

Wass Moor and Pry Rigg Forest Plan FP 52 2023

Yorkshire Forest District



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



Wass Moor and Pry Rigg Forest Plan

Forestry England - Property

Forest District:	Yorkshire
Woodland or property name:	Wass Moor and Pry Rigg
Nearest town, village or locality:	Wass
OS Grid reference:	SE 5745 8071
Local Authority district/unitary Authority:	North York Moors National Park and North Yorkshire County Council

Areas for approval

	Conifer	Broadleaf
Felling	38.85ha	
Lower Impact Silvicultural Systems regeneration felling	64.41ha	6ha
Restocking	97.32ha	11.94ha

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.

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Wass Moor and Pry Rigg

663.4 Hectares (Ha)

Period of Plan: 2023 - 2033

1. Background

These two woodlands situated at the southwest corner of the North York Moors National Park, cover 663.4ha; 158ha is freehold with the remainder being leasehold.

The block dates to the 1920s at College Moor and Pry Rigg, followed by further plantings in the 1950s on Wass Moor and is surrounded by arable farmland on the plateau, with some woodlands on valley sites.

The Forestry England (FE) managed blocks of Deer Park and Oldstead sit directly to the North and West respectively.

2. Describing the Site

2.1 Geology and Soils (FP Map 01)

Soils here follow a simple pattern. The plateau is predominantly an iron pan soil giving way to brown earths at the slopes, with some gleyed areas into valley bottoms. There are areas of skeletal rendzina soils at Oxlose Wood and Mason Gill Wood.

2.2 Current Tree Species (FP Map - 02 and 03)

Tree species are chosen in response to soil types.

Since the previous plan, Larch as a percentage of planted conifer has reduced to 24% (27% at 2016).

Mixed broadleaf species are present across 140.75ha, encompassing 3.83ha of Upland birchwoods and 5.8ha of Upland oakwood habitats; 26.6ha is covered by a natural reserve management type and conifer habitat is present across 491.1ha.

Wass Moor is predominated by Scots Pine, with Larch (Japanese and Hybrid) and Douglas fir, and it is interesting to note that there is 17.2ha of Red Oak. The banks above the village of Wass, including 67.65ha of Ancient Woodland (ASNW and PAWS) are predominantly mixed broadleaf.

Pry Rigg plantation is predominated with Larch (Hybrid, Japanese, European), Sitka Spruce, Scots Pine and Douglas Fir.

Ash forms the main broadleaf component accounting for 5.5% of the overall area, followed by Oak at 5.1% and Birch at 4.8%. Other broadleaves include Sycamore and Beech.

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Species Composition	2016		2023	
	Ha	%	Ha	%
MB	140.75	23.58	151.9	23.74
PINE	179.80	30.12	189	30.11
LARCH	161.17	27.00	154.70	24.65
FIR	47.96	8.03	54.70	8.72
SPRUCE	49.69	8.32	67.20	10.71
OTHER CONIFER	17.58	2.95	13.00	2.07

2.3 Wind Damage

Most of the plateau is Wind Hazard Class (WHC) 3, with areas of WHC 1 and 2 on the slopes and in the gills, with a relatively small area of WHC 4.

Sites across WHC 1 and 2 offer good stability allowing a full range of management options to be considered. The ability to thin and extend rotations is important in the implementation of Lower Impact Silvicultural Systems (LISS) and the conversion process of Ancient Woodland areas. Higher Wind Hazard Classes of 4 and 5 restrict the choice of management options in relation to thinning and rotation length.

Since the previous plan, opportunities have been taken to carry out 288.54ha of LISS across stable stands, offering improvements to structural and species diversity.

2.4 Landscape (Photographic montage)

The woods comprise two large, predominantly coniferous blocks, that are both distinct and contiguous within the landscape.

The area is characterised by farmland and woodland, where boundaries are often straight for long distances (up to 3km) along adjacent roads. Due to the high speed of traffic using adjacent roads together with local topography, the long straight edges are not always immediately obvious, although effort has also been made to soften them, such as along the A170.

Wass Moor is the most westerly of the two blocks and sits on the plateau area, sloping gently southwards where the southern edge of the wood interlinks with the uppermost reaches of 8 gills and slacks leading to lower ground in the south. An area of predominantly broadleaved woodland slopes down from the south-western corner to encircle Wass Village and joins with the neighbouring Forestry England block of Oldstead.

Pry Rigg sits mostly on the plateau, however slopes eastwards along Dropping Gill, Oxlose Gill and Mason Gill.

The woods form an integral part of the landscape character of this location within the North York Moors Southern Hambleton character area. The southwestern slopes are visible as distant views from much of the Vale of York between York and Thirsk, with the eastern slopes are visible from the vale of Pickering.

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Since the previous plan the forest has seen an increase in its overall species and structural diversity, mainly through increased utilisation of LISS. Species diverse conifer restocking with naturally regenerating conifer and broadleaf species across previously felled sites is contributing to a more diverse forest composition, which responds well when seen from different locations.

Fixed-point photographs of both external and internal views demonstrate the changing structure across the forest and how this is providing a more positive contribution to the overall landscape.

2.5 People and Community (FP Map - 04)

Wass Moor and Pry Rigg woods are predominantly leasehold, which include retained sporting rights. The area of dedicated freehold woodland (158 ha) provides public access for walkers, dog walkers and horse riding.

Two bridleways and three public footpaths experience varying use levels and there is no formal recreation provision. Generally, these blocks see low levels of informal access from walkers and horse riders.

The busy A170 runs along part of the northern boundary.

2.6 Natural Heritage (FP Map - 04)

Mason Gill in Pry Rigg forms part of the same geological formation as the nearby Deer Park and Ryedale Windy Pits, with related rock fissures. Duckendale in Wass Moor also has notable areas of exposed local geology.

Areas of Duckendale, Burtis Wood, Dropping Gill, Oxclose Wood and Mason Gill Wood make up 152.19ha of ancient woodland, including both PAWS and ASNW sites.

Both woods contain contrasting elements of upland acidic heath and calcareous wood and grassland. Wass Moor has good areas of heathland along roads and rides, and as ground vegetation under some areas of high forest. Pry Rigg has areas of calcareous grassland, scrub and wood at Salmons Wood and Oxclose Wood.

The mosaic of habitats developing across the block provide opportunities to manage mixed woodland with variable proportions of open and temporary open space.

The blocks rich ecological value is closely related with the areas of ancient woodland and herb rich verges.

During the previous plan this block provided an important contribution towards the districts PAWS restoration process through felling and thinning programmes.

The woods support a range of national and regionally important bird species across different habitat types (see Appendix 1) and Schedule 1 birds of prey.

2.7 Cultural Heritage

Pry Rigg and Wass Moor have a rich, wide range of cultural heritage features including 7 scheduled monuments (SAM) which continue to be managed with approved management plans, including a round cairn system and double dykes. Wass Moor sits adjacent to the protected monument of Byland Abbey.

Other features include parish boundary banks, boundary stones, quarries, and walls.

3. Describing the Project

3.1 Project Brief

- Continue to sustainably harvest timber from clearfell and thinning's, including LISS and landscape sensitive regeneration felling.
- Increase the diversity of the age structure and improve landscape impact by maintaining current felling patterns. Enhance external and internal landscape edges, using appropriate silvicultural systems, including LISS.
- Manage proportions of productive mixed conifer and broadleaf. Looking to retain existing conifer stands where appropriate and manage through LISS.
- Consider a selection of ESC supported alternative main tree species that will contribute towards a greater range of species diversity, to maintain or increase timber productivity and increase resilience to plant health, biosecurity threats and climate change.
- Protect and, where appropriate, enhance all known sites of archaeological and ecological importance including areas of ASNW and PAWS.
- Larch cover is present across 154.7 ha, including as a component in mixed and pure stands, covering 24.65% of the forest by area. Following a confirmed *P. ramorum* infection in Wass during 2021, we will continue its reduction as a component within mixed stands, considering strip or group felling in pure stands.

3.2 Objectives

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 Natural England and FE systems.
- Maintain the ecological, cultural and heritage value of these woods, to be measured by Historic England, NYMNP Authority and FC systems accordingly.
 - PAWS restoration continues through felling and thinning programmes.
 - As part of the York beat, Wass Moor and Pry Rigg provide an important contribution to the Districts PAWS restoration process with 152.19 ha (23% by area) designated as ancient woodland status. The block sits entirely within the North York Moors National Park.
- Where practicable, manage stands through LISS regeneration felling, utilising natural regeneration and enrichment planting, particularly across areas of PAWS, whilst targeting the retention of high-value conifer crops.

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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.
- Maximise and maintain a sustainable supply of timber from a diverse range of site-appropriate conifer and broadleaf species, to be measured by FE systems.
- With 90% of the plantable area supporting productive high forest, Wass Moor and Pry Rigg remains an important block for its contribution to the district's timber producing capacity, particularly hardwoods.
- Continue the reduction of larch as a component within mixed stands, consider strip and group felling in pure stands.
- Increase rhododendron control especially within or adjacent to larch crops.

People

- Maintain the woodlands contribution to the landscape character NYMNP Southern Hambleton character area.
- Clearfell areas will be designed so that their size and scale are in keeping with the surrounding landscape. To be measured by fixed-point photography.

3.3 Opportunities & Constraints

- Though limited in scope, increase the contribution of broadleaf stands to timber production, including those containing ash.
- During the lifetime of this plan, we will explore the opportunities regarding public access, engagement, and recreational use, guided by the Yorkshire Forest District Recreation Strategy which is currently in development.
- The discovery and advance of *Phytophthora ramorum* (*P. ramorum*) on Larch and rhododendron in nearby FE woodlands, within Wass and across the wider district may present issues if crops become infected. This could have a significant negative impact across this block. This is particularly important due to the high visual impact that larch makes across Wass Moor and Pry Rigg.
- *Dothistroma septosporum* (DNB) and *Dendroctonus micans* (*D.micans*) could have a significant impact should significant infection rates occur. DNB could have a significant impact across pine stands which account for 28.2% of all planted species and 39.52% of planted conifer.
- Site limiting factors - low nutrient in places.

- Though limited, some areas have challenging, steep ground access issues, particularly relevant for thinning operations. Consider the range of silvicultural systems or combinations of systems to manage these sites, such as clearfell, long term retention, extended rotation.

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 North York Moors National Park Authority.

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 Wass Moor and Pry Rigg, this will include:

- Increase and improve the deadwood resource as set out in - ‘Deadwood - Policy, Procedures, Guidance (PPG) 51 (March 2022)’. 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.
- Managing PAWS as set out in - ‘Keepers of Time: ancient and native woodland trees policy in England (May 2022), ‘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.

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. There are no Long Term Retentions in Wass Moor and Pry Rigg.

Invasive species

Rhododendron ponticum is recorded across several sites in the forest. A programme of vegetation management will be carried out over the duration of this plan where this is likely to impact on high value conservation sites.

3.4.2 Timber Harvesting

We will continue to sustainably harvest timber from clearfelling, LISS and thinning's. 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 Wass Moor and Pry Rigg

3.4.3 Landscape

Wass Moor and Pry Rigg woods are situated wholly within the North York Moors National Park, a protected and designated landscape. Felling as seen from prominent viewpoints under the previous plan has benefited its associated landscape impact.

Clearfell and shelterwood areas are designed so that their scale and shape are in keeping with the scale of the forest blocks and the surrounding landscape. The resulting diversity in age and height that these systems produce will enhance both external and internal views of the forests.

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

Appropriate scale felling across the forest will continue the process of restructuring, continuing away from even-aged, single species stands to a more mixed conifer/broadleaf woodland linking with other associated habitats.

The adoption of appropriate silvicultural systems will contribute toward the creation and retention of species and structurally diverse woodlands within the landscape.

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

3.5 Plan (FP Map 08)

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.

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3.6 Areas (FP Maps 05, 06 and 07)

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

FP Map 06 shows the location of felling sites.

Felling	Area - hectares	% of total area (excl. SSSI)	Projected volume (m ³)
2023 - 2026 Clearfell	17.56ha	2.64	7024m ²
2027 - 2031 Clearfell	11.68ha	1.76	4672m ²
2032 - 2033 Clearfell	9.61ha	1.44	3844m ²
LISS regeneration felling*	70.41ha	10.61	28164m ²

* Through this plan a large proportion of Wass Moor and Pry Rigg will be managed utilising LISS through Strip, Group and Irregular Shelterwood silvicultural systems. During the plan period, it is proposed that areas of LISS where crops are over 25 years old will receive a silvicultural intervention (thinning/regeneration felling), as a result, and as with Clearfell areas, the associated area will be regenerated through a combination of restocking and natural regeneration removing no more than 30% of the stems within any single compartment over the plan period. See Appendix 2 - LISS justification.

3.6.2 Breakdown of constituent areas.

FP Map 07 Future Habitat and Species, shows the location and detail of the constituent areas.

Habitat type (based on principle species planted)	Area - hectares			% of total area		
	2023	2033	2053	2023	2033	2053
*Broadleaved; mixed/yew woodlands.	151.9	159.7	169.7	22	24	26
Coniferous woodlands	491.1	411.5	396.3	71	62	60
Upland heathland	8.2	7	10.1	1	1	1.5

*Including lowland mixed deciduous woodland, upland birchwoods, upland mixed ashwoods, upland oakwood

3.7 Methods / Forest Operations

3.7.1 Planning

Before any major forest operations are undertaken an Operational Site Assessment (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 appropriate operational file

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 England staff will monitor work through regular site visits to ensure all guidelines and contract conditions are adhered to.

All plans are required to consider LISS in windfirm conifer plantations. 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, Ecological Site Classification system (ESC), a range of conifer species are considered 'optimum' to 'unsuitable' for LISS where timber production is considered as an objective.

Through this plan the area to be managed under LISS is 70.41 ha of a total LISS area of 577.4ha. See Appendix 2 - LISS Justification.

During the lifetime of this plan we will look to introduce the concept of Forest Development Types (FDT). "*A Forest Development Type is a long-term vision of how the species composition and structure of a forest stand is intended to develop. The concept encourages the greater use of mixed-species stands and a wider variety of stand structure than previously deployed in British forests*".¹ See Appendix 6 for an example range of appropriate FDTs.

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.

¹ Forest Research - Forest Development Types: A guide to the design and management of site-adapted resilient mixed forest stands in Britain

3.7.5 Restocking

Conifer

Areas of LISS regeneration felling carried out as part of management by LISS and clear felling will be established through a combination of restocking using alternative productive conifer species, diversifying age structure and species 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.

In addition to replanting, areas of LISS and clearfelling will be managed to encourage natural regeneration of conifer and broadleaf species, although it is accepted that replanting will be required to maintain and further diversify the current range of species.

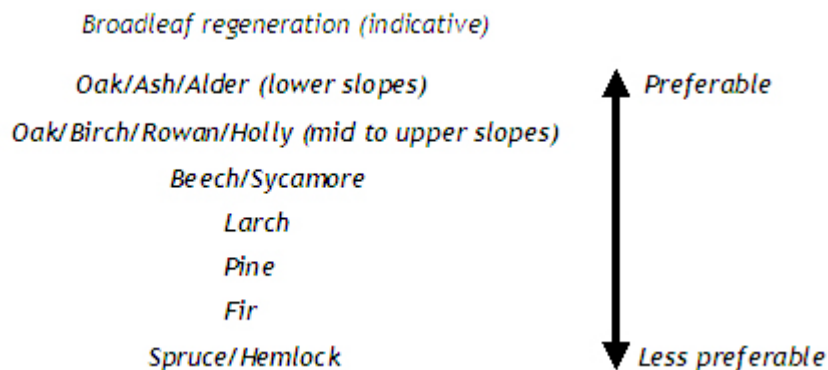
Reference to Predominantly Mixed Conifer on the Future Habitat & Species Map (FP Map 07) will be used to describe those areas where a range of species will be planted and/or regenerated, where conifer species will comprise at least 80% of the component mix. As indicated at 3.7.1, the OSA will provide 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 conifer 2500 stems per hectare through planting, natural regeneration, or a combination of both.

Broadleaf

There are 152.19 ha of Ancient Woodland Sites across Wass Moor and Pry Rigg which currently range 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 such as beech and sycamore and the principles of assisted migration where these can enhance resilience to the 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.



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

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species will comprise at least 70% of the component mix within areas of ancient woodland and at least 60% elsewhere.

Targeted enrichment planting will be considered across sites that fail to develop sufficient natural regeneration of broadleaf species.

Most sites will achieve at least 1100 broadleaf stems per hectare through natural regeneration, planting or a combination of both.

3.7.6 Wildlife Management

The successful establishment of future restocking sites through planting and/or natural regeneration will require effective control of crop damaging mammals. Although deer are present within the forest and surrounding farmland, good levels of natural regeneration indicate browsing pressure is low. Damage levels will continue to be monitored and will be managed in line with the Yorkshire Forest District Deer Management Strategy.

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 2028 with the 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.

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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	663.4	100	20,971	100
Total Wooded area	646.1	97.4	18,594	85
Natural Reserves - Plantation (1%)	0	0	294	1.7
Natural Reserves - Semi-natural (5%)	0	0	101	5.6
Long-term Retentions and Low Impact Silvicultural Systems (>1%)	577.4	87	10,004	47.9
Area of conservation Value (15%) including designations; SSSI, PAWS, ASNW, NR, LTR, LISS	577.4	87	10,004	47.9
Planned Open/Other (Managed Open and Open Successional)	40.9	6.2	3,113	14.8

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 \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/672222/Keepers_of_time_-_ancient_and_native_woodland_and_trees_policy_in_England.pdf)

Major threats to native woodland are:

- Climate change and fragmentation
- Excessive browsing and grazing by deer, livestock and grey squirrels
- Inadequate or inappropriate management
- Invasive and non-native plant species
- Diffuse pollution
- Pests and diseases
- Inappropriate recreational use
- Development and boundary incursions

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 Wass Moor and Pry Rigg. 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 Wass Moor and Pry Rigg. 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 species).

Appendices

Appendix 1 - Priority species

Bird Species ¹	Forest location	Habitat enhancement
Woodcock, Dunnock	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. Create and maintain successional woodland (birch and oak)/scrub habitat and standing deadwood.
Tree pipit Wood warbler Willow warbler Garden warbler Spotted flycatcher Willow tit Marsh tit Lesser redpoll Lesser spotted woodpecker Song Thrush Redstart	Woodland edge, ride, glade	Continue selective thinning and regeneration felling as part of LISS management, this will create increased structural and species diversity. Expand road and ride margins to extend herb and invertebrate rich roadside verges, increase habitat connectivity and edge habitat. Create and maintain successional woodland (birch and oak)/scrub habitat and standing deadwood.
Nightjar	Open habitat/ wooded heath	Maintain a mosaic of open structure woodland/wooded heath with areas of open habitat with short grass/heath for feeding and denser vegetation for nesting through woodland management and grazing as appropriate.
Reptile ²	Forest location	Habitat enhancement
Adder Common Lizard	Heathland/verges	Maintain the known sites in suitable condition through vegetation management. Plan operations to minimise damage to known hibernacula sites. Maintain a mosaic of open structure woodland/wooded heath, wide rides and forest road verges.

¹ Source - BTO Bird Atlas and Breeding Bird Survey data and surveys undertaken by the Forest bird study group.

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).

²Amphibian and Reptile Group

³FE Wildlife monitoring volunteers

Appendix 2 - LISS justification

Site Appraisal

Site Factor	Suitability Score	Comment
<p>Wind Hazard Classification:</p> <p>Majority of the forest is WHC range 1 - 3</p>	1	ESC indicates rooting depth ranges between 20 cm to 100 cm.
<p>Soil fertility:</p> <p>Poor Iron Pan, Typical Ground-Water Gley, Rendzina</p> <p>Medium Brown Earth</p>	2 3	<p>Isolated areas of medium fertility related to gills and areas of ancient woodland</p> <p>Competing ground vegetation is generally that associated with poor sites although localised areas of bramble indicate increased fertility.</p> <p>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.</p>
<p>Current species suitability:</p> <p>CP, LP, MCP, MAP, SP, WEP, RAP, NS, ORS, OMS, SS, DF, ESF, GF, NMF, PSF, LEC, WH, EL, WRC, JCR, RSQ LC, Birch, Big leaf and Norway Maple, Beech, Ash, Oak, Sycamore, Alder, Aspen, Willow, Rowan, Service Tree, Horbeam, Wild Cherry, Sweet chestnut, Holly, Eucalyptus.</p>	1 or 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.

Initial analysis indicates significant parts of Wass and Pry Rigg achieve a Good site ranking for transformation to LISS. Remaining areas achieve Medium ranking.

Stand Appraisal

Stand form - Overall stand form across most conifer species is good and developing but more variable across broadleaf species.

Thinning history - Regular thinning has been carried out across the majority of conifer stands where threshold basal area has been reached, providing opportunities for subsequent selective thinning to improve crown development. Though limited in area, most 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*, *D.septosporum*, *D.micans* and *Chalara* on larch, pine, spruce 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.

Access - Although good infrastructure exists across most of the forest areas, there are areas where access is challenging. Thinning and LISS management will seek to maximise stand development where safe to do so.

























































On the basis of the above information, we will consider transformation to LISS for the majority of the block with the aim of increasing species diversity through enrichment planting using a range of species depending on site objectives.

Strip (between 20 to 25 m wide), Irregular and Group shelterwood (up to 0.6 ha in size) systems will be applied to a range of stand types where the felling of small coupes, will contribute toward the development of a diverse woodland.

Future wildlife management issues may arise where deer browsing could impact Shelterwood systems as more palatable species are introduced. 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 Wass and pry Rigg, enrichment planting could consider the introduction of Macedonian pine, Grand Fir, Norway, Oriental and Serbian spruce, Coast Redwood, Western red cedar and a range of Fir species across areas to be managed as productive, conifer dominant woodland and Common alder, Hornbeam and Oak species for productive broadleaf dominant areas.

Ecological Site Classification Report

Nordmann fir	NMF			14	SNR							3(C)
Pacific fir	PSF			19	CT							3.4(C)
Leyland cypress	LEC			16	SNR							3(B)
Western hemlock	WH			16	DAMS							3(A)
Giant redwood	WSQ			12	SNR							3(B)
Coast redwood	RSQ			17	SNR							3(B)
Lawson's cypress	LC			15	SNR							3(B)

Ecological Site Classification Report

True service tree	TST			5	SNR							3(A)
Wild service tree	WST			6	SNR							3(A)
Black walnut	JNI			6	SNR							3(B)
Common walnut	JRE			0	SNR							3(B)
Hornbeam	HBM			7	SNR							3(A)
Small-leaved lime	SLI			5	SNR							3(A)
Wych elm	WEM			0	SNR							3(A)
Wild cherry	WCH			7	SNR							3(A)
Sweet chestnut	SC			8	SNR							3(A)
White willow	WWL			3	SNR							3(C)
Holly	HOL			3	SNR							3(C)
Willow (SRC)	SRC			6	SNR							3(C)
Eucalyptus glaucescens (SRF)	SRF			14	SNR							3(C)

Appendix 3 - Restock species by soil type

Site type		Species														
Upland sites	Lowland sites	SP	LP	MCP	DF	ESF	GF	WH	WRC	Ley/Law C	Coast R	Giant R	HL	SS	NS	Oriental S
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 infill 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

[source data](http://www.forestry.gov.uk/fr/treespecies) 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

Appendix 4 - Wass and Pry Rigg Forest Monitoring Plan

Objective	Method	Frequency/Timings	Actions
People			
Maintain the woodlands contribution to the landscape character NYMNP Western Fringe character area. Clearfells will be designed so that their size and scale are in keeping with the surrounding landscape.	Fixed-point photography	Year 0 baseline, 5-year review, 10-year review.	Review visual impact of coupes within the landscape and adjust future coupe shape if necessary.
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.	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/records and broad habitat types; conifer, broadleaf, open. Ensure positive change through increasing diversity occurs over the lifetime of the plan.
	Review sample of Operational Site Assessments.	Annually	Provide feedback where management is not compliant with recommendations.
Maintain the cultural ecological heritage value of these woods.	Liaise with and review Historic England At risk Register, NYMNP shared monuments data, update Forester Web GIS Heritage module.	Annually or as data becomes available. At time of Year 0 baseline, 5-year review, 10-year review.	Review progress of annual maintenance programmes and adjust where At Risk status may decline from target condition.
Where practicable, manage stands through LISS regeneration felling, utilising natural regeneration and enrichment planting, particularly across areas of PAWS whilst targeting the retention of high-value Douglas Fir crops.	Update Forester Web GIS; subcompartment database	As recordable changes occur within the forest environment. At time of Year 0 plan renewal, 5-year review, 10-year review.	Measure changes in stand structure. Ensure positive change through increasing diversity occurs over the lifetime of the plan.
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.	Independent surveillance audit across the organisation.	Annually	Implement corrective actions as required.
	Independent surveillance audit across the District.	As per audit sample.	Implement corrective actions as required.
Maximise and maintain a sustainable supply of timber from a diverse range of site-appropriate conifer and broadleaf species	Update Forester Web GIS; subcompartment database, Operational Thinning Layer, Management Coupe Layer.	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.
Site-specific			
Clearfell coupes - ensure boundaries are accurately reproduced and within agreed tolerances as set out in Forestry Commission Practice Delivery Note 01 (FC PDN 01).	GPS unit or equivalent data recorders.	Upon completion of all harvesting activity.	If significant coupe variation, apply for appropriate amendment to FC as required as per FC PDN 01 prior to felling. Update Forester Web for completed clearfells.
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 <i>hylobius</i>).	On-site stocking density plot surveys.	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.
Restock & Future Habitat Coupes - Mixed broadleaf habitat. Establish at least 1100 broadleaf stems per ha through natural regeneration by year 10 since date of felling.	On-site stocking density plot surveys.	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.
LISS coupes - Productive mixed conifer sites. Establish at least 2500 conifer stems per ha by year 10 after final removal overstorey.	On-site stocking density plot surveys.	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.
Continue the reduction of Larch as a component within mixed stands, consider group felling/small scale regenerative felling in pure stands.	Update Forester Web GIS; subcompartment database	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. Ensure positive change through increasing diversity occurs over the lifetime of the plan.
Increase rhododendron control especially within or adjacent to Larch crops	On-site visual assessment and monitoring	As recordable changes occur within the forest environment.	Review activity across the forest and wider District to measure activity and to provide insight into gaps and future opportunities through volunteering.
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.	To be informed from results of beat-up surveys between years 1 to 4 and year 5 stocking assessment, internal guidance OGB4.	Target deer control in line with District strategy.
Plan specific			
Forest Plan mid-term review. Review the plan's aims and objectives and the progress of their implementation.	Apply a variety of measures as described in the above table.	2028	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 Forestry England 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 areas⁷	Delayed restocking - including natural regeneration	Species choice	Tree health
Formal assessment and approval by FC 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	From unconditional felling (thinning or low-intervention management) to conditional felling such as: <ul style="list-style-type: none"> • regeneration felling • strip felling² • clear felling and where ≥50% of standing tree volume is to be removed	Individual work area that is either: <p>>5ha of standing trees associated with wind-blow areas</p> <p>or</p> <p>Proposals result in cumulative additional felling⁸ affecting >20% of the Forest Plan area⁹</p>	N/A – dealt with via FC Area team approval (below)	From mixed, predominantly broadleaves to predominantly conifer	Where no SPHN is issued but felling of ≥65% standing tree volume is required in response to a plant health issue
Written approval only required from FC area team³	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	From unconditional felling (thinning or low-intervention management) to conditional felling where between 30%-50% of standing tree volume is to be removed such as: <ul style="list-style-type: none"> • regeneration felling • strip felling <p>or</p> <p>From lower intensity regeneration felling to higher intensity regeneration felling, (as defined by the felling operation hierarchy⁵) where <50% of standing tree volume is to be removed</p>	Individual work area that meets both the criteria: <p>1-5ha of standing trees associated with wind-blow areas,</p> <p>(Where there is an <u>immediate</u> and <u>significant</u> risk to health and safety or access, felling of ≥5ha of standing trees associated with wind-blow areas)</p> <p>and</p> <p>Proposals result in cumulative additional felling⁸ affecting <20% of the Forest Plan area⁹</p>	Planting: <p>Where this is ≥ 4 planting seasons from the date of felling.</p> <p>Natural regeneration: <p>where necessary intervention to secure natural regen is not implemented within 4 full planting seasons from date of felling</p> </p>	Deciduous conifers to predominantly evergreen conifers	Where no SPHN is issued but felling between ≥50% and < 65% of standing tree volume is required in response to a plant health issue
No formal or written approval by FC area team required⁶	< 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 strip felling, shelterwood or regenerative felling systems, or thinning <p>or</p> <p>From more severe regeneration felling to less severe regeneration felling as defined by the regeneration felling hierarchy⁵</p>	<1ha of standing trees associated with wind-blow areas <p>(Where there is an <u>immediate</u> and <u>significant</u> risk to health and safety or access, felling of 1ha-5ha of standing trees associated with wind-blow areas)</p> <p>and</p> <p>Proposals result in cumulative additional felling⁸ affecting <10% of the Forest Plan area⁹</p>	For any changes to the timing of restocking where this occurs <4 full planting seasons from the date of felling	Any other changes	Where an SPHN is issued <p>Or</p> <p>Thinning / regenerative felling <50% of standing tree volume is required in response to a plant health issue</p>

¹ Greater than 20% of the coupe boundary

² Felling strips with a width ≤ 1.5 x treelengths, with a length appropriate to site constraints.

³ Approval letter retained for compliance inspection purposes.

⁴ 20% or less of the coupe boundary

⁵ Lower impact operation to higher impact operation hierarchy: thinning, selection system, uniform shelterwood, irregular shelterwood, group shelterwood, strip felling, clear felling.

⁶ District must keep all **assessment and decision-making** records in respect of amendments for **audit purposes** and compliance inspections

⁷ Operations remain subject to other approvals for sensitive areas (e.g. SSSI, SAM etc). Subject to agreement of this tolerance table by relevant protected landscapes.

⁸ Cumulative additional felling = 5 year rolling total area of growing trees felled (excludes dead and completely windblown trees) that were not approved for felling within the relevant felling period, in the initial approved Forest Plan. This includes both FS approved amendments and felling below thresholds. The intention is to identify instances where events result in more substantial shift in management requiring increasing need for review of forest plan proposals.

⁹ For Yorkshire Forest District the "Forest Plan Area" will be utilized rather than "Forest Management Unit" when considering cumulative impact.

Appendix 6 - FDT

“A Forest Development Type is a long-term vision of how the species composition and structure of a forest stand is intended to develop. The concept encourages the greater use of mixed-species stands and a wider variety of stand structure than previously deployed in British forests”.¹

As can be seen from the table below, there are a range of FDT’s suitable to Wass and Pry Rigg

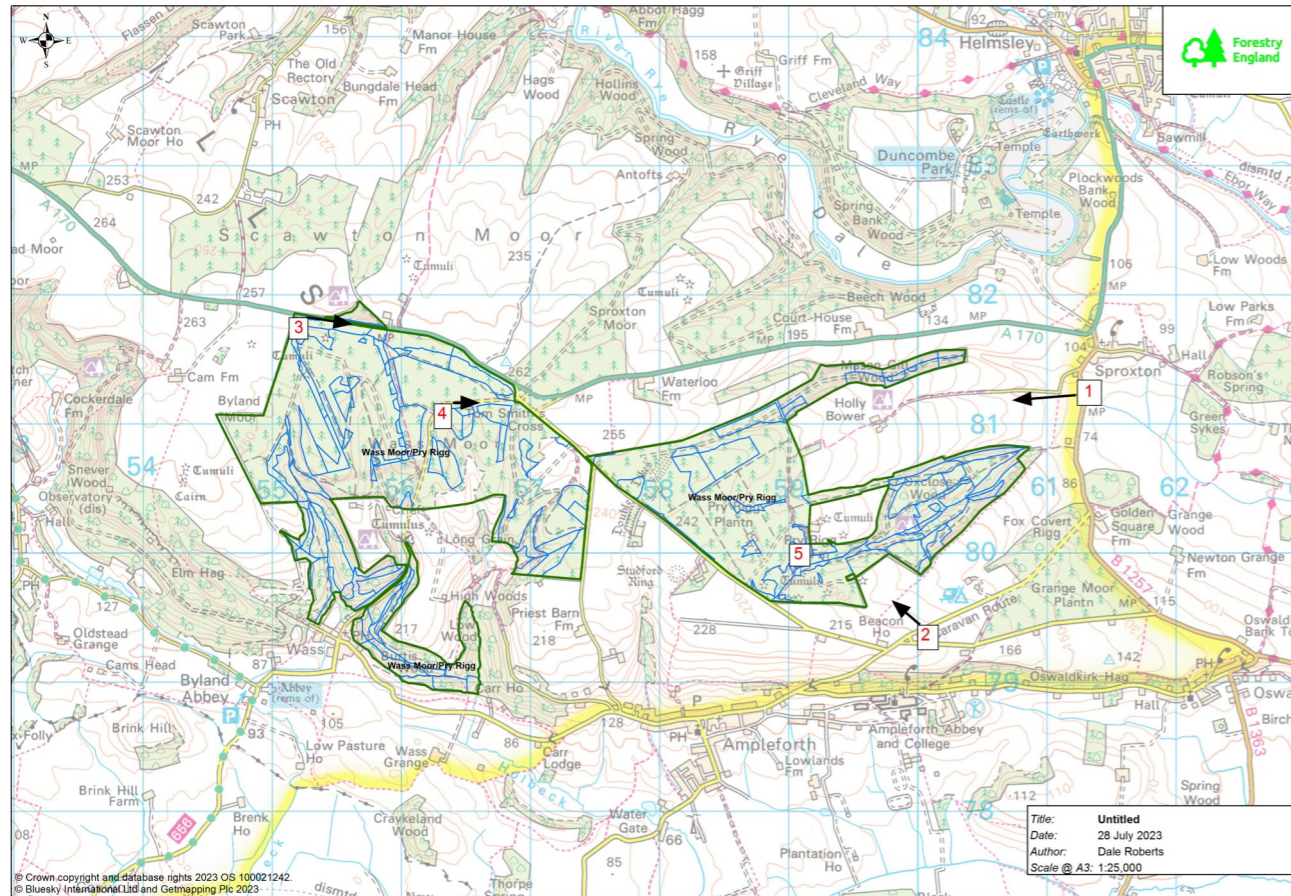
Code	Description	Future Climate		Future Climate (AWC)		Primary Species	Primary Proportion	Secondary Species	Secondary Proportion	Even aged		Uneven aged		Flashcard
		2050	2080	2050	2080					Unthinned	Thinned	Simple	Complex	
1.1.1	Sitka spruce even aged	Suitable	Unsuitable	Suitable	Suitable	SS	90-100			x	x*			FDT 1 1 1 SS V1.pdf
1.1.2	Sitka spruce uneven aged	Suitable	Unsuitable	Suitable	Suitable	SS	80-90					x*	x	FDT 1 1 2 SS V1.pdf
1.1.4	Sitka spruce with light demanding conifers	Suitable	Unsuitable	Suitable	Suitable	SS	60-80	XCLD	20-40	x	x*	x	x	FDT 1 1 4 SS and XCLD V1.pdf
1.1.5	Sitka spruce with shade tolerant conifers	Suitable	Unsuitable	Suitable	Suitable	SS	60-80	XCST	20-40		x	x*	x	FDT 1 1 5 SS and XCST V1.pdf
1.1.6	Sitka spruce with beech	Suitable	Unsuitable	Suitable	Suitable	SS	70-90	BE	Oct-30		x*	x	x	FDT 1 1 6 SS and BE V1.pdf
1.1.7	Sitka spruce with long lived broadleaves	Suitable	Unsuitable	Suitable	Suitable	SS	50-90	XBLL	Oct-50		x	x*	x	FDT 1 1 7 SS and XBLL V1.pdf
1.1.8	Sitka spruce with short lived broadleaves	Suitable	Unsuitable	Suitable	Suitable	SS	50-90	XBSL	Oct-50	x	x*			FDT 1 1 8 SS and XBSL V1.pdf
1.2.1	Norway spruce even aged	Suitable	Suitable	Suitable	Suitable	NS	90-100			x	x*			FDT 1 2 1 NS V1.pdf
1.2.2	Norway spruce uneven aged	Suitable	Suitable	Suitable	Suitable	NS	80-90					x*	x	FDT 1 2 2 NS V1.pdf
1.2.3	Norway spruce with Sitka spruce	Suitable	Suitable	Suitable	Suitable	NS	70-90	SS	Oct-20	x	x*	x	x	FDT 1 2 3 NS and SS V1.pdf
1.2.4	Norway spruce with shade tolerant conifers	Suitable	Suitable	Suitable	Suitable	NS	60-80	XCST	20-40	x	x	x*	x	FDT 1 2 4 NS and XCST V1.pdf
1.2.5	Norway spruce with beech	Suitable	Suitable	Suitable	Suitable	NS	50-70	BE	20-40		x	x	x*	FDT 1 2 5 NS and BE V1.pdf

¹ Forest Research - Forest Development Types: A guide to the design and management of site-adapted resilient mixed forest stands in Britain

1.2.6	Norway spruce with long lived broadleaves	Suitable	Suitable	Suitable	Suitable	NS	60-80	XBLL	20-40		x	x*	x	FDT 1 2 6 NS and XBLL V1.pdf
1.2.7	Norway spruce with short lived broadleaves	Suitable	Suitable	Suitable	Suitable	NS	70-90	XBSL	Oct-30	x	x*			FDT 1 2 7 NS and XBSL V1.pdf
2.1.1	Scots pine even aged	Suitable	Suitable	Suitable	Suitable	SP	80-100			x	x*			FDT 2 1 1 SP V1.pdf
2.1.2	Scots pine uneven aged	Suitable	Suitable	Suitable	Suitable	SP	70-90				x	x*	x	FDT 2 1 2 SP V1.pdf
2.1.3	Scots pine with shade tolerant conifers	Suitable	Suitable	Suitable	Suitable	SP	60-80	XCST	20-40			x*	x	FDT 2 1 3 SP and XCST V1.pdf
2.1.4	Scots pine with light demanding conifers	Suitable	Suitable	Suitable	Suitable	SP	60-90	XCLD	Oct-40		x*	x		FDT 2 1 4 SP and XCLD V1.pdf
2.1.5	Scots pine with sessile oak	Suitable	Suitable	Suitable	Suitable	SP	50-70	SOK	20-40				x*	FDT 2 1 5 SP and SOK V1.pdf
2.1.6	Scots pine with beech	Suitable	Suitable	Suitable	Suitable	SP	60-80	BE	20-40		x	x*	x	FDT 2 1 6 SP and BE V1.pdf
2.1.7	Scots pine with birch	Suitable	Suitable	Suitable	Suitable	SP	60-90	SBI	Oct-40		x	x	x*	FDT 2 1 7 SP and BI V1.pdf
2.2.1	Corsican pine with shade tolerant conifers	Suitable	Suitable	Suitable	Suitable	CP	30-70	XCST	30-70			x*		FDT 2 2 1 CP and XCST V1.pdf
2.2.2	Corsican pine with light demanding conifers	Suitable	Suitable	Suitable	Suitable	CP	30-70	XCLD	30-70		x*	x	x	FDT 2 2 2 CP and XCLD V1.pdf
2.2.3	Corsican pine with long lived broadleaves	Suitable	Suitable	Suitable	Suitable	CP	30-70	XBLL	30-70			x*		FDT 2 2 3 CP and XBLL V1.pdf
2.4.1	Larch with Scots pine	Suitable	Suitable	Suitable	Suitable	LA	60-90	SP	Oct-40		x*			FDT 2 4 1 LA and SP V1.pdf
2.4.2	Larch with shade tolerant conifers	Suitable	Suitable	Suitable	Suitable	LA	60-80	XCST	20-40			x*	x	FDT 2 4 2 LA and XCST V1.pdf
2.4.3	Larch with beech	Suitable	Suitable	Suitable	Suitable	LA	50-80	BE	Oct-40			x*		FDT 2 4 3 LA and BE V1.pdf
2.4.4	Larch with oak	Suitable	Suitable	Suitable	Suitable	LA	50-70	OK	20-40				x*	FDT 2 4 4 LA and OK V1.pdf
5.2.1	sessile oak with birch	Suitable	Suitable	Suitable	Suitable	SOK	50-80	BI	20-50		x	x	x*	FDT 5 2 1 SOK and BI V1.pdf
5.2.2	sessile oak with Scots pine	Suitable	Suitable	Suitable	Suitable	SOK	50-70	SP	20-40		x	x	x*	FDT 5 2 2 SOK and SP V1.pdf
7.1.1	birch even aged	Suitable	Suitable	Suitable	Suitable	BI	70-100			x	x*			FDT 7 1 1 BI V1.pdf

7.1.2	birch and short lived broadleaves	Suitable	Suitable	Suitable	Suitable	BI	50-70	XBSL	30-50	x	x*			FDT 7 1 2 BI and XBSL V1.pdf
7.2.1	silver birch and Scots pine	Suitable	Suitable	Suitable	Suitable	SBI	60-90	SP	Oct-40		x	x*	x	FDT 7 2 1 SBI and SP V1.pdf
7.2.2	silver birch and sessile oak	Suitable	Suitable	Suitable	Suitable	SBI	50-80	SOK	20-50			x	x*	FDT 7 2 2 SBI and SOK V1.pdf
8.1.2	sweet chestnut with long lived broadleaves	Suitable	Suitable	Suitable	Suitable	SC	50-80	XBLL	20-50		x	x*	x	FDT 8 1 2 SC and XBLL V1.pdf

Forest Design Plan Wass and Pry Rigg



1. SE 61299 81234.

View from B1257 towards PAWS areas of Pry Rigg, illustrating how this part of the woods fits well within the landscape.



2. SE 59913 79387.

Pry Rigg from near Beacon Bank showing Pry Rigg within the local landscape context.

3. SE 55186 81852

View of the Wass block from the busy a fast paced A170. This image illustrates how developing wooded heath softens the woodland edge.



4. SE 56705 81212

Image looking along Wass Bank Road, showing a developing wooded heath which is softening the woodland edge along this fast paced road.

5. SE 59073 80222

An image from Pry Rigg illustrating the development of a more diverse forest structure .

Here multiple species are establishing in a more diverse forest structure, realised through the implementation of LISS.










Wass Moor & Pry Rigg Forest Plan

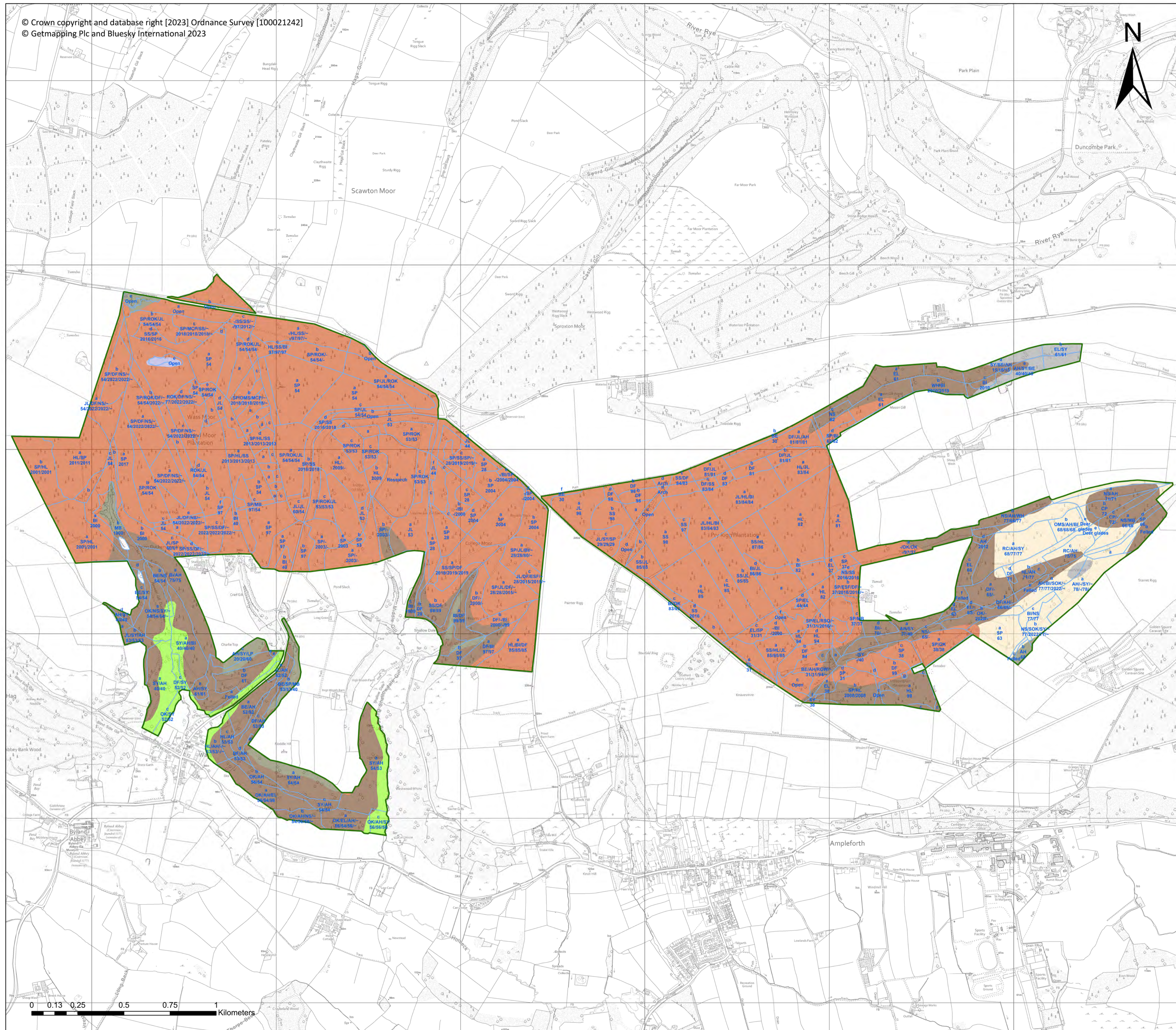
FP Map 01 - Soils

Scale: 1:10,000

When Printed @ A1

Created: August 2023

-  Forest Block
-  Brown Earth
-  Ironpan Soil
-  Typical Surface-Water Gley
-  Calluna, Eriophorum vaginatum Blanket Bog
-  Rendzina
-  Calcareous Brown Earth
-  Scree



Wass Moor & Pry Rigg Forest Plan

FP Map 02 - Current Species

Scale: 1:10,000

When Printed @ A1

Created: August 2023

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







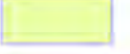








Wass Moor & Pry Rigg Forest Plan

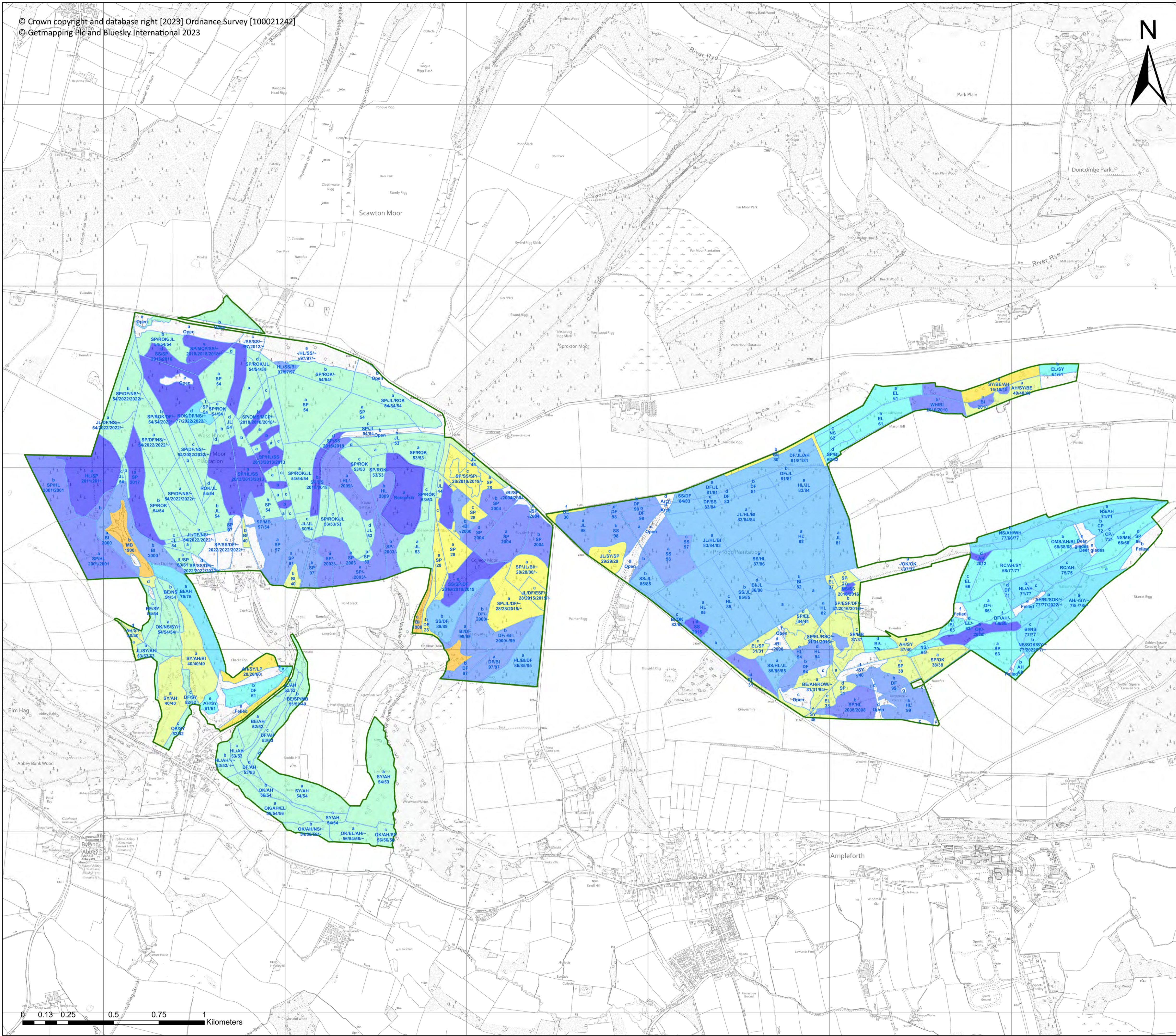
FP Map 03 - Age Class

Scale: 1:10,000

When Printed @ A1

Created: August 2023

-  Forest Block
-  1851 - 1900
-  1901 - 1920
-  1921 - 1930
-  1931 - 1940
-  1941 - 1950
-  1951 - 1960
-  1961 - 1970
-  1971 - 1980
-  1981 - 1990
-  1991 - 2000
-  2001 - 2010
-  2011 - 2022



Wass Moor & Pry Rigg Forest Plan
FP Map 04 - Management Information
Scale: 1:10,000
When Printed @ A1
Created: August 2023

-  Forest Block
-  Overhead powerline
-  Underground powerline
-  Public Rights of Way
-  Watercourses
-  Overhead telephone or fibreoptic
-  Underground telephone or fibreoptic
-  Water Pipelines
-  Water Supply Points
-  Heritage
-  Ancient & Semi-Natural Woodland
-  Ancient Replanted Woodland



Proposed Harvesting Map

The map shows how we intend to manage tree felling in Wass Moor & Pry Rigg 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.

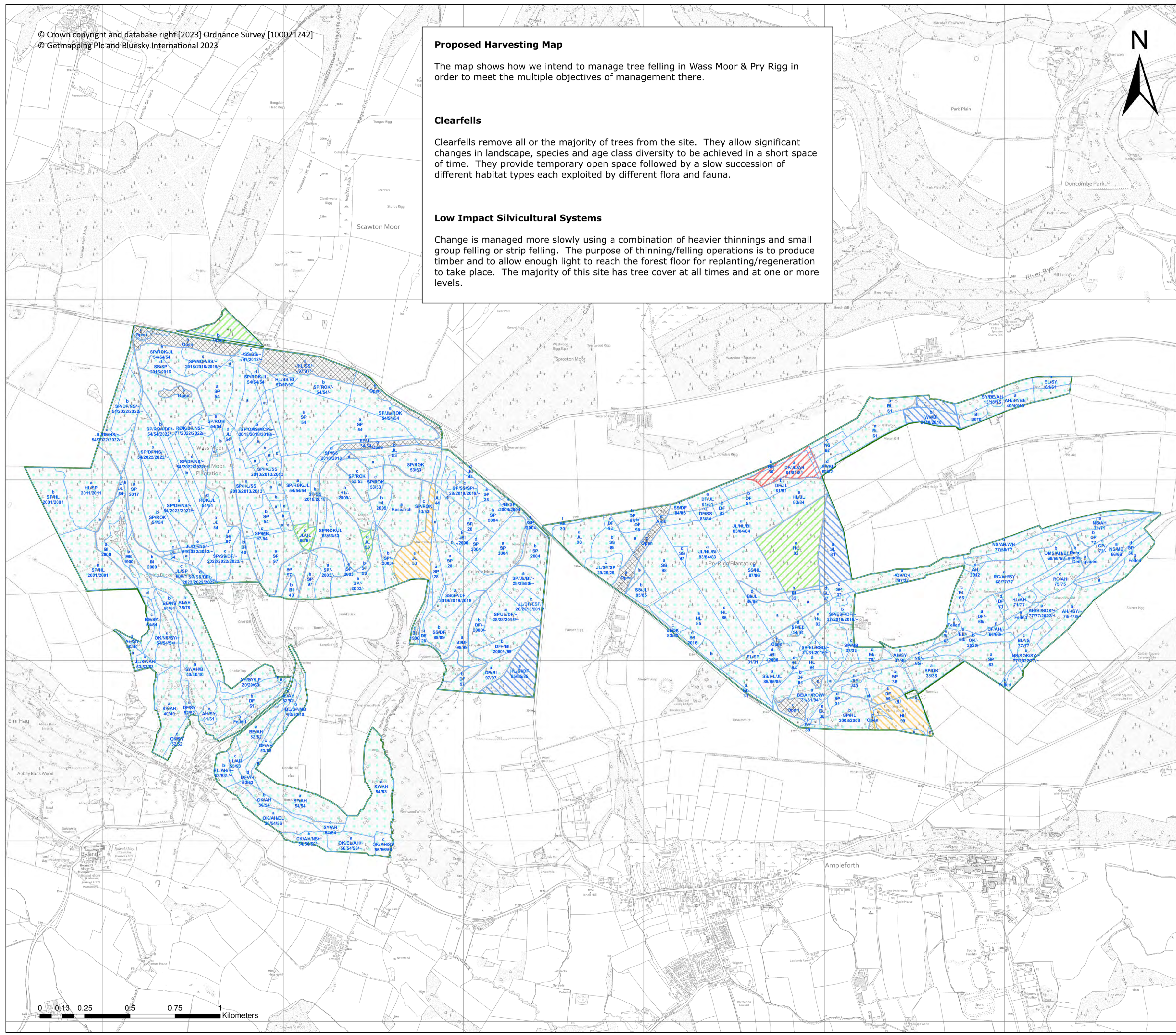
Low Impact Silvicultural Systems

Change is managed more slowly using a combination of heavier thinnings and small group felling or strip felling. 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 this site has tree cover at all times and at one or more levels.



Wass Moor & Pry Rigg Forest Plan
 FP Map 05 - Proposed Felling
 Scale: 1:10,000
 When Printed @ A1
 Created: August 2023

-  Forest Block
-  2023 - 2026
-  2027 - 2031
-  2032 - 2036
-  2037 - 2041
-  Beyond 2042 or LISS
-  Other / Open Land
-  Long Term Retention



All timber arising from the Forestry England estate represents a negligible risk under the Timber and Timber Products Placing on the Market Regulations (UKTR) and UK FLEGT Regulations



Wass Moor & Pry Rigg Forest Plan
FP Map 06 - Management Type
Scale: 1:10,000
When Printed @ A1
Created: August 2023

- Forest Block
- Clearfell
- Strip shelterwood
- Group shelterwood
- Irregular shelterwood
- Other/Open Land



The maps shows the main species group 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.

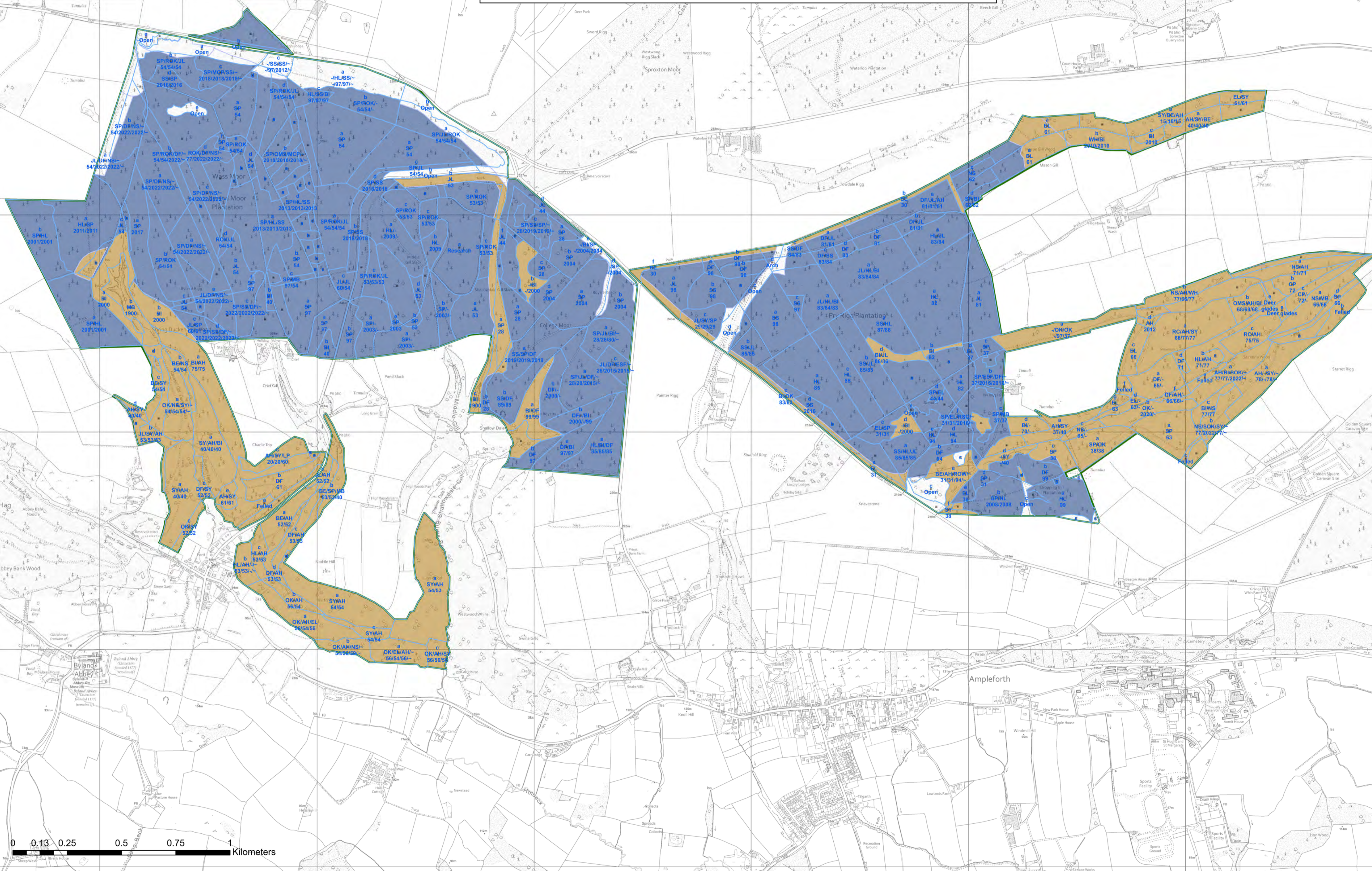
Predominantly mixed conifer areas will be regenerated through a combination of planting and natural regeneration with appropriate species, dependent on the underlying site conditions such as soil and topography.

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.

Wass Moor & Pry Rigg Forest Plan
 FP Map 07 - Future Habitat & Restock
 Scale: 1:10,000
 When Printed @ A1
 Created: August 2023

- Forest Block
- Other Broadleaves
- Other Conifers
- Successional Open



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





- * The introduction of alternative conifer species will be considered for restocking where conditions are suitable. In addition, site-improving broadleaf species such as Aspen and Alder may also be included as a component of productive mixed species.
- * Develop low impact silvicultural systems and extended rotation silviculture to allow natural regeneration and enrichment planting with alternative species to become established.

Forest landscape character is influenced by both the gills and flat plateau which are visible both locally and from distant views such as Rievaulx Moor, the Vale of York and the Vale of Pickering.

- * Continue to design clearfell coupes that respond to landform and increase structural diversity, moving away from even-aged, single species crops to uneven aged, mixed conifer/broadleaf woodland.
- * Manage remaining areas using lower impact, alternative to clear fell systems, increasing structural and species diversity.

Legend

Ancient Woodlands

-  Ancient and Semi Natural Woodland
-  Ancient replanted woodland
-  Convert and maintain as predominantly mixed broadleaf woodland
-  Continue to manage as predominantly productive mixed conifer woodland

Restoration and maintenance of ancient woodland sites that are resilient to potential threats from climate change remains a priority objective across the forest.

- * Conifer stands will be restored to native species by a combination of felling, thinning, natural regeneration and reducing the negative impacts 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 mixed broadleaf woodland.
- * Maintain existing and develop additional deadwood resource through management interventions and allowing natural mortality of large dimension trees.

