harvesting for timber production would not be appropriate for these woods. Small-scale thinning and group-felling to recycle will be considered as a management option where this will achieve the plans objectives. Timber extraction will be significantly limited due to access issues throughout the site. These operations will be planned and controlled to ensure due regard for all objectives of management at Goathland.

Where thinning to recycle will create barriers to natural regeneration and ground flora recovery (FC Practice Guide – Restoration of native woodland on ancient woodland sites), alternative methods such as chemical thinning will be considered.

3.4.3 Landscape

The woods at Goathland lie within the North York Moors National Park, a designated landscape. As set out in section 2.4, the woods at Goathland lie within a complex landscape and are highly visible within an area important for tourism.

Middle-distance views are experienced from vehicles travelling along the minor road network and near-distance views by walkers and horse riders using the numerous rights of way within the forest and wider landscape. On a scale of low/medium/high, landscape sensitivity is considered to be high.

Although the woods are dominated by evergreen conifer species, there is a high proportion of deciduous broadleaf and larch species that make a positive contribution to the mixed-woodland landscape. Although a little over 10% of the woodland area was replanted with broadleaf species in the late 1970's, there is limited structural diversity.

Potential infection by *Phytophthora ramorum* on the larch component within these woods and surrounding locality would have a significant negative landscape impact.

Future small-scale felling and thinning operations are unlikely to have a significant impact across the wider landscape, although near views from within the forest will benefit from improving canopy structure and developing semi-natural ground flora.

3.5 Plan (FP Map 06)

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 07 and 08)

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

As there are no specific felling coupes within this plan, the proposed felling map found in the Forest Plan folder will only show areas where small-scale, group-felling as part of Continuous Cover Forestry (CCF) will be carried out.

Felling	Area - hectares	% of total area	Projected volume (m ³)
Continuous Cover	3	4	1200 *

*** Due to adverse access issues (see 3.4.2) felled timber is likely to be left in situ to recycle.**

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 (based on principal species established)	Area – hectares	% age of total area
Conifer	12.63	18
Broadleaf	56.97	82
Heathland, and planned open areas		

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, at the pre commencement meeting before scheduled works begin and for supervisory visits during the operation. The “Operational Site Assessment” is kept along with other documents relating to the operation in the main office. Specific operational activity will be managed and progress monitored as part of our existing contract management systems.

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

There are no intentions to manage any part of Goathland Forest through a high-forest, clearfell silvicultural system. Instead, selective thinning and small-scale group felling as part of an irregular shelterwood silvicultural system, will enable the gradual transformation from a predominantly conifer to site-native, broadleaf dominant woodland.

3.7.4 Haulage

See section 3.4.2. As only small-scale thinning/felling operations are likely to be carried out within these woods, it is extremely unlikely that we will be hauling any timber out of Goathland.

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.

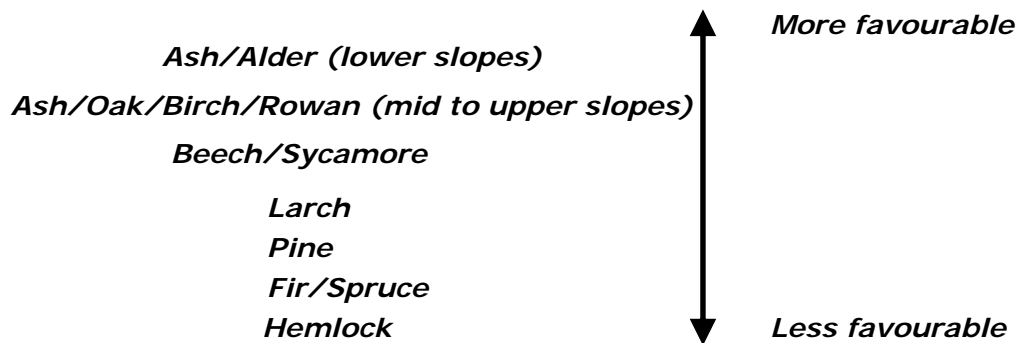
3.7.5 Restocking

Broadleaf

The areas of PAWS at Goathland will be restored to the appropriate range of native woodland types where this is influenced by underlying soil nutrient and moisture regimes. The impact of *Chalara* on ash natural regeneration will be monitored during the life of the plan. The acceptance of other site-native species, and up to 20% by canopy cover of 'naturalised' species i.e. sycamore and beech 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 'naturalised' species.

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 densely shading or invasive species threaten the native woodland community (i.e. Western hemlock, rhododendron), it will be removed as soon as practicable.

Conifer

There are no proposals to actively restock with conifer species across these woods. However, natural regeneration of appropriate conifer species will be accepted across those parts of the wood that will continue as conifer-dominant woodland and as a minor component in future broadleaf-dominant woodland unless it poses a risk to other objectives within the plan.

4. Monitoring

4.1 Continuous Cover

Continuous cover areas will be monitored using low key monitoring techniques such as transects, fixed-point photography and visual walk through as stated in OGB4 – Plant Density, surveys and monitoring. If natural regeneration does not achieve the required objectives, enrichment planting with appropriate site-native species will be used.

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 2019. 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

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 more subtle (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 ancient and 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 Goathland. 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.

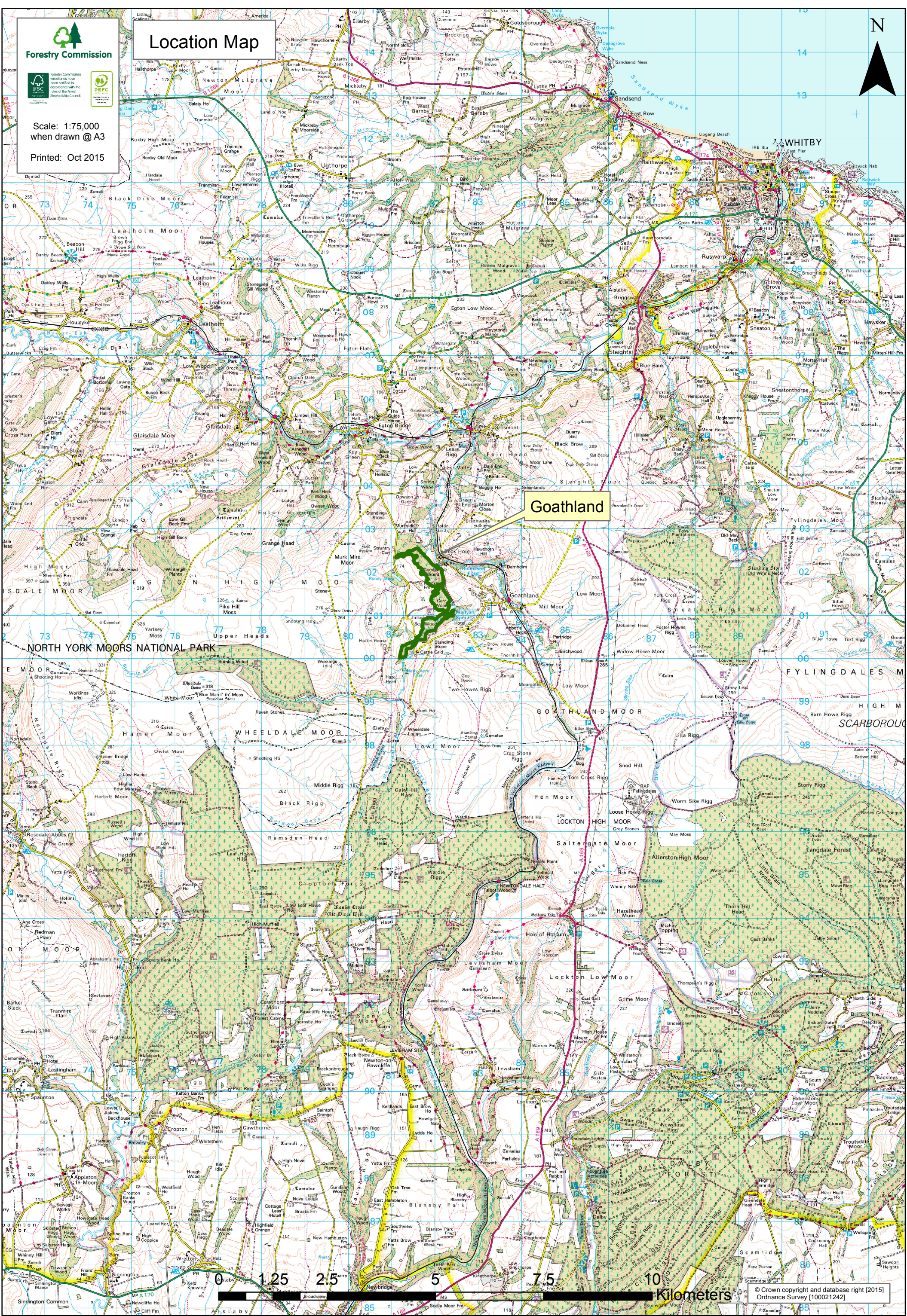
Appendix 2 – ESC, [Goathland, NZ820018] NVC Woodland Type Analysis

Woodland Type	Analysis Summary			ESC Factors					
	Suitability	Lim. Factors	Rank	AT5	CT	DAMS	MD	SMR	SNR
W1 Sallow with marsh bedstraw		- SMR							
W2 Alder with common reed		- SMR							
W3 Sallow with bottle sedge		- SMR							
W4 Birch with purple moor-grass		- SNR							
W5 Alder with tussock-sedge		- SMR							
W6 Alder with stinging nettle		-	2						
W7 Alder-ash with bottle sedge		-	2						
W8 Mixed broadleaved with dog's mercury		- SMR SNR							
W9 Mixed broadleaved with dog's mercury		- MD							
W10 Mixed broadleaved with bluebell/wild hyacinth		-	1						
W11 Oak-birch with bluebell/wild hyacinth		-	2						
W12 Beech with dog's mercury		- SMR SNR							
W13 Yew		- SMR SNR							
W14 Beech with bramble		- SMR							
W15 Beech with wavy hair-grass		- SMR SNR							
W16 Oak-birch with bilberry/blaeberry		- SMR SNR							
W17 Oak-birch with bilberry/blaeberry		- MD SNR							
W18 Scots pine with heather		- SNR							
W19 Juniper with wood sorrel		- SNR							
W20 Salix lapponum-Luzula sylvatica		- AT MD SNR							

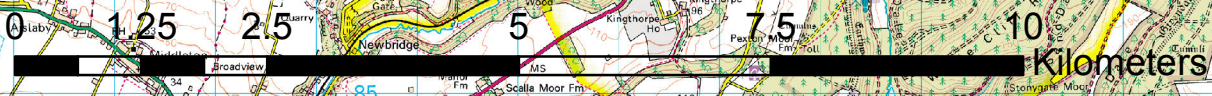


Location Map

Scale: 1:75,000
when drawn @ A3
Printed: Oct 2015



Goathland

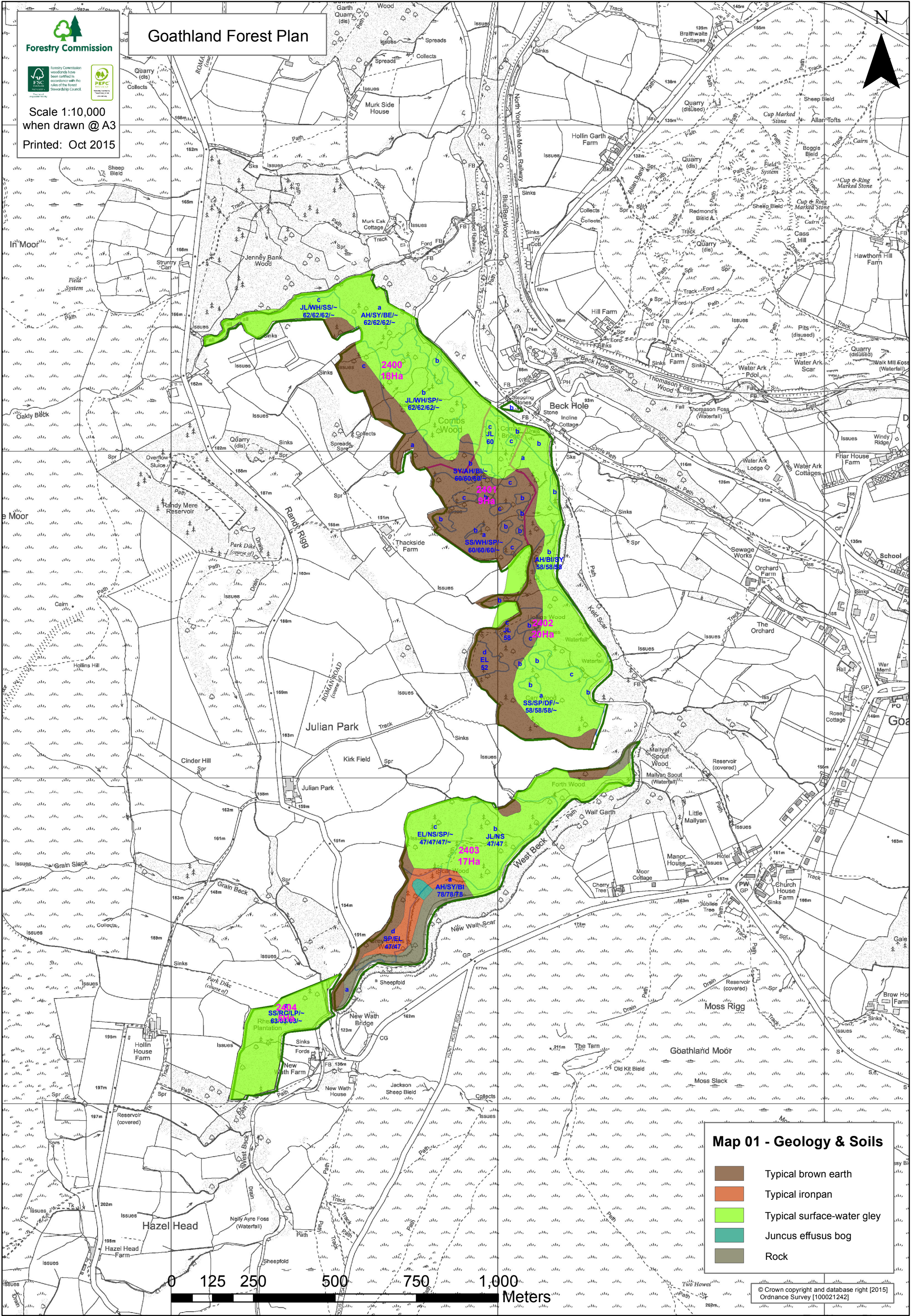


© Crown copyright and database right [2015]
Ordnance Survey [100021242]



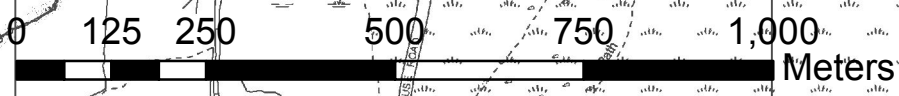
Scale 1:10,000
when drawn @ A3
Printed: Oct 2015

Goathland Forest Plan



Map 01 - Geology & Soils

- Typical brown earth
- Typical ironpan
- Typical surface-water gley
- Juncus effusus bog
- Rock



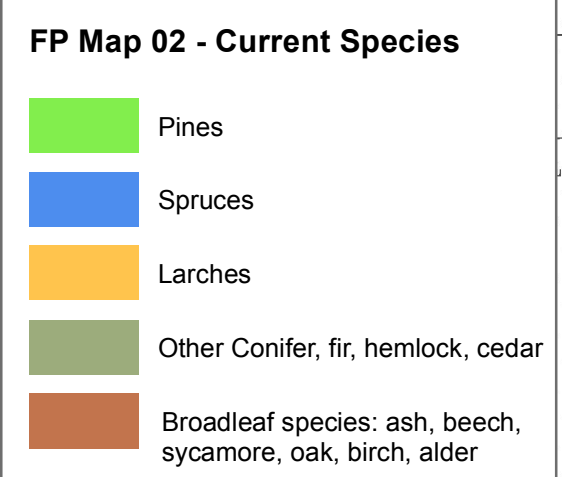
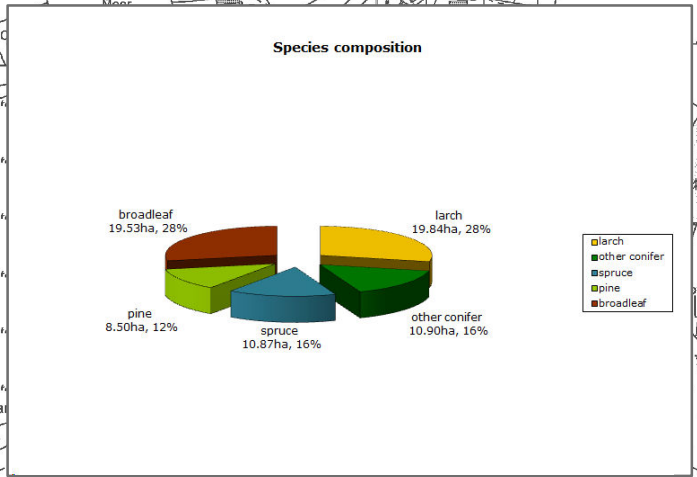
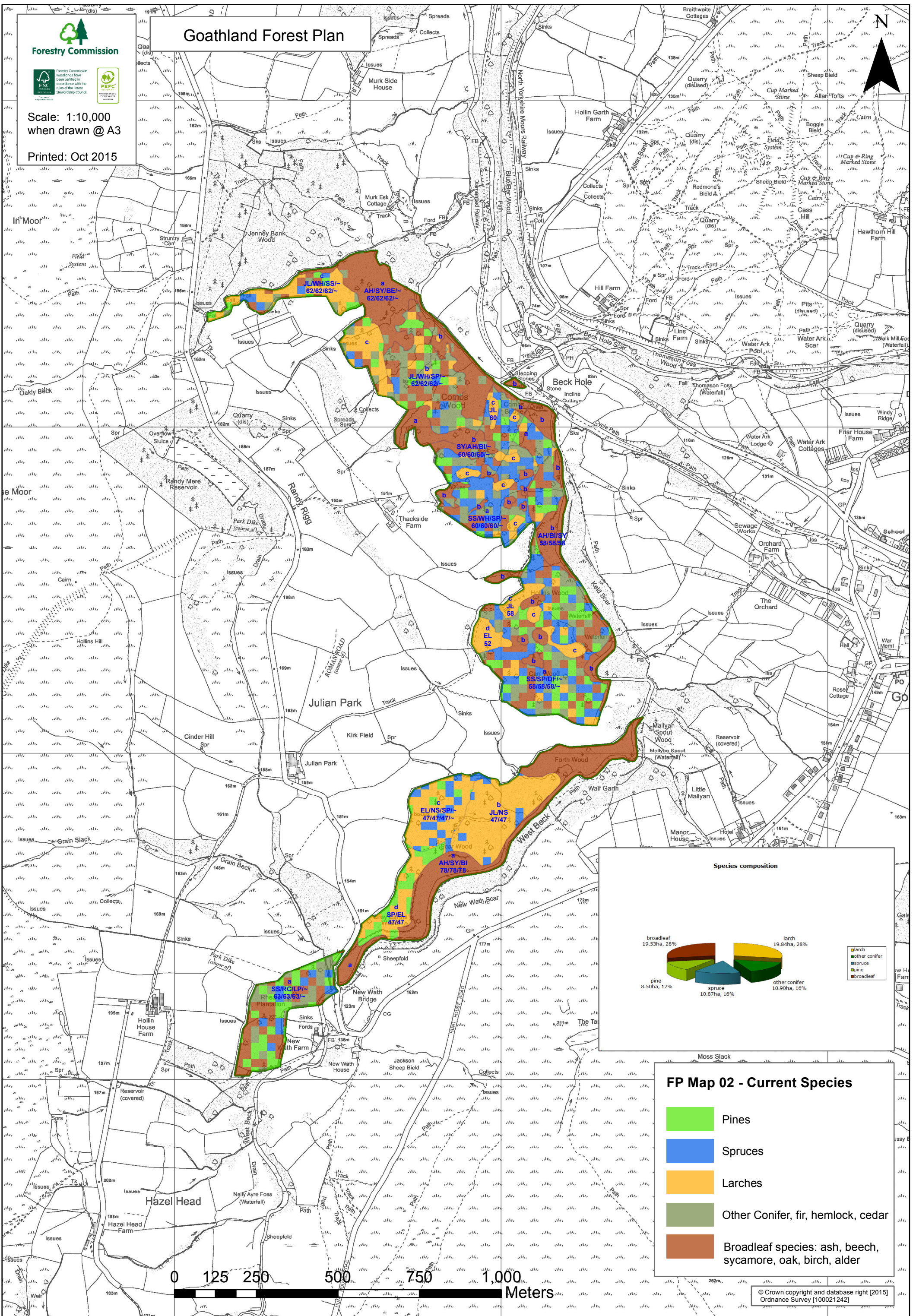
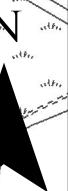
© Crown copyright and database right [2015]
Ordnance Survey [100021242]

Goathland Forest Plan



Scale: 1:10,000
when drawn @ A3

Printed: Oct 2015

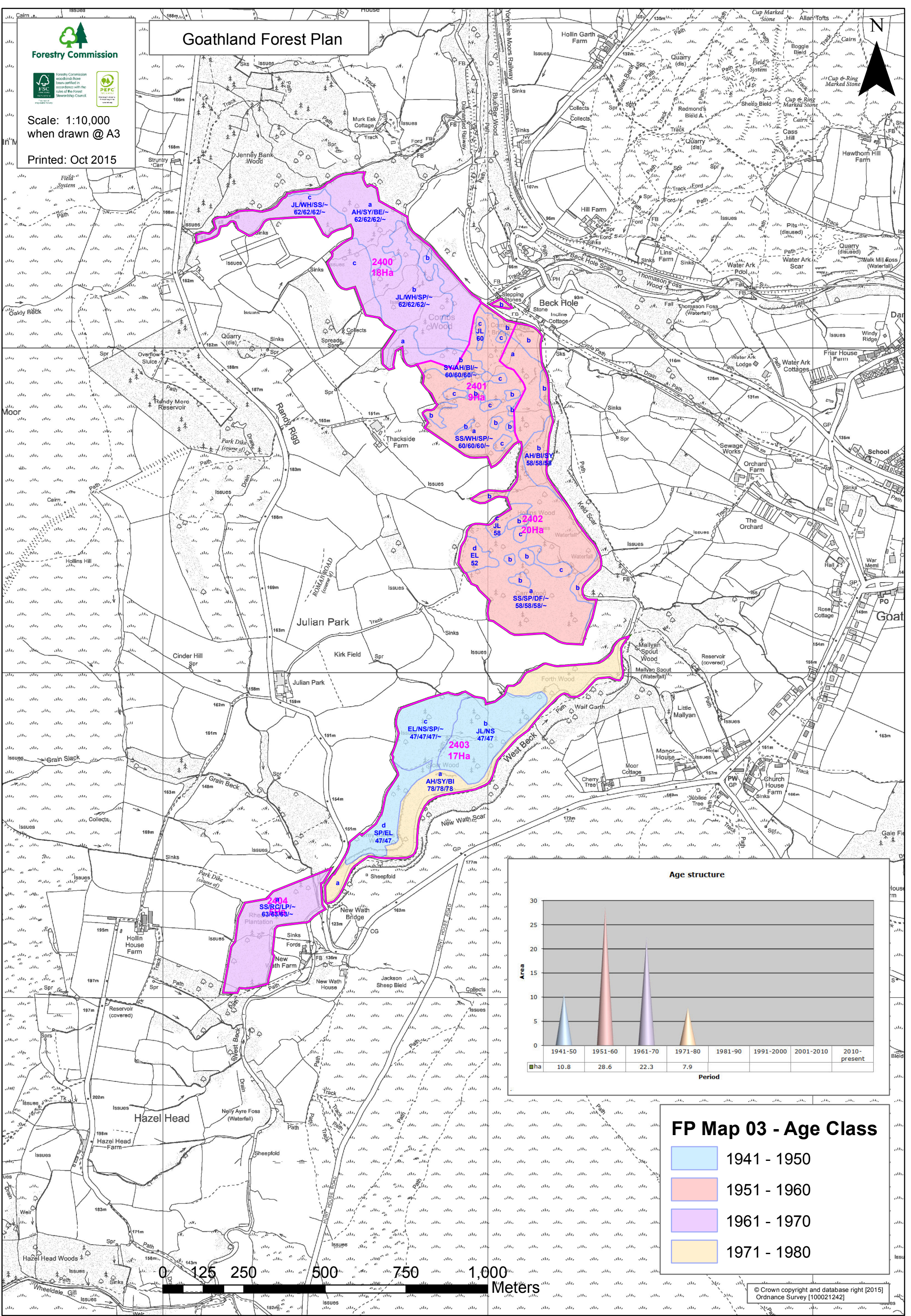
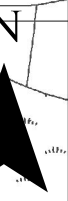


Goathland Forest Plan

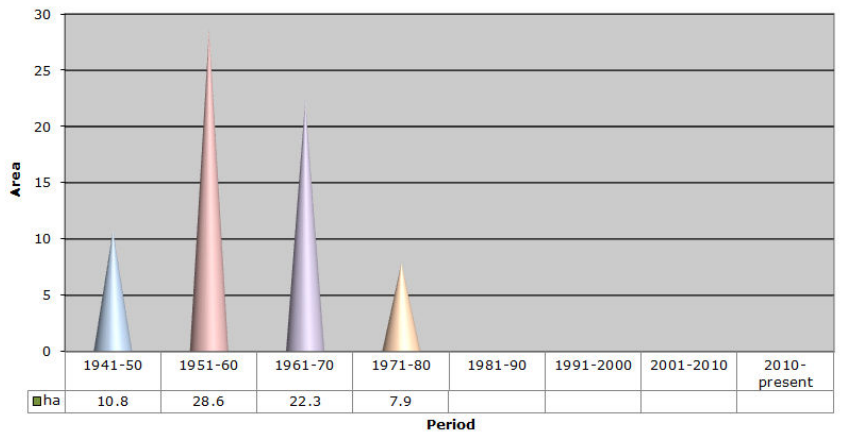


Scale: 1:10,000
when drawn @ A3

Printed: Oct 2015



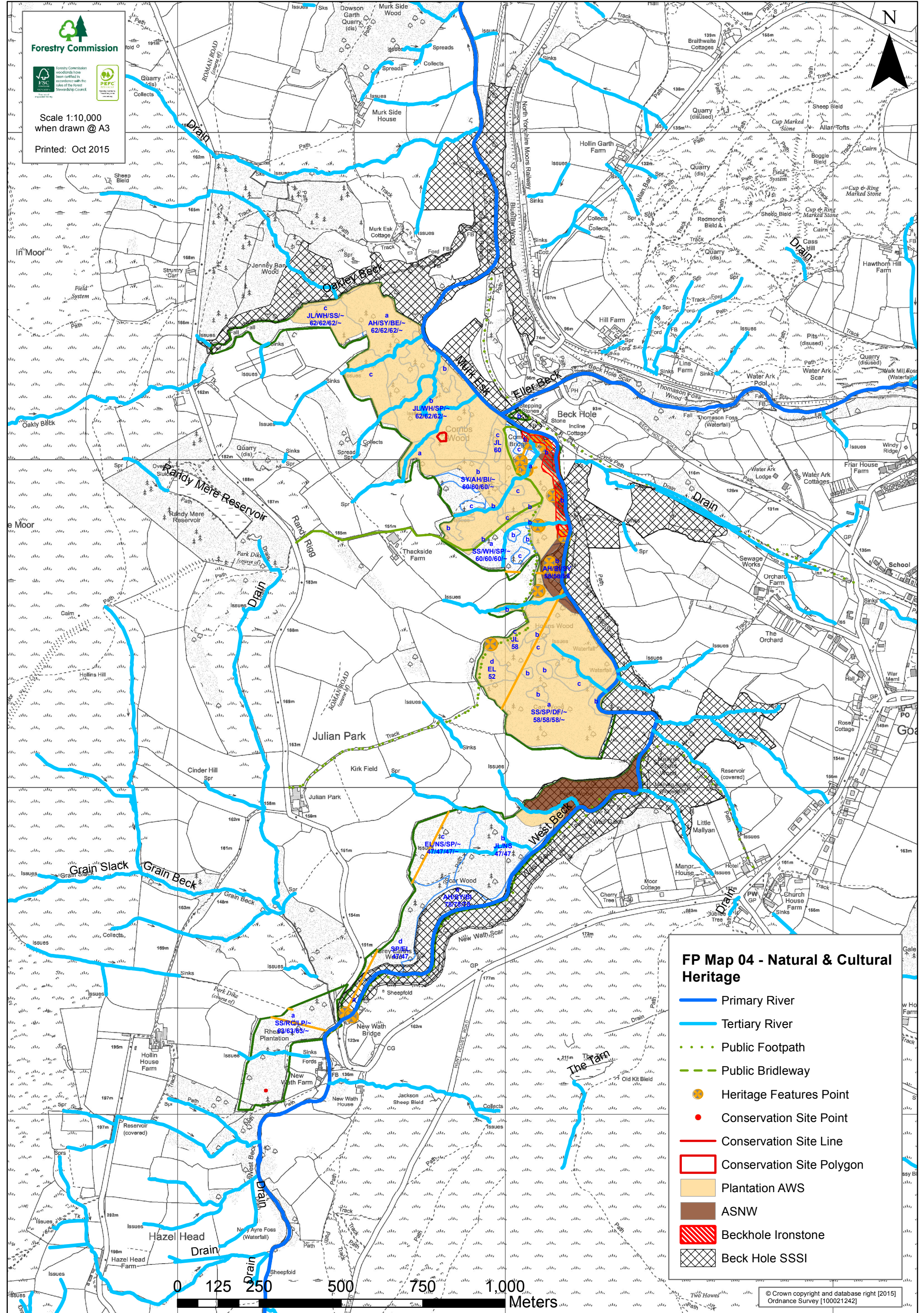
Age structure



FP Map 03 - Age Class

- 1941 - 1950
- 1951 - 1960
- 1961 - 1970
- 1971 - 1980



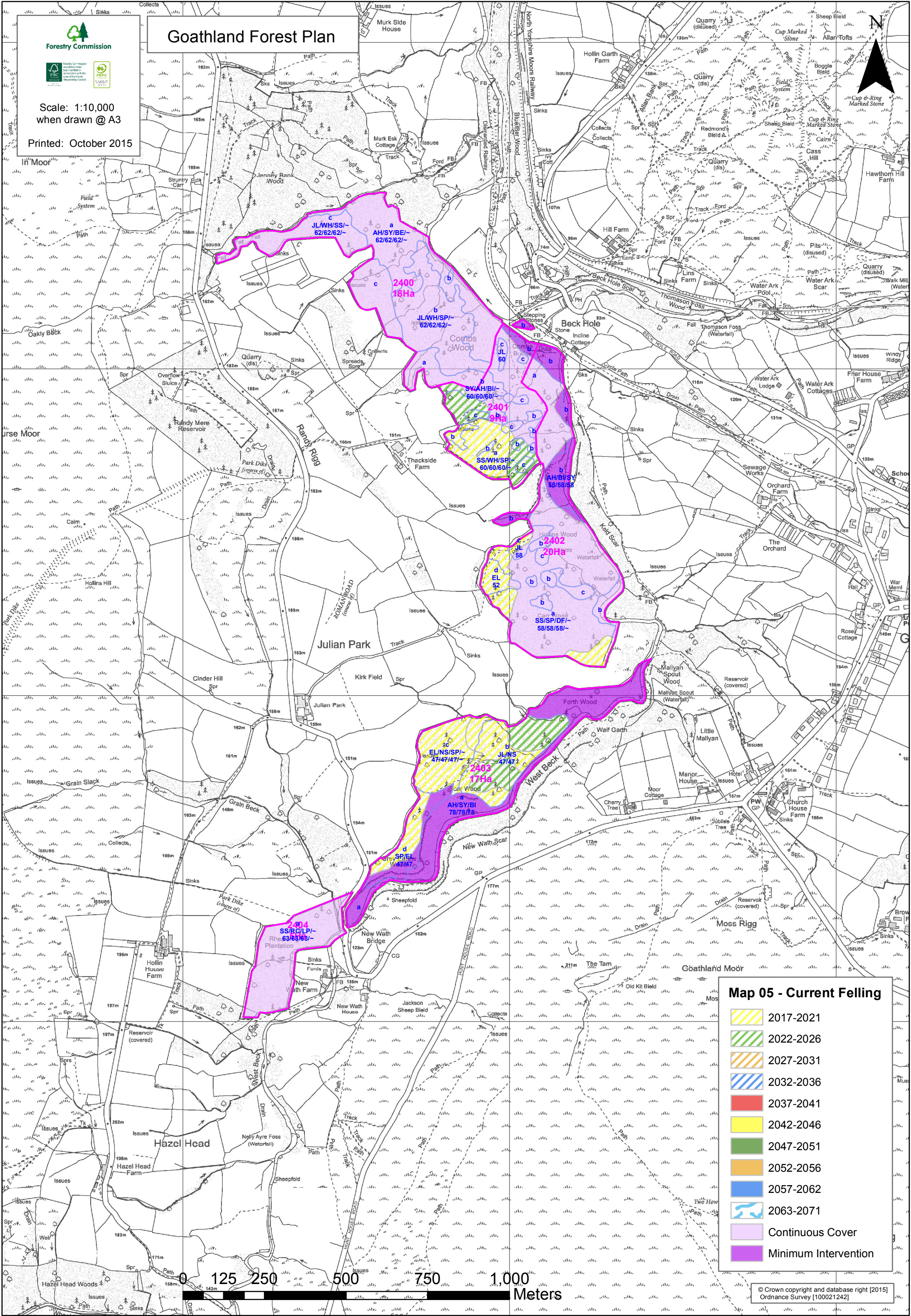


FP Map 04 - Natural & Cultural Heritage

- Primary River
- Tertiary River
- - - Public Footpath
- - - Public Bridleway
- Heritage Features Point
- Conservation Site Point
- Conservation Site Line
- Conservation Site Polygon
- Plantation AWS
- ASNW
- Beckhole Ironstone
- Beck Hole SSSI



Goathland Forest Plan



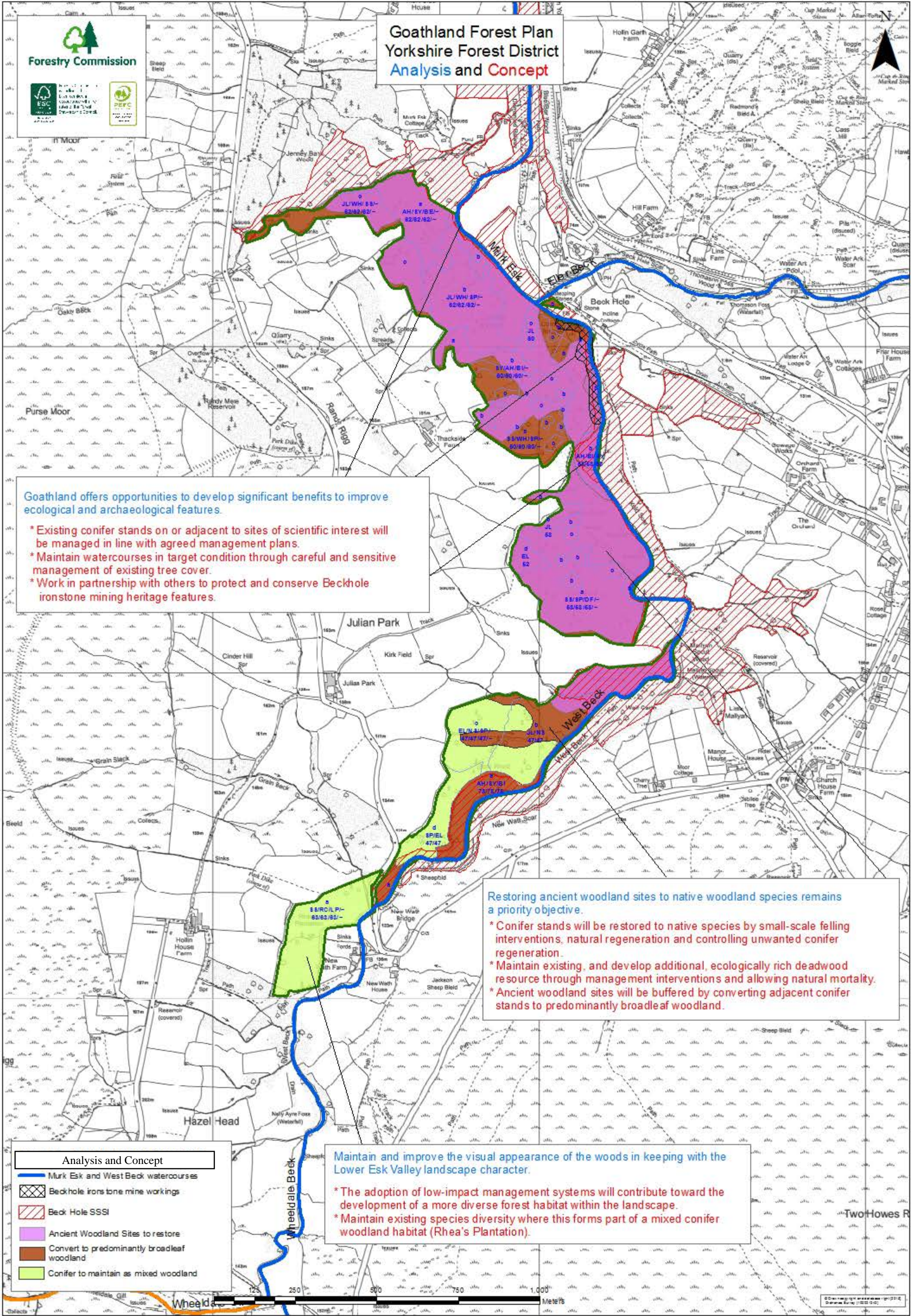
Map 05 - Current Felling

- 2017-2021
- 2022-2026
- 2027-2031
- 2032-2036
- 2037-2041
- 2042-2046
- 2047-2051
- 2052-2056
- 2057-2062
- 2063-2071
- Continuous Cover
- Minimum Intervention





Goathland Forest Plan Yorkshire Forest District Analysis and Concept



Goathland offers opportunities to develop significant benefits to improve ecological and archaeological features.

- * Existing conifer stands on or adjacent to sites of scientific interest will be managed in line with agreed management plans.
- * Maintain watercourses in target condition through careful and sensitive management of existing tree cover.
- * Work in partnership with others to protect and conserve Beckhole ironstone mining heritage features.

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

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

Maintain and improve the visual appearance of the woods in keeping with the Lower Esk Valley landscape character.

- * The adoption of low-impact management systems will contribute toward the development of a more diverse forest habitat within the landscape.
- * Maintain existing species diversity where this forms part of a mixed conifer woodland habitat (Rhea's Plantation).

Analysis and Concept

- Mirk Esk and West Beck watercourses
- ▨ Beckhole ironstone mine workings
- ▨ Beck Hole SSSI
- Ancient Woodland Sites to restore
- Convert to predominantly broadleaf woodland
- Conifer to maintain as mixed woodland

Goathland Forest Plan

Proposed Harvesting Map

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




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 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.

Minimum Intervention

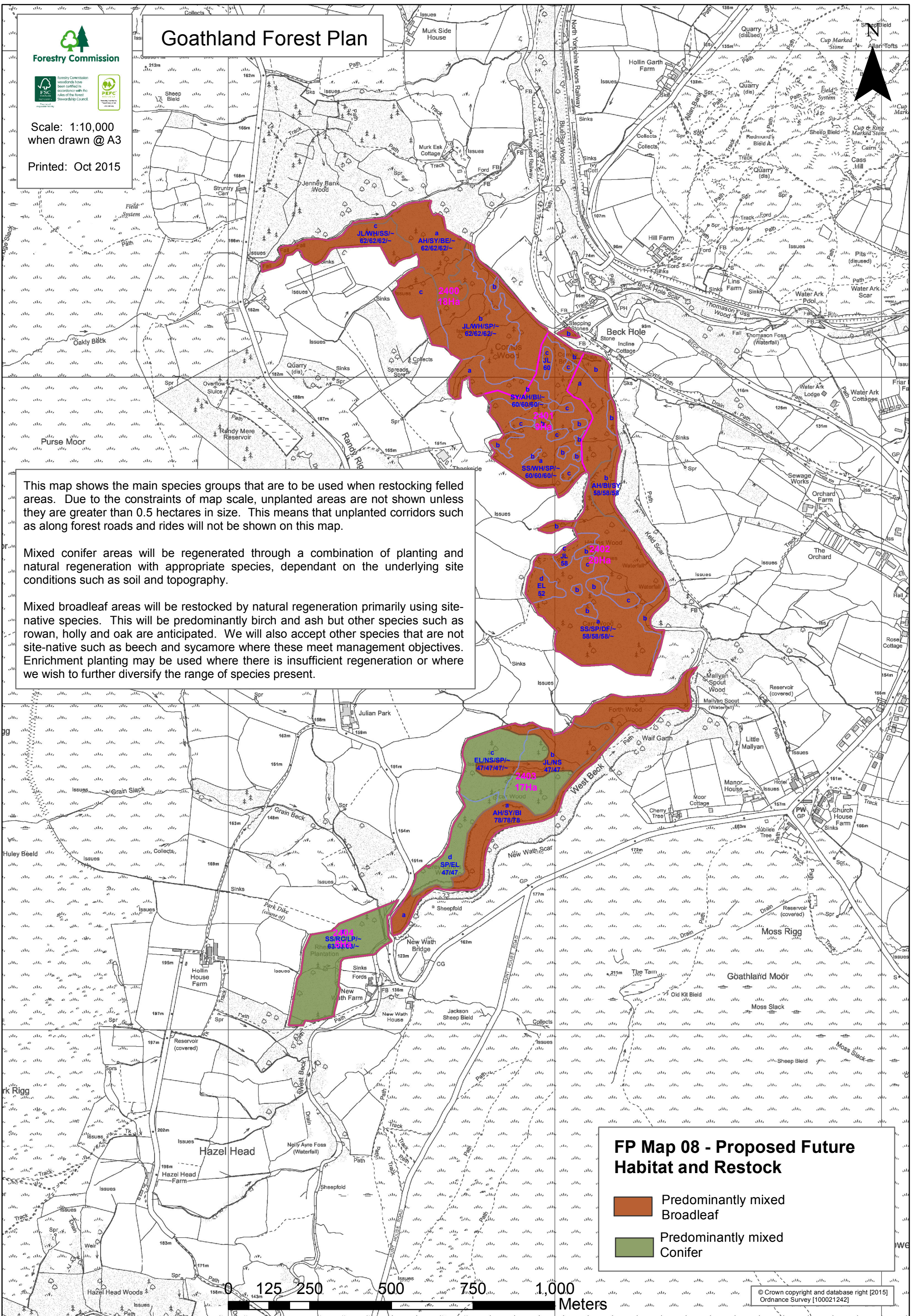
Managed for conservation and landscape. Management will be very low key where areas will be considered as an ecological refuge. In exceptional cases some areas may continue to be thinned but only when, and for as long as, thinning can be clearly demonstrated to have a higher conservation or biodiversity value than not thinning.

Map 07 - Proposed Felling

-  Continuous Cover
-  Minimum Intervention Candidate Natural Reserve
-  LTR



Goathland 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.

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

Mixed broadleaf areas will be restocked by natural regeneration primarily using site-native species. This will be predominantly birch and ash 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 08 - Proposed Future Habitat and Restock

- Predominantly mixed Broadleaf
- Predominantly mixed Conifer





Image 1.
Dense stands of heavy shade-bearing species such as Western hemlock and Western red cedar prevents light from reaching the forest floor and allowing ground flora and native species to develop. This is a high priority site where the gradual reduction in the canopy layer through thinning and small-scale felling will promote the development toward site-native woodland. This should be targeted where remnant features persist either within or adjacent to these stands.



Image 2.
An area of pure Western hemlock where light levels are such that it allows the regeneration of hemlock to establish, restricting the colonisation of ground flora and native tree species. Initial works are required to remove the hemlock regeneration prior to gradual reduction of the established hemlock trees. This is a high priority site where ongoing works are likely to include further control of unwanted regeneration.



Image 3.
An area of semi-natural woodland in Combs Wood with a good range of species and structural diversity through which one of the many watercourses feed into the Murk Esk watercourse. There are no immediate threats to the woodland condition and at present no work is required.



Image 4.
An area of mixed woodland, dominated by broadleaved tree species including ash and sycamore. Although Sitka spruce is present in low numbers, there is no evidence of unwanted spruce regeneration and native woodland plant communities are well established. This is a low priority site for conifer removal.



Image 5.
Old fallen hulks provide an invaluable deadwood resource for a wide variety of fungi and insect species and are integral to a fully-functioning woodland ecosystem. The priority here is to retain a dapple-shade environment which maintains a stable microclimate (light, temperature, moisture) to allow the forest recycling process to continue. Monitor condition and remove threats such as conifer regeneration if identified.



Image 6 & 7
Water features prominently both as streams, pools, waterfalls and surface water running across the forest floor and form an important natural resource across the woodlands at Goathland. Opportunities arise where the gradual **reduction** of conifer dominated stands will allow ground flora and broadleaf species to re-establish. Prioritise sites where erosion and sediment delivery compromise water quality and ecological condition of the Murk Esk and West Beck.



Image 6 & 7
Water features prominently both as streams, pools, waterfalls and surface water running across the forest floor and form an important natural resource across the woodlands at Goathland. Opportunities arise where the gradual reduction of conifer dominated stands will allow ground flora and broadleaf species to re-establish. Prioritise sites where erosion and sediment delivery compromise water quality and ecological condition of the Murk Esk and West Beck.



Image 8.
Areas of conifer-dominated stands with existing semi-natural features, such as here with pole-stage ash and developing ground flora, provide significant opportunities to restore to site-native conditions. This is a priority site where thinning and/or small-scale felling of conifers can be targeted.

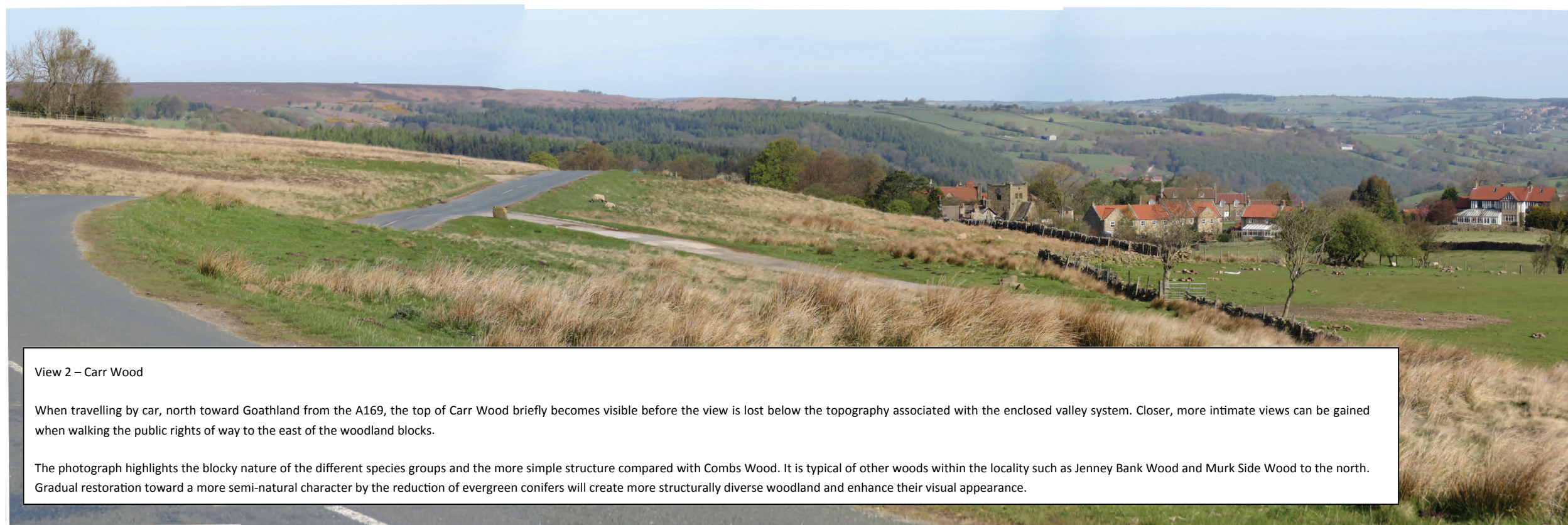


Image 9.
Previous windblow events can create ideal conditions for the development of deadwood habitats and bryophytes. Monitor condition and remove threats such as conifer regeneration if identified.

View 1 – Combs Wood

The view from public rights of way north-east of Beck Hole across to Combs Wood highlight the complex composition of deciduous broadleaves (ash, beech, sycamore), deciduous conifers (larch) and evergreen conifers (hemlock, spruce, fir). The woods are a prominent feature within a complex and varied landscape.

The gradual reduction of evergreen conifers to a more broadleaf-dominant woodland will have a beneficial impact within the landscape as the semi-natural character of the woodlands increase and are more in keeping with similar woods across the locality such as nearby Blue Ber Wood and Keld Scar.



View 2 – Carr Wood

When travelling by car, north toward Goathland from the A169, the top of Carr Wood briefly becomes visible before the view is lost below the topography associated with the enclosed valley system. Closer, more intimate views can be gained when walking the public rights of way to the east of the woodland blocks.

The photograph highlights the blocky nature of the different species groups and the more simple structure compared with Combs Wood. It is typical of other woods within the locality such as Jenney Bank Wood and Murk Side Wood to the north. Gradual restoration toward a more semi-natural character by the reduction of evergreen conifers will create more structurally diverse woodland and enhance their visual appearance.