

Lowther Park Forest Plan 2023

North Forest District

DRAFT



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

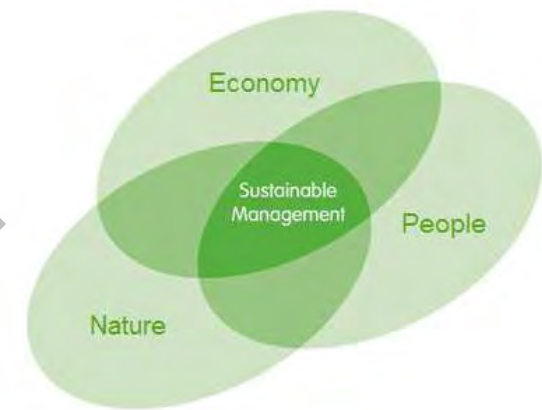


Planning and District Context

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.



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;

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 59 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.

Lowther Park Forest Plan

This is the fourth revision of the Lowther Park Forest Plan which was last revised in 2009. The plan follows a largely comparable approach to the previous revision. It has been brought up to date in terms of work achieved over the last plan period, and ongoing implementation of the management objectives. The impacts and threats associated with emerging pests and diseases, particularly *Phytophthora Ramorum*, have necessitated the largest changes, with many larch crops already felled prior to this revision under Statutory Plant Health Notices. The need to make our forests more resilient in the future has prompted changes to species composition in the restocking plan.

All figures and text in this plan which refer to 'Lowther Park' include the Sillathwaite Wood, Uldale and Dent forests as well.

Part 1 Background Information

Introduction

Lowther Park comprises of four forest blocks, Lowther Park, Sillathwaite Wood, Uldale and Dent, together forming of 344ha of mostly coniferous forest. Lowther Park is situated 5km east of Egremont, 2km south of Cleator Moor and is just outside of the north western boundary of the Lake District National Park. All of Lowther Park is owned freehold having been purchased in six separate conveyances between 1928 and 1973. This is the fourth revision of the Lowther Park Forest Plan, the first was approved in 1997, while the last revision was in 2009. A substantial amendment was made in 2014 to prioritise the felling of larch crops and their subsequent restocking, in light of the then developing *Phytophthora Ramorum* outbreak, these works have largely been completed following a significant larch felling programme in 2021-2022. This plan largely draws from earlier works, with a greater focus on restocking to replace the lost larch crops.

Recreationally, Lowther Park is managed primarily for quiet, low-key recreational activity, with walking and cycling being the focus. Illegal access by motorbike riders continues to be an ongoing problem in the forest.

Current woodland composition

Of the 344ha of land that Lowther Park occupies, 294ha is woodland. Of this wooded area 77% has tree cover, while 23% is felled or windblown, either awaiting restocking or natural regeneration. The age distribution of the current crop (Figure 2) is uneven, with 32% of the forest currently dating from the 1980s. A more consistent fell and stock regime starting in the 1990s has started to create a more varied age structure in the forest. Much of the larch removed in recent operations was planted in the 1950s, and the loss of these relatively older trees mean greater focus has been placed in this revision to retaining remaining mature woodland than previous plans.

Coniferous tree species are abundant in Lowther Park, with Sitka Spruce making up the majority of the current wooded area. The dominance of Sitka Spruce in the current forest composition has been skewed by the felling of Larch in 2022 which has not yet been restocked.

Larch provided useful variety in the landscape, representing nearly a quarter of the current tree cover in the forest until 2020, although outbreaks of *Phytophthora Ramorum* in the last plan period have depleted this figure to just 6% today. This has created challenges in maintaining both landscape and economic objectives from larch for Lowther Park.

The species composition (Figure 1) reflects Lowther Park's position as a productive forest. Average yield class (Map 3) across the productive species is 16 with 25% of spruce being yield class 20 or above. Most of the lower yield classes are found within the broadleaf crops.

The average wind hazard class is 4, which is medium, although there are significant areas of high risk, class 5 on the exposed high ground surrounding the Uldale valley. As such significant areas of Lowther Park are vulnerable to high wind events. As such clearfell coupes are the preferred management method for these areas of the forest, as thinning could create unstable crops at risk of windthrow. Greater options for low intensity silvicultural systems can be found in the valley bottom where there are extensive areas of wind hazard class 1, see Map 4.

Figure 1. Lowther Park Current Species

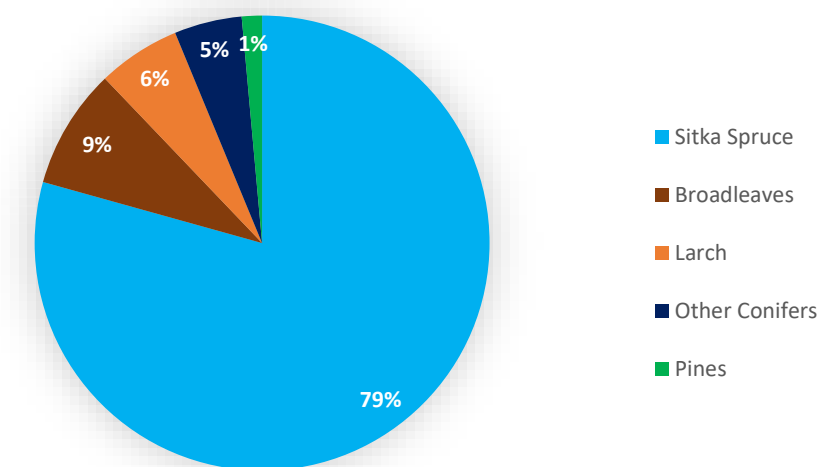
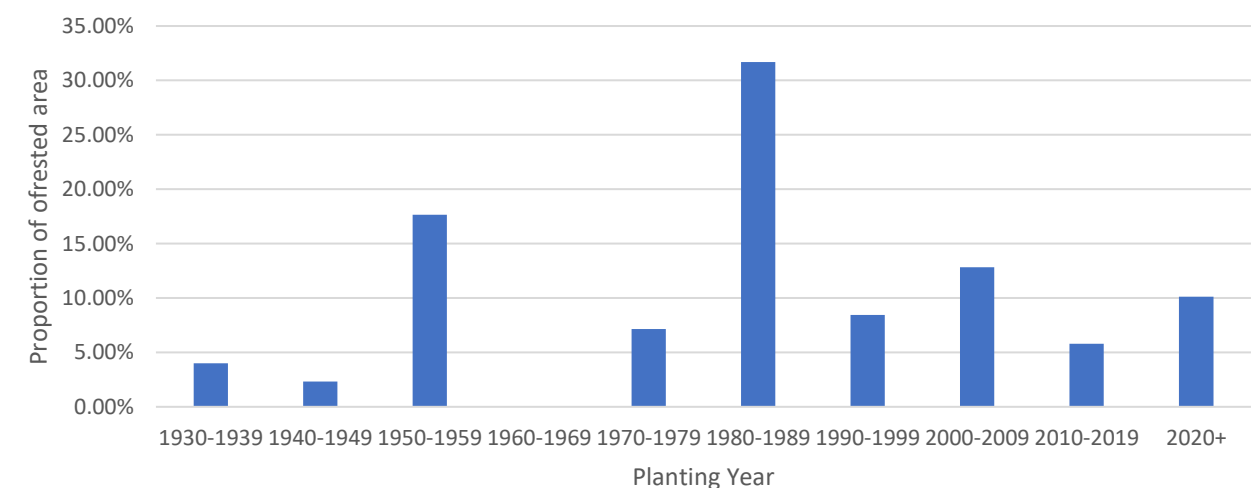


Figure 2. Age Distribution of Lowther Park



Designated areas

Sillathwaite Wood, to the east of Lowther Park, is inside of the Lake District National Park and the English Lake District World Heritage Site (WHS), which was inscribed as a cultural landscape in 2017. The National Park and World Heritage Site provide 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, the landscape, nature and the economy. For example, this can be achieved through conserving and enhancing the landscape, scenic beauty, and cultural heritage of the Lake District, whilst also providing wider ecosystem services to support communities’ social and economic wellbeing in a sustainable way.

While only Sillathwaite is located within the Lake District Lake National Park WHS, the nomination document still provides useful description of the surrounding agropastoral landscape. The area is noted in the Ennerdale section of the nomination for beauty and harmony, the use of common land, and the history of the conservation movement and the National Trust, primarily in Ennerdale valley itself. The nomination document also references the importance of woodland industries to the area’s distinctive characteristics.

There are no Sites of Special Scientific Interest or Special Areas of Conservation within Lowther Park. Neither are there any areas identified as either Ancient Semi-Natural Woodland (ASNW) or Plantations on Ancient Woodland Sites (PAWS). A small area of adjoining, privately owned woodland to the north of Lowther Park is identified as PAWS.

Historic environment

There are no designated historic sites in the forest. The only known feature of archaeologic interest is the remains of a building or sheepfold at NY 049114. This feature will be routinely protected during operations and opportunities taken to enhance as appropriate. In addition, during operational planning as crops grow and are felled, historic environment data will be consulted to identify potential features previously undiscovered.

Natural environment

Habitats are mostly coniferous forest with some mixed and broadleaf woodland areas, riparian habitat, and open ground. Species to be found across these habitats include a wide variety of birds such as red kite, harrier, and buzzard. Occasional sightings suggest that a small red squirrel population is present in the forest, and other mammals present include badgers. Areas of mature tree cover in the forest have created habitat for bats, and areas suspect of hosting roosts are inspected prior to operations to minimise any potential disturbance.

The Kirk beck runs through the centre of the valley and is valued for spawning fish. The beck is fed from several minor watercourses from the forest. Watercourses in the forest are to benefit from the creation of 10m riparian buffers of mixed broadleaf species, managed under LISS principles. These riparian corridors are being created with the intention of improving connectivity across the forest and increasing the variety of habitats found. This process has

been underway over the last ten years following the previous Forest Plan, with this plan building on these good works. All works adjacent to, or with the ability to impact watercourses will be worked according to forest and water guidelines to preserve and protect water quality during operations.

Table 1: EPS, BAP Species and Actions Supported by this FDP		
Species	Notes/Objective	Actions supported by this FDP
Red Squirrel, Schedule 5 & 6 WACA 1981	Maintain areas of habitat suitable for breeding & feeding.	Retention of mature coning trees and stable woodland where not affected by plant health issues for benefit of squirrel. Planting of Douglas Fir in former larch areas.
Bats, EPS	Enhance & maintain roosting opportunities.	Through coupe checks or other recordings during site visits, integrate protection of breeding/roost sites by retaining deadwood/feature trees during woodland management operations.
Badger, Badger Act 1992	Protect existing setts.	Coupe checks prior to operations & apply appropriate mitigation.
Red Kite, Hen Harrier, Buzzard. Schedule 1 WACA 1981	Sightings recorded in vicinity of the wood. No nests confirmed, maintain suitable habitat and existing buzzard platforms.	Forest structure provides possible nesting opportunities. Coupe checks prior to operations & apply appropriate mitigation.

Landscape and topography

Lowther Park is located within the ‘Kinniside Common’ landscape character area (LDNPA 2021) which acknowledges the contrast the forest creates to the open moorland the rest of the landscape character area is defined by. The guidelines for managing landscape change in the LCA of relevance to the Lowther Park Forest Plan refer to the retention and protection of open views to and from the area, particularly from large scale development. This forest plan continues the work of the previous, to draw back the forest edges and open additional views, particularly in the area between the Dent and Uldale plantations, which are set to become scattered woodland, defined by natural regeneration and not plantation.

In addition is it noted that retaining the strong sense of wilderness and tranquillity as important, which ties with plan’s aims to continue low-key recreational use of Lowther Park, allowing visitors to explore the forest peacefully. This plan also works towards the LCA guideline of protecting sites of archaeological interest, through our procedures to identify and protect sites of historic interest during routine operations.

Topographically, the forest occupies a series of knolls either side of the valley of Kirk Beck, which runs north east to south west. The landscape ranges in altitude from 110 to 300 metres above sea level, with a full range of aspects, which reflects the range and distribution of soil

in the forest, which in turn is shown in the species distribution. Lowther Park is adjoined beyond Forestry England ownership to the west, where privately owned woodland, Blackhow, connects to the block. The nearest neighbouring woodlands are Heckbarley to the north east, and the small block of Scalderskew to the south east. Immediately south of Lowther Park is the ancient woodland site, Great Wood.

A number of harsh visual edges were identified in the previous forest plan, straight lines and unnatural boundaries which contrast to the surrounding open fell and work over the past ten years has worked to address these. This forest plan seeks to continue this work through the introduction of mixed species at the forest boundary, bringing restock areas back away from edges and introducing planting shapes which are more natural in appearance.

The variety previously added to the landscape by larch must be noted, and its recent widespread loss across the forest owing to infection of *Phytophthora Ramorum* has had a significant impact to the visual diversity of the forest in the landscape. The seasonal colour changes of larch have been substituted in this plan with mixed conifer and broadleaf planting, with intimate mixes of alternative conifers such as Coast Redwood, Norway Spruce, Douglas Fir, Lodgepole, Scots and Macedonian Pine proposed to sit alongside Aspen, Birch, Oak and Cherry. These mixes will help increase resilience back to the forest, while also providing similar visual diversity as the former larch crops.

Communities and recreation

Lowther Park, Uldale and Dent are popular forests for local communities for informal recreation. Common activities include horse riding, walking, cycling and mountain biking. Visitors typically arrive by car and enter the forests from several informal access points and small parking areas around the boundary of the forest, a small number arrive on foot for bicycle. Formal car parking isn't provided with most drivers parking close to Wilton gate, this informal provision is in keeping with the informal recreation seen in the forest, however opportunities to improve this area should be considered. The forests were dedicated as open access land under the Countryside and Rights of Way Act (CROW) and are surrounded by other CROW areas such as Kinniside Common, linking to the forests to further open access land in the wider Lake District. In addition, the Coast-to-Coast route passes through the main block of the forest, with thousands of walkers on their way from St Bees to Whitby passing through annually. In contrast, Sillathwaite is only used by a small number of local people, mostly from neighbouring properties.

Unfortunately, the proximity of the forest to areas of high population does lead to a higher than average levels of antisocial behaviour. A particular problem has been continued use of the forest by illegal motorcycle riders, which has been an on and off problem over the last plan period. In response local landowners including Forestry England have worked the police and have had some success in reducing the problem. Continued use of CCTV and liaison with the police will be made in an effort to reduce this behaviour.

Pests and diseases

Roe deer populations are monitored to ensure that deer numbers do not compromise objectives of management, particularly the promotion of natural regeneration in low impact silvicultural systems areas. Deer have the potential to cause damage and create difficulties in establishing restock sites, so population control by wildlife rangers is a vital management tool.

Larch is under threat from the disease *Phytophthora Ramorum* and Lowther Park has been subject to recent widespread infection. Outbreaks are subject to a process of swift response work following the issuing of Statutory Plant Health Notices by the Forestry Commission. These notices enforce the felling of infected trees to reduce the spread of the disease within the forest and to neighbouring woodland. The majority of larch stands in Lowther Park were confirmed to have the disease in 2021 and have been subsequently felled. Remaining larch is at high risk of disease and has been placed into felling coupes in the next two felling periods to facilitate their felling in a structured manner.

Consequently, there will be no future restocking of larch and there will need to be ongoing vigilance from staff in thinned areas of continuous cover where larch occurs as natural regeneration. Larch is an important species in the landscape in terms of providing seasonal changes in colour and texture across the forest. As part of our strategy to deal with the impact of the disease, Forestry England will use alternative species in future restocking which will provide a positive outcome in terms of increasing opportunity for diversification and improved future resilience.

Access and roading

Access to Lowther Park is from the north via the C4004 Cold Fell road, or for the Uldale area, an unclassified road leading to the C4017 near Cleator Moor. Both roads are agreed timber transport routes and link to the internal forest road network.

The previous forest plan identified a need for improved access to access Sillathwaite, this has now been achieved through an 80m road extension to access an area of infected larch, and a regrading of the existing forest road at the same time. These works were completed in 2020 and have allowed for access into Sillathwaite for active forest management for the first time in many years. The rest of the block is adequately served by the internal road network. No roading requirements have been identified in this plan review. Roding in the forest is shown in Map 8.

Part 2 Review of Previous Plan

Table 2: Previous Plan Objectives

Objective	Comment
<p>Natural environment</p> <p>Consider developing advice on adapting to and mitigating against the impacts of climate change.</p> <p>Produce a harvesting plan that produces an attractive landscape. Improve the remaining harsh boundary on the ridge between Dent and Uldale.</p> <p>Take every opportunity to regularly thin the forest.</p>	<p>Previous plan started to explore alternative species for increase climate resilience. 2014 amendment in response to phytophthora expanded on this with larger areas devoted to alternative conifer species than traditional spruces.</p> <p>Harvesting plan looked to improve the landscape, particularly by reducing harsh visual edges between Dent and Uldale. Plant health felling delayed these plans and resulting larch removal have caused temporary landscape issues.</p> <p>First thinning of Lowther Park has been completed since previous plan. Thinning of areas of Dent has been completed.</p>
<p>Quality of life</p> <p>Investigate opportunities to improve parking at Wilton Gate.</p> <p>Implement the findings of the review into the permitted Enduro Motor Bike route.</p>	<p>Restock adjacent to car park has utilised broadleaf species to improve the siting of this area. No formal paved parking area has been created to date.</p> <p>Review lead to creation of permitted enduro club and routes within the forest, this trial was unsuccessful at curbing the antisocial behaviour.</p>
<p>Business and markets</p> <p>Achieve the proposed felling and restocking plan.</p> <p>Establish a sustainable timber access route into Sillathwaite.</p>	<p>Felling plans have been altered. Initially coupes were deferred to offset larch production elsewhere in district. Recent plant health notices in this block have since required larch to be brought forward. All restocking has been to plan.</p> <p>New access to Sillathwaite created in 2020 as part of plant health response works.</p>

Part 3 Analysis and Concept

The factors outlined in Part 1, and previous objectives in Part 2 present various opportunities and constraints. These are summarised below:

Table 3: Analysis of opportunities and issues

Factor	Opportunities	Issues
Management type	<p>Expansion of Low Impact Silvicultural Systems (LISS) to include some previous clearfell coupes.</p> <p>Smaller clearfell coupes in areas of high windthrow risk.</p>	Substantial areas of Lowther Park are subject to high windthrow hazard, LISS is not appropriate for these sections of the forest and instead use of this management type needs to be targeted.
Biodiversity and heritage	<p>Protection of features including veteran/feature trees, deadwood, or ground flora during operations to benefit biodiversity.</p> <p>Maintaining and protecting heritage features throughout the forest</p>	Removal of mature larch has reduced food source for red squirrel.
Access/Roading	Good internal network of roads with all current operational areas served well.	Road networks and tracks used by unauthorised motorbike riders.
Pests and disease	Potential for planting of new species to replace larch threatened by <i>P. Ramorum</i> .	Widespread <i>P. Ramorum</i> infection in existing larch crops has called for early felling of majority of larch in Lowther Park.
Future Species	<p>Transition away from larch species through proactive thinning regime and underplanting, or clear felling where plant health notices are issued.</p> <p>Potential for more intimate mixes across greater areas of the forest, introducing conifer and broadleaf planting together to increase diversity and resilience in the forest.</p>	<p>Larch is not viable in the long term due to disease risk.</p> <p>Mixed productive woodland requires greater emphasis on deer control for successful establishment on broadleaf and pine species.</p>

Landscape	<p>LISS management in more areas provide gradual change with limited landscape impact.</p> <p>Planting of pockets of Aspen, productive broadleaf, and intimate mixes across the forest to provide new landscape diversity.</p> <p><i>P. Ramorum</i> clearfells may speed up process of removing some harsh forest edges.</p>	<p>Clearfells associated with <i>P. Ramorum</i> health notices have potential to cause large, short term, landscape impacts.</p> <p>Some harsh forest boundaries remain which need to be softened.</p>
Current species	Retention of conifer species generally growing well which will provide a sustainable yield throughout plan period.	Presence of larch which is at risk from <i>P. Ramorum</i> will need regular monitoring.
Public access	<p>Location partly within and otherwise close to Lake District National Park.</p> <p>Existing rights of way and trails (including coast to coast route), CRoW access throughout forest.</p>	Continued issues with unauthorised motorbike riding in forest.

Appraisal of Opportunities and Constraints

1. Present *Phytophthora Ramorum* infection which will require the smaller remaining larch areas to be felled under Statutory Plant Health Notices. While having a large, short-term impact, this provides opportunity to restructure the forest with alternative species over the period of the plan with the added benefits of increased diversity and the introduction of LISS management in more areas.
2. The high levels of *Phytophthora Ramorum* infection in larch crops in the valley require that future restock is carefully considered, with other species such as Douglas Fir also susceptible to infection if planted closed to infected larch. Alternative conifer species such as Coast Redwood, Macedonian Pine, Douglas Fir and Scots Pine will help add diversity to the productive crops, as will productive broadleaf planting which will also help to add diversity in the landscape. The use of mixtures of conifers with broadleaf pockets across former larch areas will help add internal diversity while also building resilience into the forest.
3. While improvements have been made over the last plan period, harsh visual boundaries remain which contrast with the surrounding open fell and landscape character, particularly between Uldale and Dent. The previous forest plan went some way to address these with considered felling and restock shapes to improve the forest edges and reduce the visually intrusive nature of some of them, however plans were not implemented due to a delayed felling programme. This forest plan will build on these improvements, with the opportunities presented by *Phytophthora Ramorum* felling bringing some of these improvements forward.

Part 4 Objectives and Proposals

The following objectives have been identified based on Forestry England National Policy, ‘Growing the future: 2021-2026’.

Table 4: Forestry England goals supported by this Forest Plan	
Growing the future vision	How Forest Plan delivers
For Wildlife <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> <i>‘We will lead the development of fully functioning ecosystems, where species can establish, thrive and spread across landscapes.’</i>	Continue to retain stands of older crop where possible, considering stability and plant health, to increase structural diversity in the forest to provide landscape and environmental benefits. Expansion of the LISS areas will allow for increased light and resulting improvements to diversity via thinning.
For People <i>‘we will provide public access to all our forests and woodlands where there are no legal or safety restrictions...’</i> <i>‘There is something for everyone, including our rich and varied arts programmes, sports and physical activities, historical sites, and a mindful connection for enjoyment, health and wellbeing.’</i>	Increased landscape diversity through new species planting will improve the visual appeal of the forest for visitors. Continue to maintain a desirable forest landscape for visitors, quiet atmosphere, and opportunities for low-key recreation. Explore opportunities for improved parking provision. Historic features will be routinely identified and protected during our planning and implementation of forest operations.
For Climate <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> <i>‘Greater structural and tree species diversity in the nation’s forests to support adaptation to climate change and securing a sustainable timber supply for future generations.’</i>	Production has increased in recent years due to plant health derived larch clearfells. This Forest Plan sets the course to stable production over the years following from this. Clearfell sites of productive conifer to be restocked with similar species mixes where appropriate to maintain the productive capacity of the forest.



Part 5 Forest Plan Maps for Lowther Park

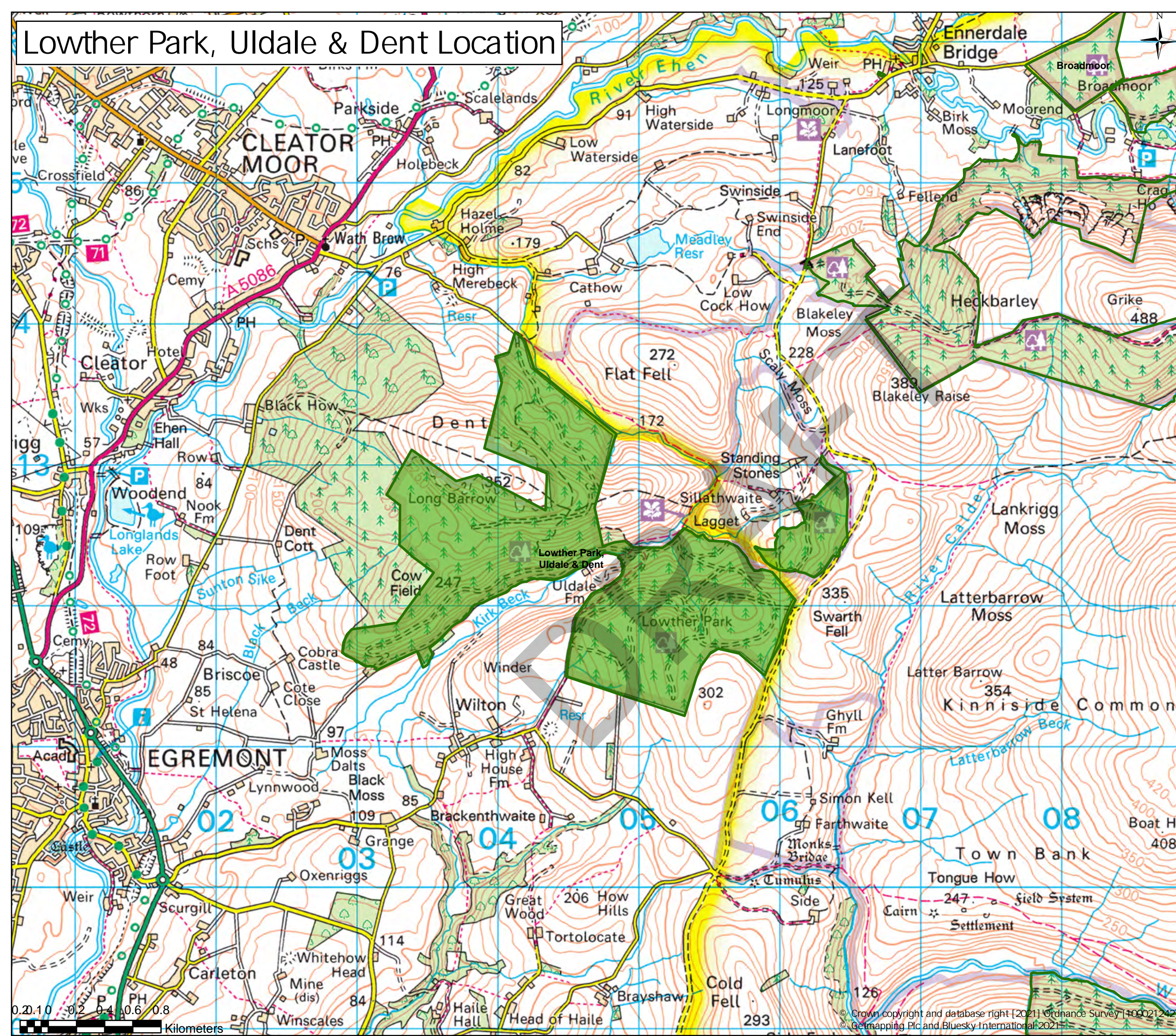
- [Map 1 Location](#) - 1:50,000 scale showing location in context of other woodland in the local area.
- [Map 2 Current Species](#) - species composition in 2023.
- [Map 3 Yield Class](#) - representing the productivity of the current species.
- [Map 4 Wind Hazard Class](#) - indicating the windiness of the sites.
- [Map 5 Planting Year](#) - representing the age class distribution of the woodlands.
- [Map 6 Conservation and Heritage](#) - statutory and non-statutory conservation and heritage features.
- [Map 7 Hazards and Constraints](#) - operational hazards and constraints.
- [Map 8 Access and Recreation](#) - formal public rights of way, Forestry England access and local services.
- [Map 9 Design Concept](#) - broad management prescriptions and zoning of the woodlands.
- [Map 10 Operations Proposals](#) - showing felling proposals and areas managed under Low Impact Silvicultural Systems or Continuous Cover Forestry.
- [Map 11 Future Species](#) - representing the 20-year vision for future species composition.

Lowther Park, Uldale & Dent Location

 Forestry England

Lowther Park, Uldale & Dent
Location
10/01/2023
Scale: 1:25,000
Scale at A3

-  Lowther, Uldale & Dent
-  Other Forestry England Woodland



Lowther Park, Uldale & Dent Current Species

0.0 0.050 0.1 0.19 0.29 0.38 Kilometers

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Lowther Park, Uldale & Dent Yield Class



Lowther Park, Uldale & Dent
Yield Class
10/01/2023
Scale: 1:12,000
Scale at A3

Lowther Park, Uldale, Dent & Sillathwaite

Yield Class

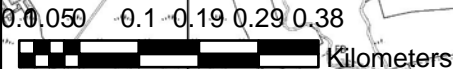
- 0-4
- 6-8
- 10-12
- 14-16
- 18-22
- 24+




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Promoting Sustainable
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Lowther Park, Uldale & Dent Wind Hazard Class

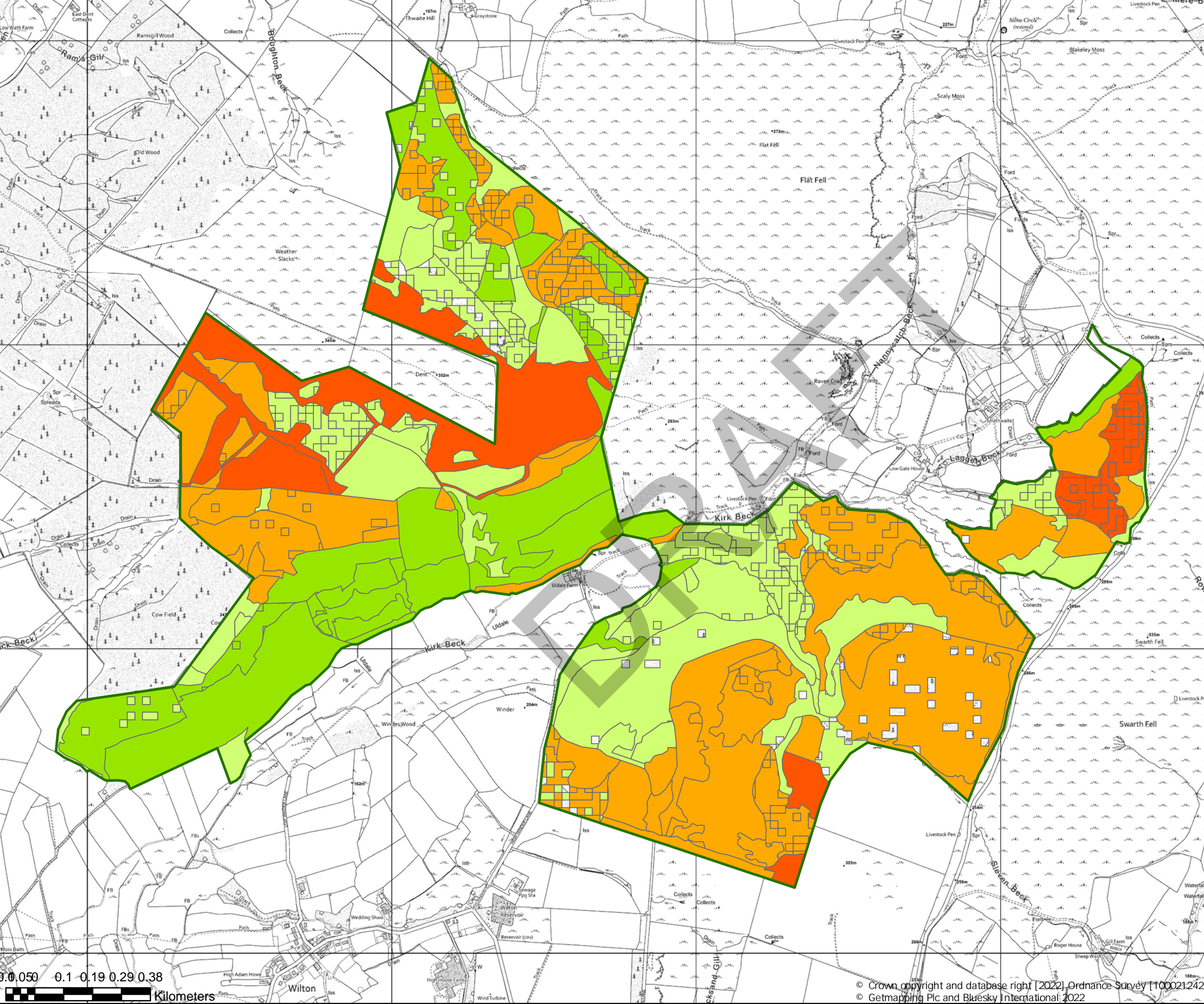
 **Forestry England**

Lowther Park, Uldale & Dent
Wind Hazard Class
10/01/2023
Scale: 1:12,000
Scale at A3

 Lowther Park, Uldale, Dent & Sillathwaite

Wind Hazard Class

	1
	2
	3
	4
	5
	6





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Forest Management
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Lowther Park, Uldale & Dent Planting Year

 Forestry England

Lowther Park, Uldale & Dent
Planting Year
10/01/2023
Scale: 1:12,000
Scale at A3

 Lowther Park, Uldale, Dent & Sillathwaite

Planting Year

Pre 1700

1701-1800

1801-1850

1851-1900

1901-1920

1921-1930

1931-1940

1941-1950

1951-1960

1961-1970

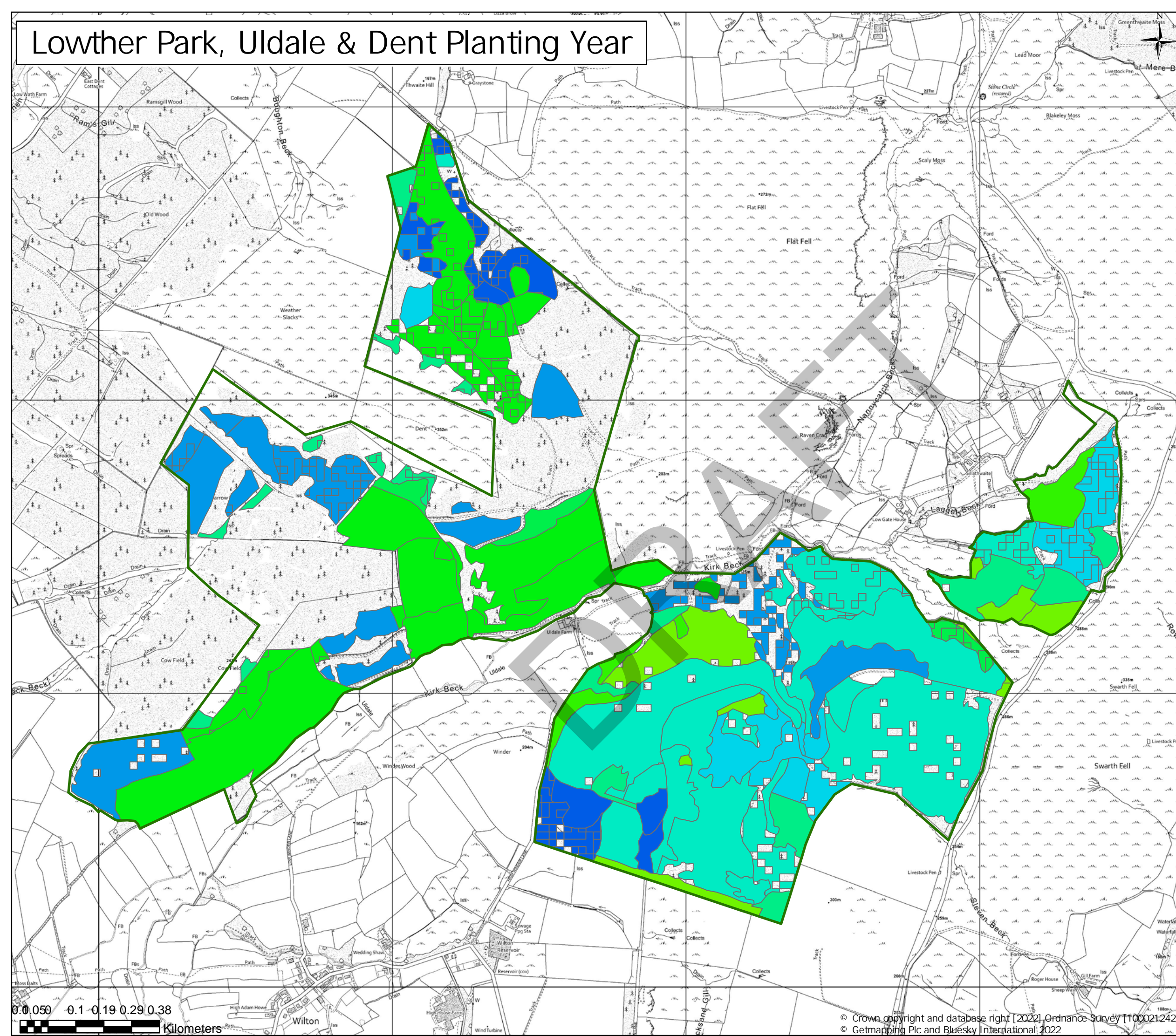
1971-1980

1981-1990

1991-2000

2001-2010

2011-2020



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Lowther Park, Uldale & Dent Conservation and Heritage

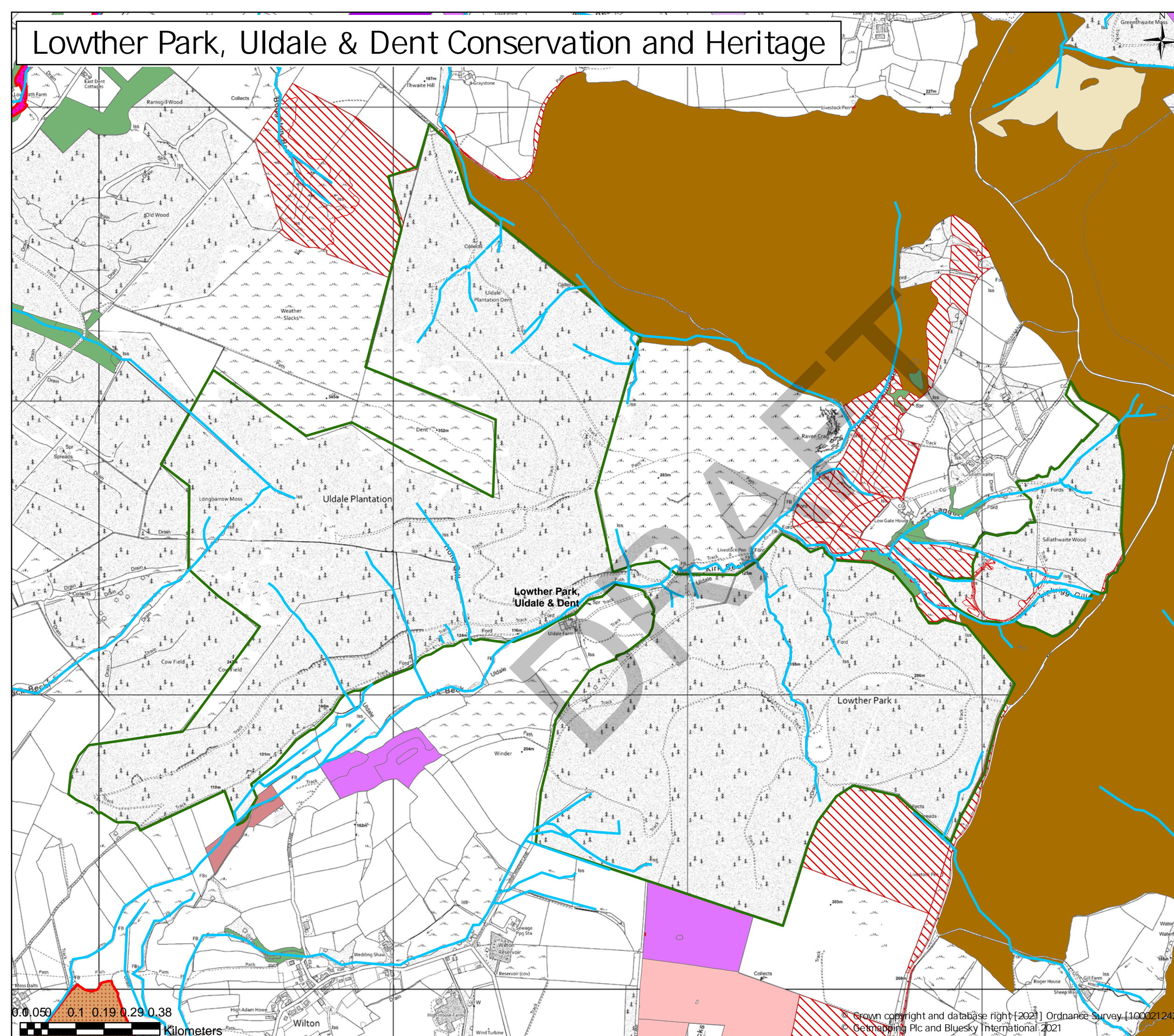


Lowther Park, Uldale & Dent
Conservation and Heritage
10/01/2023
Scale: 1:12,000
Scale at A3

- Lowther, Uldale & Dent
- Watercourses
- Sites of Special Scientific Interest
- Heritage

Priority Habitats

- Blanket bog
- Deciduous woodland
- Good quality semi-improved grassland
- Grass moorland
- Lowland dry acid grassland
- Lowland fens
- Lowland heathland
- Lowland raised bog
- No main habitat but additional habitats present
- Purple moor grass and rush pastures



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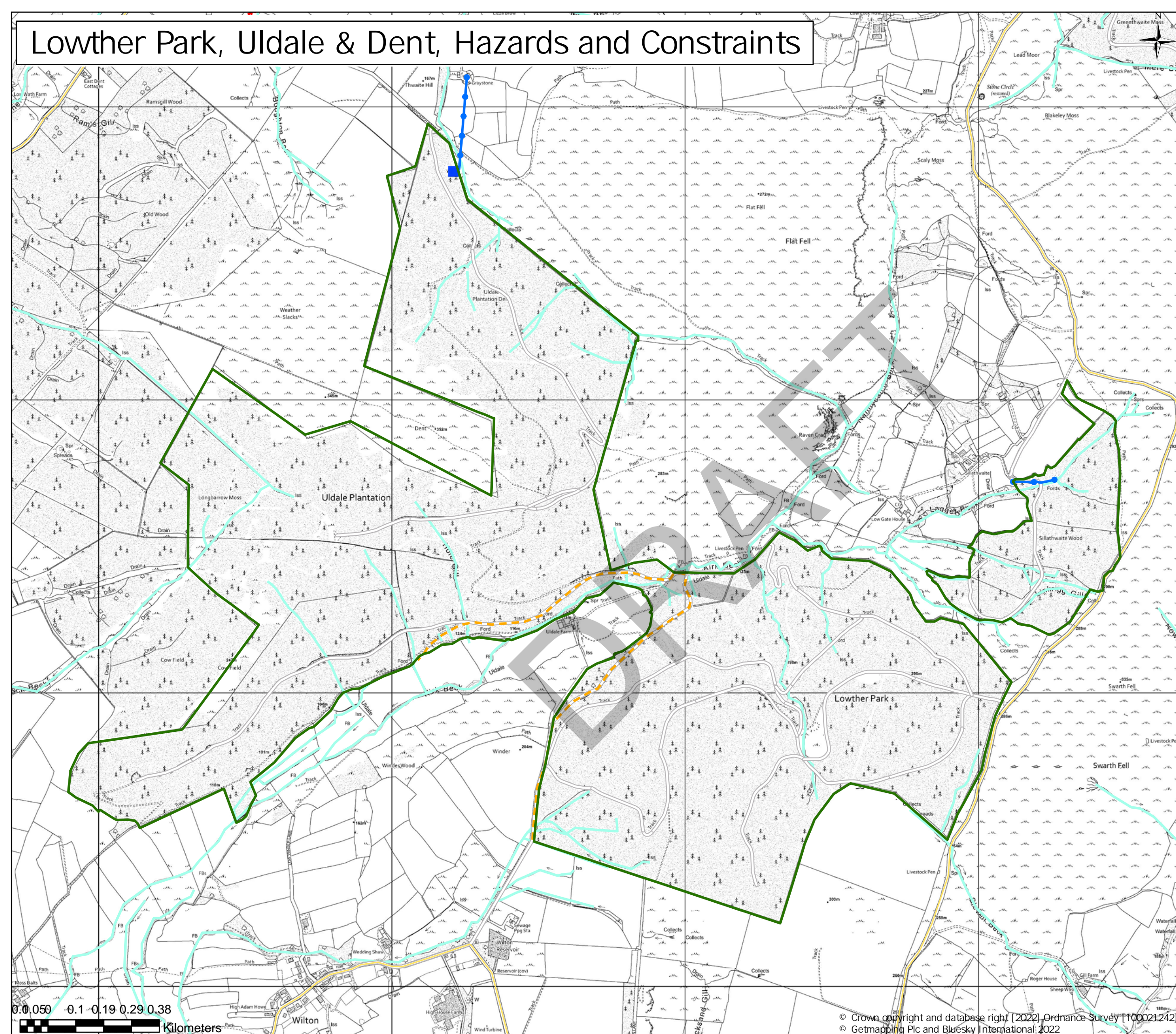


Lowther Park, Uldale & Dent, Hazards and Constraints



Lowther Park, Uldale & Dent
Hazards & Constraints
10/01/2023
Scale: 1:12,000
Scale at A3

- Lowther Park, Uldale, Dent & Sillathwaite
- Masts/Aerials
- Water Supply Points
- Water Pipelines
- Third Party Access
- Overhead powerline
- Underground powerline
- Overhead telephone or fibreoptic
- A Road
- Minor Road
- Forest Road
- Watercourses



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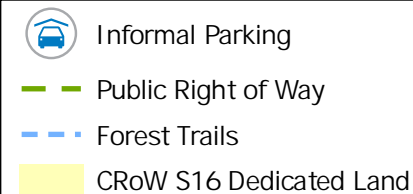
Forestry England
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Lowther Park, Uldale & Dent Access & Recreation

0.05 0.1 0.19 0.29 0.38 Kilometers

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Lowther Park, Uldale & Dent Design Concept



Lowther Park, Uldale & Dent
Design Concept
07/03/2023
Scale: 1:12,000
Scale at A3

Dent Zone

A mixed woodland area, works in Dent will continue to build on previous plans to reduce harsh edges. Small pockets of larch will be removed and restocked with other conifers, while a productive core of spruce will remain. Eastern coupes have already been restocked with broadleaf mixes.

Uldale Zone

Formerly predominantly spruce, this area is being replanted with a mixture of spruce and other conifers, still with a productive focus. Alternative conifers to be planted here include Scots Pine and Douglas Fir, which will be of benefit to red squirrel.

Sillathwaite Zone

High yield classes and high exposure mean that this area is well suited to continued productive spruce mixes managed in a clearfell system. Previous larch areas will be restocked with broadleaf mixes, increasing diversity in this wood and replacing the colours lost from the felling of larch.

LISS Zone

Area of LISS broadleaves to enhance riparian corridor and stabilise ground on valley side. This area is currently a mixture of conifer and broadleaf planting, over time the conifers will be removed with the intention of this area transitioning to majority broadleaf woodland.

Larch Replacement Zone

These areas were clearfelled in 2022 owing to Phytophthora Ramorum infection in the larch crops. Restocking here will aim to replicate the colour larch provided to the valley, while also increasing species diversity to produce a more resilient forest. Owing to lower exposure, these areas will be managed as LISS into the future. Intimate mixes of conifers such as Coast Redwood, Norway Spruce, Douglas Fir, Lodgepole, Scots and Macedonian Pine are proposed to sit alongside Aspen, Birch, Oak and Cherry.

Lowther Zone

Core production area. This area will be restocked with Sitka Spruce which achieves high yield classes in this area (yield class 20+) and is suited to the soils here. Exposure combined with high yields means trees here will continue to be managed in a clearfell regime. Riparian corridors will be buffered through expanded broadleaf LISS zones.

- Dent Zone
- Uldale Zone
- Larch Replacement Zone
- LISS Zone
- Lowther Zone
- Sillathwaite Zone
- Open Ground



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Woodland Assurance
Standard (UKWAS)



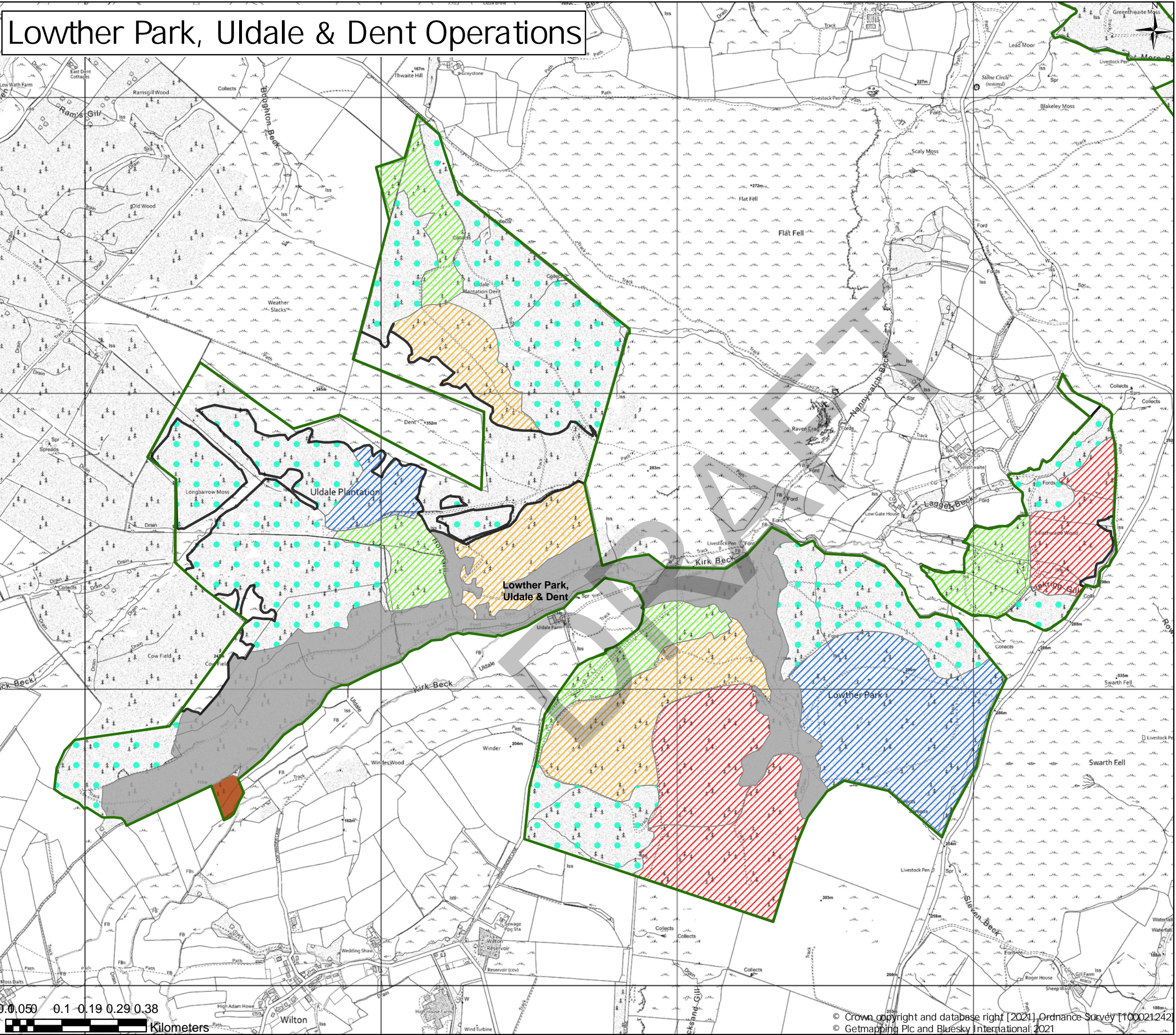
Lowther Park, Uldale & Dent Operations



Lowther Park, Uldale & Dent
Operations
03/02/2023
Scale: 1:12,000
Scale at A3

Felling Year

- 2022-2026
- 2027-2031
- 2032-2036
- 2037-2041
- 2042-2046
- 2046+
- LISS
- Minimum Intervention
- Open



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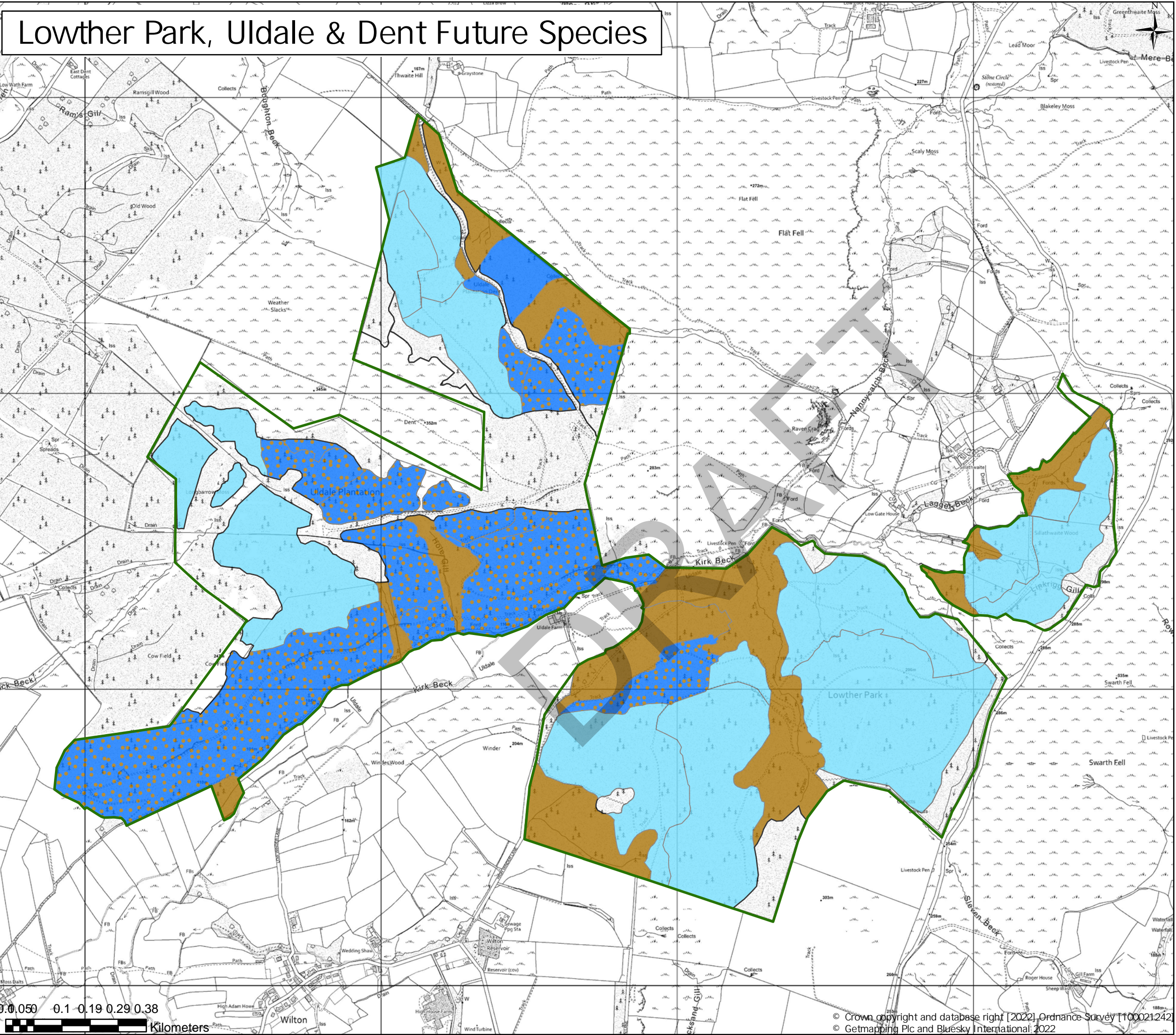
Promoting Sustainable
Forest Management
www.pefc.org

Lowther Park, Uldale & Dent Future Species

 Forestry England

Lowther Park, Uldale & Dent
Future Species
10/01/2023
Scale: 1:12,000
Scale at A3

-  Lowther Park, Uldale, Dent & Sillathwaite
- Future Species**
-  Open
 -  Mixed Broadleaves
 -  Other Conifers
 -  Other Conifers/MB
 -  Sitka Spruce





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Part 6 Forest Plan Outcomes

Restructuring

Lowther Park has undergone significant change with many unplanned clearfells to remove larch which has been infected by *Phytophthora Ramorum* already underway or complete. The impact of this felling has been significant with many areas felled considerably earlier than planned. Larch represented nearly a quarter of the forest in 2020, a figure which has been depleted to just 6% today. While unavoidable and necessary for plant health, it cannot be denied that this felling creates a negative effect on the diversity, structure, and appearance of the forest. The opportunity to create new mixed stands of alternative conifer and broadleaf species will improve the forest in the period of this plan by furthering our restructuring goals. This plan and the restocking enabled by response to *Phytophthora Ramorum* creates the opportunities to increase the areas managed under Low Impact Silvicultural Systems to the long-term benefit of the forest, through increased age, species, and structural diversity.

Timber production

The harvesting of timber remains a key element to the management of Lowther Park as a productive forest. In the immediate term continued felling of diseased larch crops and felling of surrounding coupes which are at risk of windthrow following the removal of larch composes the majority of the timber harvested here. In the longer term the continued thinning and clearfells will provide a sustainable yield of timber into the future. We are forecast to harvest a volume of approximately 9427m³ over the 10-year period of this forest design plan.

The restock proposals in this plan are estimated to produce approximately 869m³ of timber per year, this productive capacity is calculated using the average yield class of the forest across the species identified in this plan. The difference between the annual production of 869m³ per year compared to the harvesting forecast of 1178m³ is partly a result of recent felling of larch crops. Larch felling in 2022 has created unstable spruce crops which now need to be felled earlier than previously forecast to maintain forest stability and reduce risk of windthrow, in addition there are still a number of larch stands which will be felled before disease is able to establish in them.

Harvesting will drop away to sustainable levels after this felling is completed, with an average annual harvest of 720m³ forecast for the 10-year period following this plan (2032-2033).

Natural capital

Timber represents only one of the products of a successfully managed forest. Natural Capital refers to the stock of all natural assets upon which the economy and society is built. Natural capital produces value for people in the form of 'goods' such as timber or minerals and 'services' such as climate regulation and air purification. To realise the benefits of some natural assets, humans need to intervene (e.g. harvesting timber) but in other instances natural capital produces value through natural processes (e.g. trees reducing flooding). The

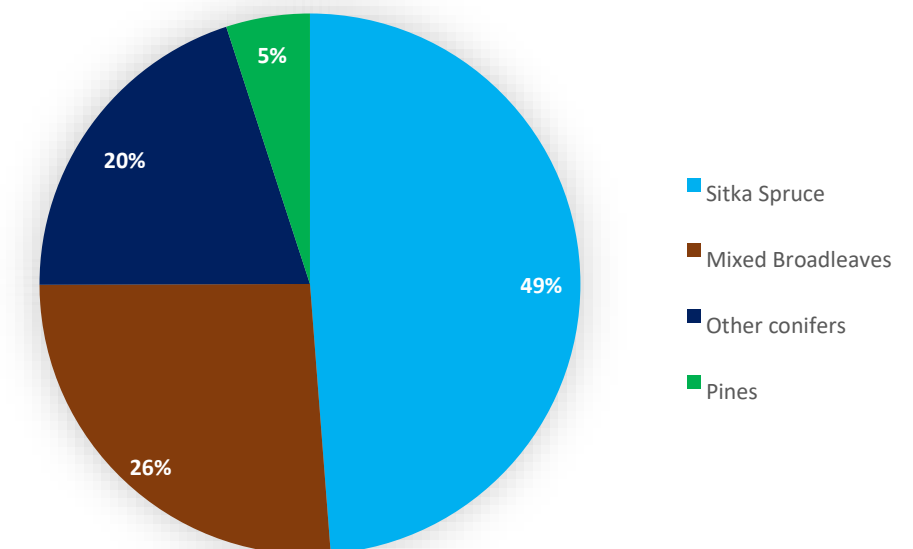
Lowther Park forest plan delivers ecosystem services and other non-market benefits included in biodiversity, climate change mitigation, water, people and landscape including public health and well-being, productivity through increased carbon sequestration, species diversification and climate change resilience, landscape enhancement and increased native woodland and priority habitats.

We can quantify elements of natural capital in the Lowther Park Forest Plan. The trees growing in Lowther Park are estimated to accumulate 6456 tonnes of carbon over the ten-year period of this forest plan. Benefits to people can be quantified through the area of accessible land in the forest, of which 344ha is CRoW dedicated land, with 10km of trails, and 14km of accessible forest road for cycling, pedestrians, and horse riders. Other elements of the plan will also increase natural capital, such as the establishment of new riparian zones planted with broadleaf trees which are expected to improve water quality, and the retention of established trees where possible to benefit animal species in the forest outlined in Part 1.

Future species

The future species indicated below represents how the composition could be in 20 years' time based on the restock proposals contained in this plan.

Figure 3. Lowther Park Future Species



Part 7 Monitoring plan

The objectives identified in section 4 will be monitored in the following ways.

Table 5: Monitoring plan		
Objective	Criteria for success	Assessment
For Climate		
Wood production	Marketable parcels of timber on offer to the market. Maintain timber harvesting access and infrastructure. Regularly thin the forest when the opportunity presents.	Contract and sales records
Sustainable economic regeneration	Successful restock sites and underplanting operations with minimised pest damage, successful natural regeneration where appropriate to utilise natural processes.	Five year Forest Plan review, OGB4 surveys
Increased use of alternative species for restocking of conifer areas	Use of alternative species during restock operations and underplanting, such as Macedonian pine, Douglas fir, Scots pine and coast redwood to reduce reliance on traditional spruce species and to increase resilience.	Five year Forest Plan review, OGB4 surveys
For Wildlife		
Retain older stands where possible under LISS management to increase diversity	Greater areas of LISS management resulting in increased age distribution in the forest.	Five year Forest Plan review
Red squirrel habitat	Retention of mature coning trees and stable woodland where not affected by plant health issues. Planting of Douglas Fir in former larch areas to provide squirrel foodstuff.	Five year Forest Plan review
Riparian buffers	Creation of 10m buffers around watercourses where broadleaves will be planted, improving connectivity across the forest, and increasing the variety of habitats found.	Five year Forest Plan review

For People		
Visual enhancement to visitors.	Expansion of the LISS areas to increase diversity, diversity in planting to replace lost larch areas, including targeted small enclosures of Aspen and other broadleaves to add colour back to the forest. Successful restock and beat ups and reduce impact of clearfells.	Five year Forest Plan review, OGB4 surveys
	Improve the harsh boundary on the ridge between Dent and Uldale through natural regeneration to soften the forest edges.	Five year Forest Plan review
Improved parking area at Wilton gate	Potential to create a more formal parking area for a small number of cars at Wilton gate to be considered during future engineering works.	Five year Forest Plan review
Historic features	While only one historic feature is formally identified in the forest, opportunities will be taken during operations to identify any features of historic interest.	Operational planning, five year Forest Plan review, GIS heritage dataset

UKWAS compliance table

Table 6: UKWAS Figures				
	Forest Plan Area (ha)	Forest Plan Percentage	Forest District Area (ha)	Forest District Percentage
Total area	344	100%	85888	100%
Total wooded area	277	80%	58069	67.61%
Area of conservation value*	54.15	16%	11322	13.18%
Long-term Retentions and Low Impact Silvicultural Systems	53.15	15%	10449	12.17%
Open space	67	20%	27819	32.39%
Natural Reserves	1	0.3%	873	1.02%

*Area of conservation value is the sum of designated areas including Ancient Woodland (where applicable), Long-Term Retentions, Low Impact Silvicultural Systems, and areas of Natural Reserve.

The United Kingdom Forest Standard (UKFS)

The UKFS is the reference standard for sustainable forest management in the UK. The UKFS is supported by a series of guidelines which outline the context for forestry in the UK, defines standards and requirements and provides a basis for regulation and monitoring. These include General Forestry Practice, Forests and Biodiversity; Climate Change, Historic Environment, Landscape, People, Soil and Water.

The Lowther Park Forest Plan is able to demonstrate that relevant aspects of sustainable forest management have been considered and the stated objectives in Part 3 show how sustainable forest management will be achieved. The plan provides a clear means to communicate the proposals and to engage with interested parties and serves as an agreed statement of intent against which implementation can be checked and monitored.

In addition to conforming to general sustainable forest management principles UKFS is demonstrated in the following key areas:

Productivity	Productive potential is optimised through the delivery of the clearfell and thinning programme, ecosystem services and other non-market benefits included in biodiversity, climate change mitigation, water, people, and landscape.
Structure	Long term future species composition: 51% other species (of which 24% is native broadleaves), and 20% open ground meets UKWAS and UKFS requirements. Long term structure will improve through expansion and linking of permanent broadleaved and open habitats.
Silvicultural	Low Impact Silvicultural Systems (LISS) principles will be adopted with long term retention (LTR) of areas of broadleaved woodland as these develop. This will improve species and age class diversity over time.
Biodiversity	Ecological connectivity achieved by extending and linking areas of native broadleaved woodland and open space will be enhanced ensuring that the area is managed with conservation and biodiversity as a major objective.
Climate change	Increase of LISS areas will minimise soil disturbance. Natural regeneration where possible and species diversification will benefit forest resilience.
Landscape	The planning process refers to the Local Landscape Character Assessment to inform the appropriate woodland management and design.
Historic	Historic environment features are recognised, and their safeguard will be incorporated into operational management.
People	The Forest Plan is consulted with individuals, the local community, and organisations with an interest in the management of the area.

Water

Water quality will be protected through adherence to Forest and Water guidelines as a minimum during any harvesting and forest management operations.

Longer term management proposals

The proposals in this plan continue to build on the success of previous plans to support the management of Lowther Park. It is acknowledged that the current plant health issues in the forest have had an unavoidable negative impact on the landscape which will last into the medium term while trees are replanted. To reduce the impact from similar issues in the future, this plan seeks to build a more diverse, resilient forest through the introduction of additional species and a range of management types. Future management will continue to evaluate the opportunity for increasing areas of LISS as crops age into the future, while continuing to provide timber to markets in the region.

Public access will continue to be feature of the forest into the future, with the number of formal and informal trails, paths and rights of way in the woods to remain consistent to allow for quiet exploration and appreciation of the landscape. Visitor numbers to the Lake District National Park have increased over the previous plan period, and this trend is expected to continue. Less busy forests on the edge of the park such as Lowther Park are becoming increasingly important to local communities seeking to escape from busier tourist centres.