



Redesdale Forest

Forest Plan 2026-36



1. Introduction

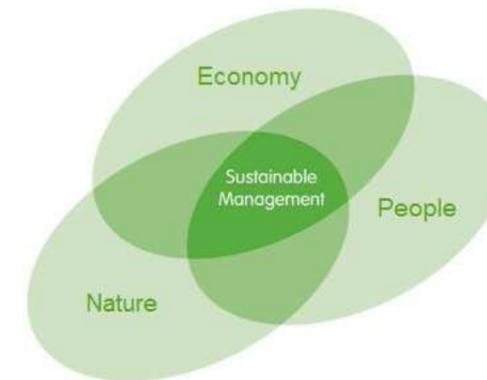
The Strategic Plan for the Nation's Forests outlines the delivery of forest policy at a national level. At a regional level there are six Forest Districts covering the country that directly oversee the implementation of policy actions in the nation's forests. North Forest District (NFD) is an extensive area encompassing 9 county or unitary authority areas from the Scottish border to Durham and Lancashire.



Our task is to realise the potential of each of the forests in our care for sustainable business opportunities, wildlife and nature conservation, and the enjoyment and well-being of local people and visitors. Each of our forests supports the economy through local jobs, sustainable timber production and the provision of recreation and tourism opportunities. All are funded by revenue from timber sales and recreation provision.

The woodlands of the district are currently arranged in 58 management areas, and their management is covered by individual ten-year Forest Plans that identify local issues and the broad silvicultural management of the woods. Forest Plans are reviewed every five years.

These plans and their associated forest operations ensure that produce from the woodlands is endorsed by the Forest Stewardship Council® (FSC®) and the Programme for the Endorsement of Forest Certification (PEFC) as being produced from woodlands under good management that meet the requirements of the UK Woodland Assurance Standard (UKWAS) and the UK Forest Standard (UKFS). Individual Forest Plans aim to deliver a range of public benefits with achievable objectives that deliver the three drivers of sustainable land management outlined in the North Forest District Strategy. Forestry England recognises its obligations under UK legislation and regulations such as the Natural Environment and Rural Communities Act 2006; as amended by the Environment Act 2021 (Sec 102)'.



These key drivers are supported by the following Forest District Policy;

- We will optimise the financial return from timber production compatible with achievement of other forest district objectives while complying with the UK Forestry Standard and meeting the requirements of the UK Woodland Assurance Standard.
- We will provide public access to all our forests and woodlands where there are no legal or safety restrictions. We will encourage and permit a wide range of recreational activities from walking and quiet enjoyment to more specialised activities.
- We will ensure that rare and threatened habitats are protected and managed to maintain or enhance their conservation value.

This document is the revision of the Redesdale Forest Plan replacing the previous version published in 2011. It has been updated to reflect changes in forest policy & practice and to secure approvals necessary for ongoing implementation of the management objectives. **Map 1** shows the location of the Redesdale forest block in England and in relation to the other Kielder forest blocks. All maps can be found at the end of this document.

2. Analysis

2.1 Forest Composition

Current Species Composition

Map 2 and table 1 describe the tree species composition of Redesdale. Conifer comprises 91.1% of the high forest area reflecting Kielder Forest’s history as a commercial conifer plantation.

Table 1. Current land use at Redesdale by area

Species Group	Area (ha)	Area (%)
• Spruce	2599	50.6
• Pine	210	4.1
• Larch	74	1.4
• Other Conifer	101	2.0
• Broadleaf	292	5.7
• Felled	122	2.4
• Other / open	1735	33.8
Total	5133	100

Sitka spruce is the largest component accounting for 69.1% of high forest area within Redesdale. This is below the Kielder Forest average of 75.4%. The restocking proposals in the 2011 plan aimed to reduce the Sitka component from 75% to 68%. This plan will continue to increase species diversity through restocking and aim to further reduce Sitka spruce to 65% of total high forest area in line with UKFS and UKWAS.

Norway spruce is the next largest component at 334ha and then Scots pine at 158ha. Other conifer species present at significant numbers are lodgepole pine, Douglas fir, grand fir and western hemlock. For broadleaves there are a similar variety of species present though covering a lower area at 4.5% of total high forest area. All species present at Redesdale are listed in table 3.

Table 2. Tree species present at Redesdale

Broadleaf		Conifer	
Alders	• Common alder	Cypresses	• Juniper
	• Grey alder		• Japanese Cedar
Ashes	• European Ash		• Leyland cypress
Apples	• Crab Apple		• Western red cedar
Birches	• Downy birch	Firs	• Douglas fir
	• Silver birch		• Grand Fir
Beeches	• Beech		• Noble fir
Blackthorn	• Blackthorn		• Red (pacific silver) fir
Cherries	• Bird cherry	Hemlocks	• Western hemlock
	• Wild Cherry	Larches	• Hybrid larch

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|------------------|-----------------------|----------------|-------------------|
| Chestnuts | • Horse Chestnut | Pines | • Japanese larch |
| Elms | • Wych Elm | | • Lodgepole pine |
| Hazels | • Hazel | | • Macedonian pine |
| Hollies | • European Holly | | • Scots pine |
| Limes | • Small-leaved lime | Spruces | • Norway spruce |
| Maples | • Sycamore | | • Oriental spruce |
| Oaks | • Oak (robur/petraea) | | • Serbian spruce |
| Sorbuss | • Hawthorn | | • Sitka spruce |
| | • Rowan | | |
| Willows | • Aspen | | |
| | • Crack Willow | | |
| | • Goat willow | | |
| | • Grey willow | | |
| | • Hybrid poplar | | |

Sitka Spruce regeneration can create challenges in maintaining species diversity. Regeneration onto open areas, or within planted sites of other tree species will need to be managed to prevent its component area from increasing.

Larch makes up a very small proportion of the composition at 74ha. However, this species is susceptible to *Phytophthora ramorum* and as such will not play a part in restocking into the future. It may survive in small groups through natural regeneration.

Forest Structure



Figure 1. Age class structure of productive trees at Redesdale.

The age distribution of productive species, figure 1 and map 3, shows a broadly even spread from the mid-1980s onward, with peaks that align with restocking at the end of standard 50-year rotations historically used in the forest. Trees older than 45 years now occupy a comparatively small area. The storms of 2021/22, particularly Storm Arwen, did create unexpected pockets of windblow, but these largely occurred in stands already scheduled for felling. A few smaller pine stands were also affected, though their loss has little influence on the overall age structure.

The DAMS score is a modelled windiness index used in British forestry to assess a site’s exposure to damaging winds. It combines factors such as tatter flag observations, elevation, aspect, topographic exposure, valley shape, and wind-funnelling effects to produce a single score representing the local wind climate and overall wind risk. Higher DAMS values indicate greater wind exposure and increased risk of windthrow. A score less than 15 is considered sheltered enough to carry out thinning operations. Generally exposure increases with elevation at Redesdale with the highest points reaching DAMS scores above 18. The valley bottoms, particularly along the A68, are relatively sheltered and allow for a wider variety of silvicultural prescriptions.

Current felling coupe sizes range from less than 1 hectare (ha) to around 290 ha. As felling has progressed, larger coupes have been subdivided to promote greater structural diversity across the forest. The average coupe size is 21 ha, though this figure is skewed by the very large coupes on Kielderhead Moor. Based on the 2011 plan, the median coupe size was 15 ha, and this has been further reduced to 12 ha in the current plan.

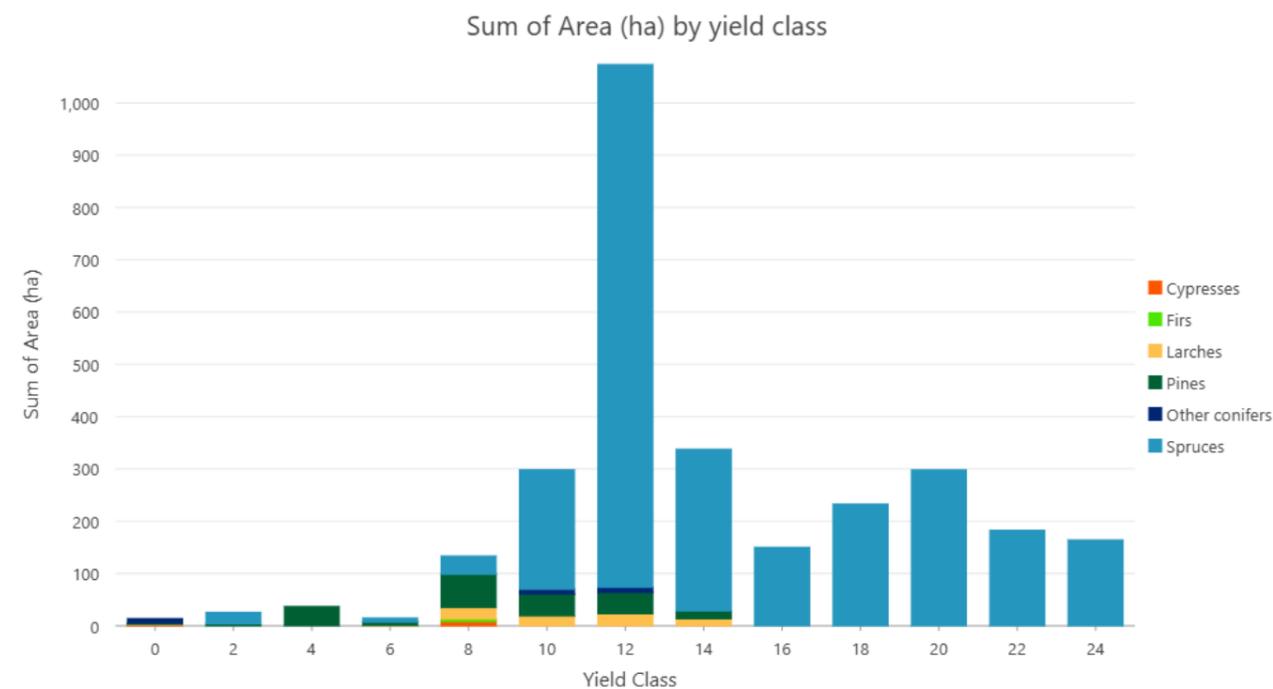


Figure 2. Yield class of productive species at Redesdale

Yield class is the volume a stand of trees increases by each year per hectare. Yield class is impacted by a variety of factors but at the basic level it is influenced by how well adapted a species is to the soil type it is growing on. Generally commercial conifer species are faster growing than broadleaves.

Yield class across Redesdale is shown in figure 2 and map 4, the highest yield classes are achieved by Sitka spruce. This is due to the historic preference to plant it on the richer areas of soils and its ecology of growing well on wet soils relatively low in nutrients.

Maintaining plant health across Redesdale is essential for sustaining productive forestry, enhancing biodiversity, and improving long-term resilience. Forest health is shaped by a combination of biotic pressures including pests, diseases, grazing, and browsing, and abiotic pressures such as storms, drought, and wider climatic change. Forest ecosystems globally are increasingly vulnerable to interacting stresses such as insect infestation, disease, invasive species, fire, and drought. These pressures can weaken trees, alter stand dynamics, and reduce productivity.

Grazing and browsing pressure strongly influence forest structure and species composition. Because Sitka spruce is relatively unpalatable, it is more likely to regenerate successfully in areas with high browsing pressure. More palatable conifer and broadleaf species tend to be browsed first, leading to a higher proportion of Sitka across the forest. Establishing these species often requires the use of tree shelters or deer-proof fencing. Limited natural regeneration further restricts opportunities to diversify stand structure, meaning effective, landscape-scale deer management is essential to address this challenge.

There are pests and disease pressures impacting coupes at varying levels at Redesdale, the most prominent are:

- **Great Spruce Bark Beetle (*Dendroctonus micans*)** - A notable bark-feeding beetle that can impact young and mature spruce.
- **Green spruce aphid (*Elatobium abietinum*)** - Causes needle loss on spruce, particularly during mild winters.
- **Phytophthora ramorum** - A pathogen capable of causing severe stem, bark, and foliage infections, leading to dieback and mortality in a range of tree and shrub species, most notably Larch. Is associated with Rhododendron which can spread the pathogen.
- **Large Pine Weevil (*Hylobius abietis*)** - A major threat to restocking, capable of causing severe damage to saplings.
- **Ash Dieback (*Hymenoscyphus fraxineus*)** - A widespread fungal disease causing crown dieback and mortality in ash.

2.1 Designated Areas

Northumberland National Park

Approximately 2000ha of Redesdale forest is within the Northumberland National Park. This includes all of the forest north of the A68 and 400ha along the eastern forest boundary. This provides the opportunity to demonstrate, at a practical level, how activities such as forestry, which have been prominent in shaping the landscape we see today, can create greater public benefit through sustainable land management delivering for people, nature, and climate.

The National Park management plan promotes 5 strategic themes, which the forest plan makes a strong contribution to, shown in table 3.

Strategic Theme		Forest Plan Contribution
Nature recovery.	To restore, conserve and enhance nature and its resilience at a landscape scale through a proactive nature-first led approach to sustainable land management and partnership working.	<ul style="list-style-type: none"> • Recognition of the impact Sitka spruce regeneration is having on protected habitats and the wider landscape. • Shortening of Sitka rotations adjacent designated sites to 30 years. • Implementing a minimum 100m buffer adjacent designated sites where Sitka spruce will be removed. • Expansion of broadleaf ancient woodland. • Restocking redesigned to utilise higher proportions of non-Sitka conifer and broadleaf species. Reducing reliance on Sitka in the long-term.
Climate Action.	Empower, enable and inspire climate action to work towards a net zero National Park by 2030. Beyond 2030 we will working towards the National Park being a carbon sink.	<ul style="list-style-type: none"> • The forest provides a positive carbon sink through 3500 ha of conifer and broadleaved tree cover. • The rotational felling of the forest resource conifers places sustainable timber in to the supply chain. • The reduction on reliance on a single tree species will increase the resilience of the forest to climate change and forest pests and diseases.
Cultural & heritage.	To conserve, enhance and celebrate our historic environment and rich cultural heritage by connecting people and place.	<ul style="list-style-type: none"> • Scheduled ancient monuments have management plans and are monitored and maintained. • Unscheduled heritage features are identified during operational planning and mitigation put in place to protect them from harm.
A welcoming park.	To be a welcoming place, offering enjoyment and exploration of one of our finest landscapes and to support wellbeing.	<ul style="list-style-type: none"> • The forest provides simple access for pedestrians, cycling and horse riding. Permissions are issued to facilitate events such as motor sports.
Thriving communities.	To have engaged, resilient and balanced communities in a unique living, working landscape.	<ul style="list-style-type: none"> • As a part of the wider Kielder forest, Redesdale forest directly supports over 800 jobs in the local and regional economies in the employment of forest staff and supporting professionals, forest contractors, timber haulage and timber processing companies.

The National Park plan has some specific objectives for forestry under the nature recovery theme:

“Promote the expansion of broadleaved and native woodland and enhanced woodland management to achieve a more diverse, nature-rich wooded landscape.

- Work with landowners and others to increase broadleaved and native woodland by 6,000 hectares by 2060 (162ha per year). This includes establishment of woodlands and wood pasture by planting and natural regeneration.
- Work towards a long-term aim of restructuring all forestry in the National Park to enhance its resilience to climate change, disease and other threats.
- Over the life of this Management Plan work with partners to remove or restructure 2,000 hectares of commercial coniferous forest by 2030 to achieve nature, climate and landscape enhancements.
- Work with landowners, land managers, local communities, and the Great Northumberland Forest initiative to increase woodland creation and enhance woodland management to achieve a more diverse wooded landscape in the National Park.”

Special Areas of Conservation

Redesdale sits within the catchment of the **Border Mires, Kielder-Butterburn SAC**, one of the most important active blanket bog and mire systems in England. These mires form part of a wider hydrological network extending across Kielder Forest, meaning forest structure, drainage, restocking choices, and track layout within Redesdale can influence the integrity of SAC peatlands downstream or adjacent to the forest block.

Forest management must therefore protect peatland hydrology, avoid altering drainage patterns, and prevent sediment or nutrient input into mire systems. These considerations integrate directly with SSSI and NNR responsibilities detailed below.

Kielderhead National Nature Reserve

The **Kielderhead National Nature Reserve** is one of the most extensive and ecologically significant upland reserves in northern England, forming a key landscape connection to the Redesdale Forest block. The reserve’s mosaic of open moorland, blanket bog, Sphagnum-rich peat systems, woodland edges, and upland burns creates a highly diverse habitat network. Forested areas and open moorland within and around the NNR support species typical of northern uplands, including red squirrels, upland waders, and raptors attracted to large, undisturbed territories.

The reserve’s upland summits provide connectivity between Redesdale, Kielder, and the Scottish Border. The reserve’s hydrology, wildlife, and landscape character mean that forest operations in Redesdale must be designed with sensitivity to maintain and enhance the ecological connectivity between the forest block and the NNR.

Sites of Special Scientific Interest

A Site of Special Scientific Interest (SSSI) is land designated under the Wildlife and Countryside Act 1981. SSSIs carry statutory protection, and it is a legal offence to damage, disturb, or carry out operations likely to harm their notified features without consent from the relevant authority, which in England is Natural England. Although land outside the SSSI boundary does not require consent, activities adjacent to a SSSI must still be carefully managed, as damage caused from outside the boundary can still constitute an offence. Such impacts may arise from hydrological changes affecting mires, alteration of drainage patterns, or sediment and pollutants entering the designated site.

Forestry England is committed to avoiding, minimising, and mitigating any impacts on SSSIs arising from our operations, including those occurring outside SSSI boundaries where they may influence designated features. As a public body, we also have a duty to take reasonable steps to further the conservation and enhancement of SSSI interest features as part of our land management responsibilities.

The primary statutory designation within the Redesdale Forest Plan area is the **Kielderhead & Emblehope Moors SSSI**, a large upland SSSI spanning northern Northumberland. The site comprises extensive moorland, blanket bog, and subalpine heath, representing one of the largest and most ecologically significant upland habitat blocks in this part of Britain. Kielderhead itself consists of approximately 43 km² of upland moorland managed in part by Forestry England, while Emblehope comprises around 39.5 km² of contiguous upland moorland to the south and east. Together they form a continuous unit of high-value habitat supporting blanket bog, Sphagnum-rich mire systems, heathland, and associated upland species. There is also a diverse breeding bird assemblage characteristic of northern upland landscapes, including species such as golden plover and dunlin on higher moorland, and a range of Schedule 1 raptors dependent on larger territories.

The Kielderhead & Emblehope Moors SSSI directly adjoins the **Kielderhead Moors: Carter Fell to Peel Fell SSSI** on the Scottish side of the border. This creates a single cross-border ecological unit forming

one of the most extensive areas of upland blanket bog and heath in northern Britain. The Scottish citation describes it as one of the least modified upland peatland areas in the Southern Uplands, strengthening the landscape-scale conservation value of the region.

Multiple mires are designated under the **Border Mires SSSI** these sites are subject to their own management agreements with Natural England. These upland mires and peatlands form hydrologically sensitive habitats where changes in surrounding land management can have downstream or catchment-scale effects. They are relevant to Redesdale due to shared watershed systems, adjacency of moorland edges, and the need for consistent peatland-protective management across the wider Kielder landscape.

Management within the Redesdale Forest Plan area will therefore take into account:

- Protection of blanket bog and mire hydrology, ensuring forestry operations do not alter water movement into adjacent SSSIs, SACs, or the NNR.
- Maintenance of open habitat mosaics at moorland-forest interfaces, preventing shading, encroachment, or windthrow risks.
- Operational timing restrictions to minimise disturbance to sensitive upland bird species and Schedule 1 raptors.
- Enhanced sediment and watercourse protection, especially on steep or hydrologically sensitive ground feeding into designated peatland systems.
- Landscape-scale ecological cohesion, recognising the connected nature of Redesdale, the Kielderhead NNR, Kielderhead & Emblehope Moors SSSI, and the cross-border upland plateau.
- Integration with National Park ambitions for nature recovery, woodland expansion, climate action, and resilient long-term landscape management.

These considerations form a core part of Forestry England’s commitment to supporting the conservation and favourable condition of designated sites while delivering sustainable forest management.

Historic England Scheduled Monuments

Three scheduled monuments are present within Redesdale described in Table 4, map 5 also shows all designated areas at Redesdale. They represent significant prehistoric archaeological features that contribute to the cultural and historic value of the Redesdale landscape.

There are also 219 undesignated heritage features recorded in Redesdale. These features are mostly related to the agricultural history of land management (boundary stones, shielings, walls, cairns) prior to the forest’s creation.

ID No	Sam Name	OS Grid Reference	Actions supported by this Forest Plan
1015525	The Three Kings four poster stone circle and round cairn	NT 77425 00922	Removal of trees from the site. Maintain as open habitat.

1009379	Long cairn 360m south west of Dour Hill	NT 79235 02122	
1015844	Round cairn on western slopes of Dour Hill, 250m south west of summit	NT 79400 02100	

Forestry England follows the relevant parts of “The protocol for the care of the government historic estate” (2017) and demonstrates a sustainable approach to the historic environment by adhering to UKFS and UKWAS so that the heritage of the estate can be conserved, understood and enjoyed. Pre-operational planning ensures that sites are assessed and mitigation put in place to protect features. Site assessments also look for potential features that have not yet been discovered.

2.2 High Conservation Value Areas

Ancient semi-natural woodlands

Robb’s Wood and Dead Wood are the two identified areas of ancient woodland at Redesdale, representing important remnants of long-established native woodland. Dead Wood has already been undergoing restoration work in recent years and is now managed partly as wood pasture.

The Forest Plan aims to protect and enhance these sites by gradually expanding the extent of native broadleaf woodland between them, creating a more connected and resilient habitat network. Regular removal and thinning of regenerating Sitka spruce will be required to prevent competition with broadleaf planting and ancient woodland flora, while restocking in adjacent coupes will avoid Sitka and instead use other conifer species or native broadleaves to reduce future seed pressure. These measures will help safeguard and extend ancient woodland at Redesdale.

Red Squirrels

Red squirrels remain an important species within the Redesdale landscape, benefiting from its position close to the major red squirrel stronghold at Kielder Forest. However, the area continues to face significant threats. Grey squirrel incursion remains the greatest pressure, exacerbated by the remote nature of the landscape, which makes sustained monitoring challenging. Grey squirrels are still detected more frequently than reds across Northumberland, even though some protected areas show encouraging increases in red occupancy. It is important to note that incursion risk from greys is lower in Sitka dominated areas. Reducing Sitka in the landscape is not likely to enhance red squirrel populations.

Maintaining and improving red squirrel resilience in Redesdale will therefore rely on grey control, strong volunteer engagement, and coordinated management across the wider landscape.

Pine Martens

Pine martens are slowly returning to northern England after historic declines caused by woodland loss and persecution. Recent survey work confirms that a small population is present in northern Northumberland, with reliable detections centred on the Kielder Forest area, although evidence

suggests they remain scarce in more southerly parts of the county. The Pine Martens in Kielder have naturally colonised from populations in Scotland crossing the border.

For Redesdale, the primary opportunities arise from its extensive woodland cover and proximity to Kielder, which may allow pine martens to expand naturally into the area as populations strengthen. Their ecological role as adaptable predators also offers potential indirect benefits, including suppression of grey squirrel numbers, supporting red squirrel conservation. However, threats remain: pine martens persist at very low densities, require large continuous woodland territories, and their slow breeding rate limits population growth. Currently there are limited number of denning sites, utilising long-term retentions to increase veteran tree numbers will alleviate this in the future.

2.3 Recreation & Access

Access Routes

Redesdale Forest is served by a network of public footpaths, bridleways, multi-user trails, and forest roads, providing varied access for walkers, cyclists, and horse riders across the block. These routes connect with the wider Redesdale valley and upland landscape, forming part of a broader recreational network promoted through local tourism initiatives.

A key route is the Kielder Forest Drive, a 12-mile forest road linking Byrness on the A68 to Kielder Castle. The Drive is one of England's highest forest roads, rising to over 450 metres at Blakehope Nick and offering expansive panoramic views over the Northumberland uplands. In terms of access function, the Drive forms an important cross-forest connection linking Redesdale with Kielder, and its eastern entrance lies just north of Byrness. It also provides access to viewpoints such as Blakehope Nick, which features "The Nick" shelter – promoted regionally as a dramatic architectural viewpoint overlooking Redesdale and the Kielder uplands.

As a working forest, timber wagons are a common sight across Redesdale which operate on agreed timber transport routes. Regular maintenance to forest roads is carried out to keep access routes open. Operations go through a consultation process to ensure public safety and compliance.

Recreation provision

Recreation at Redesdale is characterised by a more remote or wild experience due to the forests scale and limited facilities, complementing the more developed hubs within Kielder Water & Forest Park. The forest provides opportunities for walking, trail running, informal cycling, and nature-based recreation along its access network. Visitors also use Redesdale as a gateway to the wider Kielder area, which offers walking trails, off-road cycling, wildlife viewing, and dark-sky experiences.

Regional initiatives such as Discover Redesdale promote walking and cycling throughout the valley, encouraging use of forest tracks that link to moorland and riverside paths, as well as routes around Byrness and Upper Redesdale. The Revitalising Redesdale project further enhances local recreation through interpretation panels and downloadable walking routes centred on Byrness, Blakehopeburnhaugh and Redesdale Forest, expanding opportunities for self-guided exploration.

Community

Redesdale Forest plays an important role in supporting local communities in Byrness, Otterburn, and the wider Redesdale valley by providing accessible outdoor space, walking routes, and opportunities for informal recreation. Nearby communities also benefit from tourism associated with the Forest Drive and the wider Kielder region, which brings visitors into local villages and businesses. The area's heritage and landscape are important to local identity, with community-focused interpretation projects, such as those delivered by Revitalising Redesdale, highlighting the region's forestry history, upland culture, and archaeological features.

As part of the forest's social and recreational role, Forestry England will continue to maintain safe access and ensure that recreation remains compatible with both conservation and forest operations.

3. Vision & Objectives

3.1 Vision

Over the next 50 years, the Redesdale Forest will evolve into a resilient, diverse and sustainably managed landscape that delivers long-term economic, social and natural capital benefits. The forest will support a broader range of habitats and species, with structurally varied stands, improved ecological connectivity, and a woodland composition better adapted to climate change and future pests and diseases. Sustainable timber production will continue to play a core role in the local economy, while enhanced recreational opportunities and improved landscape integration will ensure that the forest remains a valued resource for future generations.

Map 7, Analysis & Concept, shows the opportunities and long-term vision for Redesdale forest. This follows the principles set for all Kielder forest plans:

- Maintain a sustainable, reliable timber supply, ensuring long-term productivity through appropriate species selection, rotation lengths and silviculture.
- Increase species and structural diversity to enhance resilience to pests, diseases and climate-related pressures.
- Improve habitat quality and connectivity, supporting key species such as red squirrel, pine marten, upland birds and native woodland flora.
- Designated sites managed to favourable condition and connected with the habitat networks.
- Working with partners to deliver working landscapes with improved nature values.

3.2 Objectives

Table 5 - Table of Objectives

Forestry England purpose: To secure and grow the economic, social and natural capital value of the nation's forests.			
Growing the Future Strategic Goal	District Strategic Objective	Forest Plan Objectives	Monitoring <i>Objectives will be reviewed every 5 years and can be monitored through:</i>
For the Climate	<p><i>'We will offer over one million cubic metres of sustainable timber to market each year, maintain world-class forest management practices, externally accredited to international standards'.</i></p> <p><i>'greater structural and tree species diversity in the nation's forests to support adaptation to climate change'.</i></p> <p><i>'Continuing to restore and help our habitats and landscapes to adapt, which will support their role in carbon absorption and biodiversity resilience and tell the story of its place in productive forestry'.</i></p>	<ul style="list-style-type: none"> • Deliver a minimum average of 10,000 m³ of sustainable timber per year over 2026-2036, maintaining UKFS-compliant operations and adjusting felling volumes at 5-year reviews. • Reduce Sitka spruce to ≤68% of total high-forest area by 2036 through diversified restocking with alternative conifers and native broadleaves. • Implementing a 100m buffer zone of mire-edge habitat by 2036, adjacent to the SSSI and other high conservation sites. Removal of Sitka spruce regeneration within these zones. 	<ul style="list-style-type: none"> • Contract and sales records, • sub-compartment database updates, • Operational layers, • Thinning records, • Plant health notices.
For Wildlife	<p><i>'Continuing action to protect, improve and build the resilience of our most special habitats, including ancient woodlands and Sites of Special Scientific Interest.'</i></p> <p><i>'The rich, diverse and connected habitats in the nation's forests will continue to be improved and enhanced by our sustainable forest and land management.'</i></p>	<ul style="list-style-type: none"> • Utilising early thinning to transition suitable spruce stands to continuous cover forestry and thin an additional 50 ha to develop structure by 2036. • Create and maintain 10 - 20m native broadleaf riparian buffers along 3 km of watercourses by 2036. • Remove Sitka spruce regeneration and expand native woodland buffer between Robb's Wood and Dead Wood by 5 ha by 2036. 	<ul style="list-style-type: none"> • Sub-compartment database updates, • Species records i.e biodiversity data centres • Thinning records, • Operational layers.
For People	<p><i>'We will increase the diversity of visitors to the nation's forests.'</i></p> <p><i>'we will provide public access to all our forests and woodlands where there are no legal or safety restrictions...'</i></p>	<ul style="list-style-type: none"> • Inspect public access routes at least twice per year and maintain safe access on Forest Drive and key trails throughout 2026-2036. • Improve 1 km of forest edges in visually sensitive locations by 2036 to enhance landscape integration with National Park and valley views. • Maintain 5 km of roadside edges along the forest drive in visually sensitive locations by 2036. • Carry out pre-operational heritage surveys for 100% of operations and maintain all three Scheduled Ancient Monuments as open habitat throughout 2026-2036. 	<ul style="list-style-type: none"> • Recreation inspection records • Contract and sales records • Sub-compartment database updates • Site planning records • Complaints database

4. Proposals

4.1 Management Prescriptions

Management across Redesdale uses a combination of silvicultural systems to balance sustainable timber production with the ecological, hydrological and landscape requirements of this upland forest. These are shown in Map 8. Clearfell remains the primary management approach in the more exposed parts of the forest where DAMS scores are high and thinning is not feasible. This system provides a reliable timber supply and enables restructuring of even-aged crops. Clearfell also provides opportunities to restore peat soils and designated open habitats, supporting the recovery of mires and adjacent SSSI/SAC features.

In more sheltered valley bottoms group selection will be used to develop multi-aged, structurally diverse stands showcasing continuous cover forestry. These areas will support natural regeneration, improve visual amenity along key access routes, and strengthen resilience to climatic pressures. Along riparian corridors, woodland rides and transitional zones, irregular shelterwood systems will maintain a shifting mosaic of canopy and open space. These dynamic habitat areas improve ecological connectivity, support priority species such as red squirrel and upland birds, and allow repeated interventions to suppress Sitka regeneration before seed producing age.

Some coupes are identified as important to retain either due to ecological importance or difficulties in extracting, these will be managed under minimum intervention. Here, natural processes are allowed to dominate except where safety or plant health issues arise, helping protect hydrology, soils and the structural complexity needed for specialist woodland species. A small number of stands are designated as natural reserves, receiving no active management so they can develop through natural succession and provide reference conditions for biodiversity monitoring.

Additional land within the forest includes agricultural areas, forest roads, quarries and car parks. These are managed by relevant operational teams or tenants to maintain access, ensure safe use, and support wider land-management objectives across Kielder Forest.

Finally, designated open habitats—including the nationally significant Kielderhead and Emblehope Moors SSSI—are managed in line with their statutory management plans. District ecologists, foresters and Natural England work together to maintain and enhance these important landscapes.

4.2 Approved Felling & Restocking

Proposed coupe felling order for the next 20 years is shown in Map 9, this shows only coupes under clearfell management. Generally these stands are in more exposed areas and have reached the end of their rotation or cannot be safely retained due to high wind hazard. Some stands may also be felled to create wildlife corridors or maintain viewpoints within the forest. Table 6 shows the estimated production forecast over the plan period with an estimated 13,400 m³ produced each year of the plan period. This does include estimates of volume produced through thinning continuous cover coupes.

Table 6. Estimated timber production over plan period from clearfell

Felling period	Estimated Volume / m ³
• 2022 - 2026	587.30
• 2027 - 2031	63,874.74
• 2032 - 2036	70,466.66
Total	134,928.70

To meet UKFS and UKWAS requirements, removal of trees is also necessary from roadsides to ensure adequate access into the forest. Roads are shown on the felling and restock maps (Maps 9 and 10) as open with a buffer of 15m where we do not allow trees. This is an ongoing program which means there is variable tree cover along the roadsides at Redesdale. These areas are classified as successional open allowing up to 20% canopy cover to account for this.

A notable change from the previous plan is the creation of a 100m buffer adjacent to the Border Mires and Kielderhead SSSI's. Much of the SSSI adjacent land is conifer forest, predominately Sitka, and is at risk of reestablishment of these species following harvesting. To combat this, rotation lengths for Sitka spruce coupes adjacent the buffer have been shortened to 30 years, the aim is to reduce the window of Sitka seeding and ultimately, over time, reduce the seed bank for Sitka. Future restocks seek to eliminate Sitka planting adjacent the buffer.

Future restocking is shown in Map 10, this shows a significant drop in spruce planting from 2,599 ha in the 2011 plan, down to 1,953 ha in this plan. Other conifer species have increased from 385 ha in the 2011 plan to 1408 ha. Mixed broadleaves has also increased from 292 ha to 451 ha. This emphasises the ambition to increase species diversity and ultimately forest resilience at Redesdale. Sitka will certainly regenerate throughout the forest so it will need to be controlled through various means where it is not wanted, with it ideally being removed before seeding age which is 15 - 30 years old depending on soil conditions.

Table 7. Proposed restocking over the plan period

Restock Type	Area (ha)
• Spruce	207.53
• Other Conifer	31.51
• Mixed Broadleaf	28.07

Table 7 shows the anticipated restock areas following the harvesting plan for the next 10 years. This does not include any supplementary planting or underplanting in continuous cover coupes.

National guidance for peatland protection in the context of woodland creation and restocking was published in June 2022. It provides a framework for deciding when restocking on blanket bog, raised bog and fens is appropriate. [This document is publicly available](#) and all restocking operations within Kielder Forest are checked against the framework. If sites cannot meet step 7 then restocking is not appropriate.

4.3 Future Habitats & Species

The future habitat composition of Redesdale reflects a deliberate long-term transition toward a more diverse, resilient, and ecologically connected forest. As shown in Table 8, conifer dominance will remain an essential element of productive forestry, but with a substantially rebalanced species mix designed to reduce climate- and pest-related risks. Spruce cover will fall from 2,599 ha to 1,953 ha (a reduction to 39% of the forest area), continuing the trajectory begun in the 2011 plan and meeting UKFS and UKWAS expectations for reduced reliance on a single species. This change is supported further by the shortened 30-year rotation lengths for Sitka adjacent to the mire buffer, aimed at reducing seed pressure and minimising the risk of recolonisation into peatland zones.

Table 8. Future Land use at Redesdale by area

Species Group	Area (ha)	Area (%)	% Change from 2011 plan
• Sitka Spruce	1953	39	-11.6
• Other Conifer	1408	28	+20.5
• Broadleaf	451	9	+3.3
• Other / open	1242	25	-8.8*

*Land use change is calculated from the GIS layers used to record restock areas. During the renewal process of this plan, restock area design was changed from the previous plan. Previously open areas (or no restock) within felling coupes were mapped to reflect woodland rides and riparian woodland. These habitats now fall under the dynamic habitats definition and have been incorporated into the high forest area. The data shows a drop in open area from the previous plan though a significant proportion of the change will be from the redefinition. Nevertheless, open habitat has been lost to Sitka regeneration. The plan therefore places new emphasis on controlling unwanted Sitka regeneration before seed-bearing age, particularly within the 100 m mire-edge buffer and along the SSSI boundary. This will restore a more natural mosaic of wetland, heath, mires, and early successional woodland that defines the upland landscape of Redesdale and Kielderhead.

The increase in Other Conifers to 1,408 ha (+20.5% from the previous plan) improves species diversity and resilience. Species such as Douglas fir and Scots pine offer a broader range of silvicultural options that better suit the valley bottoms, mid-slopes, and less exposed aspects of Redesdale. This shift aligns with district-wide objectives to reduce climate vulnerability and adapt the forest to emerging pest threats.

Broadleaf habitat will increase to 451 ha (+3.3%). These areas are located where broadleaves provide the most benefit: riparian zones, ancient woodland buffers, coupe edges, continuous cover areas, and wildlife corridors. The redesigned restock mapping, which now recognises dynamic habitats, ensures that broadleaf and transitional woodland features are more accurately represented than under previous plans. Over time, these will deliver structurally diverse stands, improved water quality, and enhanced habitat for wildlife. In some areas along the SSSI and mire buffer broadleaves have been chosen as a productive species in place of other conifer species due to soil quality and exposure concerns.

4.4 Conservation Area Network

The envisioned conservation network at Redesdale is shown in map 10 alongside future restocking. Dynamic habitats have been mapped to show wildlife corridors through the forest. Dynamic habitats are areas of greater than 20% woodland cover but can have variable tree cover over time. Examples are riparian woodland, woodland rides, glades and moorland edges. The aim is to have an average canopy cover of 50% and predominately native broadleaf species.

Robb’s Wood and Dead Wood form key pockets of ancient semi-natural woodland within Redesdale. The plan identifies a targeted expansion zone between them, achieved through removal of Sitka regeneration and restocking with native broadleaves. This will improve connectivity for ancient woodland ground flora and create an important broadleaf corridor linking the two sites.

The 100 m buffer adjacent to the Border Mires SSSI and Kielderhead Reserve is a core component of the conservation network. Shortened Sitka rotations and non-Sitka restocking in these areas are designed to reduce seed source pressure and protect peat hydrology. This plan recognises that Redesdale, Kielderhead NNR, and the Kielderhead & Emblehope Moors SSSI form a continuous upland habitat block of exceptional conservation value, and the network is designed to improve transitional zones between them.

The conservation network also supports the key species identified in the High Conservation Value analysis. Improved species diversity and dynamic habitat edges will improve nature value, while the expansion of connected woodland will improve opportunities for pine marten recolonisation in the long-term as older trees develop. Open habitats and wetland mosaics benefit upland breeding birds associated with moorland and mire systems.

Management of these areas will be tied in with other felling operations. Regular removal of Sitka from these areas will be needed to ensure establishment of native broadleaf species and prevent negative impact to mire habitats. Sitka will be removed before seeding age to prevent further spread within conservation areas.

Finally, a wildfire risk assessment was carried out during the preparation of this plan. This is shown in Map 11 and identifies habitats within the forest block that, due to their vegetation type, may be either a high or low wildfire risk. In this context, high risk areas are those that fire could move quickly through and potentially move into adjacent habitats. It is not showing where fires are most likely to occur, wildfires in the UK are almost always initiated due to human influence so the most likely areas for a fire to occur is variable. This information is shared with Northumberland Fire and Rescue service and informs our emergency response plans.

The map is useful in identifying vulnerable habitats and restock areas during operational planning, and can form part of a wider Kielder Forest fire plan in the future. Currently, wildfire resilience is managed at a beat level following principles set out on the [Forestry England Website](#).