



Forestry and  
Land Scotland  
Coilltearachd agus  
Fearann Alba

# Wauchope East Land Management Plan 2025 – 2035

We manage Scotland's National Forest Estate to the United Kingdom Woodland Assurance Standard – the standard endorsed in the UK by the international Forest Stewardship Council® and the Programme for the Endorsement of Forest Certification. We are independently audited.

Our land management plans bring together key information, enable us to evaluate options and plan responsibly for the future. We welcome comments on these plans at any time.



The mark of  
responsible forestry



Applicant's details	
Applicant:	Forestry and Land Scotland
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Agent's position:	Planning Forester
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I hereby apply for a permission to fell the trees described in this application and I certify that:

I have notified all stakeholders that may be affected by the felling in this application and sought their views prior to submitting this application;

I am authorised to sign legal contracts on behalf of Forestry and Land Scotland;

Any necessary consents from any other person(s) if required, have been obtained;

I have made the necessary checks with the local planning authorities regarding Tree Preservation Orders and Conservation Areas;

I hereby acknowledge that Scottish Ministers may process any of my personal data contained in or relating to this application in accordance with the terms of Scottish Forestry's Privacy Notice, a copy of which is available at [www.forestry.gov.scot](http://www.forestry.gov.scot);

Where applicable and appropriate I have submitted an EIA screening opinion form for operations contained within this application under the Forestry (Environmental Impact Assessment) (Scotland) Regulations 2017.

I have read and understand this application fully and, to the best of my knowledge and belief, the information given in this application is complete, true, and accurate;

I accept that any false or misleading information provided in this application constitutes an offence and may result in any felling permission based on this application being revoked at any time;

I have read and understand Scottish Forestry's Privacy Notice, a copy of which is available at <https://forestry.gov.scot/privacy-complaints-freedom-of-information-and-requests-for-information>.

Signed, Planning Manager		Signed, Pp Conservator	
Date	21/11/2025	SF Conservancy	
Signed, Area Manager	Neil Purves	Date of Approval	
Date	21/11/2025	Date Approval Ends	
FLS Region	South	Plan Ref. No.	

## A. Description of Woodlands

### A.1 Property Details

Property (LMP) Name:	<b>Wauchope East</b>
Grid Reference (main entrance):	NT 590 058
Nearest town or locality:	Bonchester Bridge
Local Authority:	Scottish Borders

### A.2 Location and Background

The Wauchope East land management plan area includes the Lethem block (2486 ha) and Hyndlee block (1074 ha), totalling some 3560 ha. Wauchope East is located 6 km south of Bonchester Bridge between the B6357 in the west and the A606 in the east. This area includes the majority of Kielderhead Moor, a Site of Special Scientific Interest (SSSI), which comprises 954 ha of open moor running along the Scottish/English border (905ha of which are within the LMP area). The extent of the plan is detailed on Map 1.

Prior to afforestation Wauchope East was predominately rough grazing made up of several upland farms. This farmland was mainly unimproved grazing but there were some small areas of improved pasture located around the small farmsteads with associated small farm plantations.

Hyndlee Glen and Wheel Causeway were afforested in the 1950s and Lethem in the 1960s. Strategic timber production was the main objective. This has remained so for the second rotation with much of the first rotation having now been felled and restocked. However more recent plans have also focused on environmental protection and enhancement.

See Map 1.

### A.3 Existing Schemes and Permissions

**Type:** Land Management Plan (expired)

**Ref. No:** 226

**Details:** Previously included Lethem, Hyndlee and Peel blocks (Peel block has now been sold).

**Type:** Statutory Plant Health Notice (P.Ramorum) - COMPLIANT

**Ref. No:** STH23\_0897\_0898

**Details:** Brockie Law and Wardmoor Hill - Issued 20/09/23 and complied with 28/02/24.  
Location centres NT 6009 0600 & NT 5942 0487

**Type:** Statutory Plant Health Notice (P.Ramorum) - COMPLIANT

**Ref No:** STH22\_0227\_0228

**Details:** Hyndlee Burn & Swire Sike - Issued 05/08/22 and complied with 28/02/23. Location centres NT 5970 0514 & NT 5940 0379

**Type:** Statutory Plant Health Notice (P.Ramorum) - COMPLIANT

**Ref No:** STH22\_1123\_1124

**Details:** Green Binks - Issued 03/11/22 and complied with 31/08/23. Location centre NT 6262 0350

**Type:** Statutory Plant Health Notice (P.Ramorum) - COMPLIANT

**Ref No:** STH22\_0229

**Details:** Green Law - Issued 05/08/22 and complied with 28/02/23. Location centre NT 6367 0484

**Type:** Statutory Plant Health Notice (P.Ramorum) - ACTIVE

**Ref No:** STH24\_0758

**Details:** Ravenburn - Issued 23/08/24 and deadline of 28/02/25. Location centre NT 6168 0347

**Type:** Statutory Plant Health Notice (P.Ramorum) - ACTIVE

**Ref No:** STH24\_0760

**Details:** Dun Knowe - Issued 23/08/24 and deadline of 28/02/25. Location centre NT 6284 0401

## A.4 Stakeholder Engagement

Summary of the main points raised by stakeholders during Scoping (and where they are addressed in the plan). The full consultation record can be found in Appendix I.

1. Recreational access: general desire from numerous stakeholders to see improved recreational access provision and maintenance including walking, riding and cycling access. (Section C.2.9).
2. Riparian woodland cover: concerns over riparian woodland cover of watercourses, especially Black Burn (SAC) for protection of fish populations (Section C.2.11, C.2.13 and C.2.15).
3. Heritage: concerns over maintenance of Scheduled Monuments (Tamsheil Rigg, Black Hill, Westshiel and nationally important drove road Wheel Causeway (Section C.2.10).
4. SSSI and biodiversity – desire to see removal of non-natives from SSSI, 100m open buffer and creation of low density native broadleaved transition zone (Section C.2.11).
5. Flooding – concerns raised that felling in recent years has contributed to increased frequency of local flooding events (Section C.2.15).

## A.5 Long Term Vision and Management Objectives

### Vision

Maintain, protect and enhance sustainable timber supply via progression towards increased age and species diversity. Improved wildlife provision and protection by increased maintenance and creation of native broadleaved riparian woodland focusing on Black Burn (SAC). Protection and improvement of Kielderhead SSSI via gradual removal of legacy non-native planting and increase of the native broadleaved transition zone. Improved maintenance of walking paths, especially core paths.

### Management Objectives

**Objective 1:** Sustainable timber - Continue to ensure regular timber supply and extend roading where required. Resolve coupling issues resulting from sanitation fellings and windblow. Revive thinning program and continue with ongoing diversification program.

Indicator of objective being met: Continued provision of sustainable timber to market over the term of the plan via clearfelling and thinning. Restructuring and resizing of coupes to promote wind firmness and reduce clearfell coupe size in the next rotation.

**Objective 2:** Climate change - Ensure UKFS compliance by increasing native broadleaves to at least 5%. Continue to build resilience into the plan via increased diversity and

implementation of LISS where suitable. Begin a process of adopting sensitive management of deep peats edaphically unsuited to woodland.

Indicator of objective being met: Species composition figures. Sensitive native low density restocking of deep peat areas. Undertake thinning to allow transition to LISS where possible. Continued species diversification.

**Objective 3:** Biodiversity - Begin program of riparian corridor improvement, focusing initially on Black Burn. Ensure ongoing protection of Kielderhead SSSI and other sensitive habitats and continue to provide suitable habitat for a wide variety of species.

Indicator of objective being met: Initiate program of riparian clearance and complete 1km of riparian clearance every 2 years for duration of plan. Work with NatureScot and other stakeholder to ensure SSSI condition remains favourable. Retain suitable areas of LTR and Natural reserve. Revive thinning program.

**Objective 4:** Heritage & Recreation - Improve protection and maintenance of heritage features and walking routes via a continuing program of clearing Scheduled Monuments and the Wheel Causeway drove road.

Indicator of objective being met: Undertake necessary clearance works of all Scheduled Monuments in Phase 1 and undertake clearance of Wheel Causeway as felling and restock of affected coupes occurs.

## A.6 General Site Description

### A.6.1 Topography and Landscape

Situated just north of the Scottish/English border, Wauchope East rises from north to south. The lower parts of the southern end begin around 200 AMSL and rise to a ridge of around 500 -550 AMSL. The highest points being the summit of Carter Fell (556 AMSL) and Carlin Tooth (551 AMSL).

The Landscape Character Assessment is Southern Uplands with Forest (LCT 96) defined by large scale rolling landform, dominant coniferous forests, dispersed settlements and farmsteads.

### A.6.2 Geology and Soils

The underlying geology is sandstone and subordinate argillaceous rocks resulting in mostly greywacke and mudstone in the Hyndlee area transitioning to sandstone, siltstone and dolomitic limestone in the east (Lethem).

The valleys and riparian areas contain diamicton deposits. Peat deposits dominate the highest reaches of the southern portion of the site.

This geology results in site being dominated but peaty surface water gleys, giving way to surface water gleys in the valleys and near the watercourses. There are also areas of iron pans especially in the east. The gentler valley sides and lower hills in the northwest contain brown earths. Kielderhead Moor SSSI in the south is dominated by blanket bog. There is an area of upland sphagnum bog of approximately 60 ha around Hardlee Knowe. See Map 8.

### A.6.3 Climate

The current climate ranges from warm moist and moderately exposed to sub alpine, wet and severely exposed. The majority is cool wet and moderately exposed. This is projected to progress towards a warmer climate with increased storms and spring/summer droughts, although predicted mean annual moisture deficit may rise or fall slightly depending on how quickly the climate warms in the coming years.

### A.6.4 Hydrology

There are four main watercourses within Wauchope East with many smaller tributaries. The main burns are Hyndlee Burn, Jed Water, Black Burn and Carter Burn. All of these are within the River Tweed catchment of the Solway Tweed River basin catchment. They are all in good overall status according to SEPA's Water Classification Hub online portal. The water quality of Jed Water, Black Burn and Carter Burn is listed as 'Good'. Hyndlee Burn is listed as 'High'. Black Burn is also designated a Special Area of Conservation as part of the River Tweed Catchment.

FLS own 16.82 % of the National Forest Inventory (NFI) within the Jedburgh drainage area. The Lethem block is within this area.

The Hyndlee block lies within the Bonchester Bridge drainage area in which FLS owns 38.5% of the NFI. The forest plan area only makes up approximately 16% of the Bonchester Bridge drainage area.

Both figures are under 40% of the catchment total and therefore the impact of any felling is likely to be small and not significantly contribute to potential future floods. See Map 3.

#### A.6.5 Windthrow

Dams range from 10 (sheltered) to 22 (severely exposed) with a mean of 15 (moderately exposed). There has been some windthrow at Wauchope East. The majority being the consequence of sanitary felling of larch required by Statutory Plant Health Notices and legacy Storm Arwen damage. Additionally previous felling sequences have also not always been optimal with regard to the prevailing wind. There is currently 52 ha of windthrow listed on the sub-compartment database.

#### A.6.6 Adjacent Land Use

Wauchope East is surrounded by either farmsteads, forest or open moorland. FLS also manage Wauchope West Forest, to the west. Tilhill manage most of the remaining surrounding forests, predominantly for timber production. To the south Kielderhead Moor SSSI continues over the border into England and the wider Kielder Forest complex managed by Forestry England.

#### A.6.7 Access

Public access is permitted across the site. There are a few core paths crossing the forest, some of which have not been well maintained in recent years. The Wheel Causeway is both a core path and archaeological future. There is a footpath from the southeast up into the ridge line and another old track up to Carter Fell from the east. See Map 3.

#### A.6.8 Historic Environment

There are two designated sites within Wauchope East. Tamshiel Rig (fort settlement and field system) in the east and Black Hill (settlement) (in the west). A 640m section of the Wheel Causeway which borders the forest boundary has also been designated. The rest of the Causeway which runs through Wauchope East is deemed as nationally important. There is also a designated prehistoric linear earthwork (Westshiels) nearby which also lies just

beyond the forest boundary. There are four further scheduled monuments just outside the entrance to Lethem Forest in the east:

- Martinlee Sike farmstead – ID: SM6602;
- Martinlee Sike enclosure bank and field system – ID: SM6599;
- Martinlee Plantation, homestead NW of Martinlee Sike, ID SM6600;
- Martinlee Plantation, homestead SE of MartinleeSike ID: SM6601).

There are also several historical features throughout the site. These include Dykeraw drove road (ID: DB 000903), Causeway Rig earthworks (ID: DB000142), Knox Knowe track (ID: DB000801), Burns Plantation (ID: DB000127), Coblaw Plantation (ID: DB000134), Jedhead (ID: DB000904) and several cairns. See Map 8

#### A.6.9 Biodiversity

Wauchope East contains two designated areas; Kielderhead Moor is a Site of Special Scientific Interest and Black Burn is part of the River Tweed Special Area of Conservation (SAC),

Kielderhead Moors: Carter Fell to Peel Fell SSSI is notified for its upland habitats, specifically blanket bog and dry heath and for its breeding bird assemblage. This assemblage includes golden plover, dunlin on the higher moor, Schedule 1 raptor species, ring ouzel, wheatear and whinchat in the steep sided cleuchs and snipe, curlew, redshank and teal on the grassy burn-sides and flushed haughland.

The River Tweed SAC is designated as a habitat for several species: river lamprey, brook lamprey, sea lamprey, Atlantic salmon and otter, as well as floating vegetation often dominated by water-crowfoot. Black Burn has an approximate linear length of 6km within the plan area.

There are also Cragbank and Wolfhopelee SSSI, Kielderhead NNR and Whitelee Moor NNR in reasonably proximity to Wauchope East.

There is no ancient woodland or Plantation on Ancient Woodland Sites (PAWS) within the plan boundary. There are small areas of non-priority and priority Native Woodland Survey of Scotland Sites (NWSS).

There is some deadwood on site and scope to create more give the number of watercourses and areas with difficult access.

There are 3 natural reserves within the plan area comprising 64.22 ha (3%). There is also a number of Long Term Retention coupes which make up 148.53 ha (4%).

Kielderhead SSSI makes up 25% of the plan area and is mostly NVC type M19a and M19b (Culluna vulgaris-Eriophorum vaginatum blanket mire) and H12a (Calluna vulgaris - Vaccinium myrtillus heath). There is also 60 ha of currently afforested upland sphagnum bog within the forest.

Notable species sighted include ravens, red squirrels, Eurasian hobby, stalkball fungus, great grey strike, hen harrier, peregrine, long eared owl, tawny owl, barn owl, merlin, goshawks, black grouse, golden eagle, nightjars and badgers.

See Map 3.

#### A.6.10 Invasive Species

Wauchope East is within the Teviot and Rule Saving Scotland's Red Squirrels priority zone for red squirrel protection via grey squirrel control. FLS do not currently undertake grey squirrel control.

A significant issue is non-native conifers, mainly Sitka spruce, naturally regenerating in sensitive open habitat or riparian corridors, at the expense of native broadleaves.

See Map 3.

### A.7 Woodland Description

Map 2 shows the current tree species composition and pattern.

Woodland makes up 80% of the overall LMP area. That woodland is dominated by Sitka spruce which occupies 56% of the afforested area. There are now well established broadleaved riparian areas, especially along Black Burn, although clearance of regenerating spruce is required. There are also significant areas of Scots pine, larch, Norway spruce and birch, although there has been a reduction in larch due to several Statutory Plant Health Notices requiring the larch to be felled. This has also had the implication of disrupting the

felling order and exposing some coupes to the wind. An ongoing program of restructuring has been underway over recent plans, improving age class diversity. Increasing species diversity is somewhat limited by the climate, exposure and types of soil present. Previous management has been exclusively via clearfell and restock and this will continue to dominate, however there are opportunities in more sheltered areas and on better soils to begin a process towards LISS conversion via timely and consistent thinning interventions.

Table 1: Area by species

<b>Plan area by species</b>						
Species	Current Area (ha)	%	Year 10 Area (ha)	%	Year 20 Area (ha)	%
Sitka spruce	1583	56%	1575	56%	1453	51%
Other conifers	401	14%	467	17%	553	20%
Native broadleaves	142	5%	197	7%	216	8%
Other broadleaves	2	0%	2	0%	2	0%
Open ground	547	19%	546	19%	558	20%
Fallow	154	5%	44	2%	49	1%
<b>Total*</b>	<b>2831</b>	<b>100%</b>	<b>2831</b>	<b>100%</b>	<b>2831</b>	<b>100%</b>

\* 729 ha of open hill removed from total area

Chart 1: Area by species

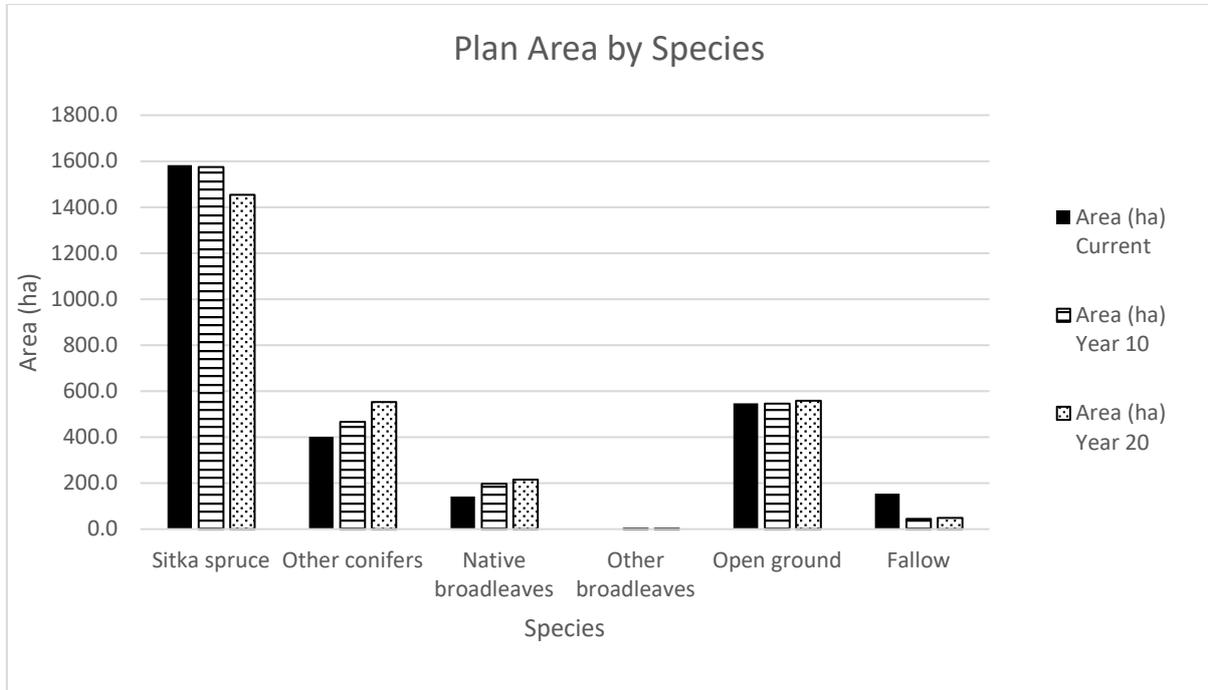
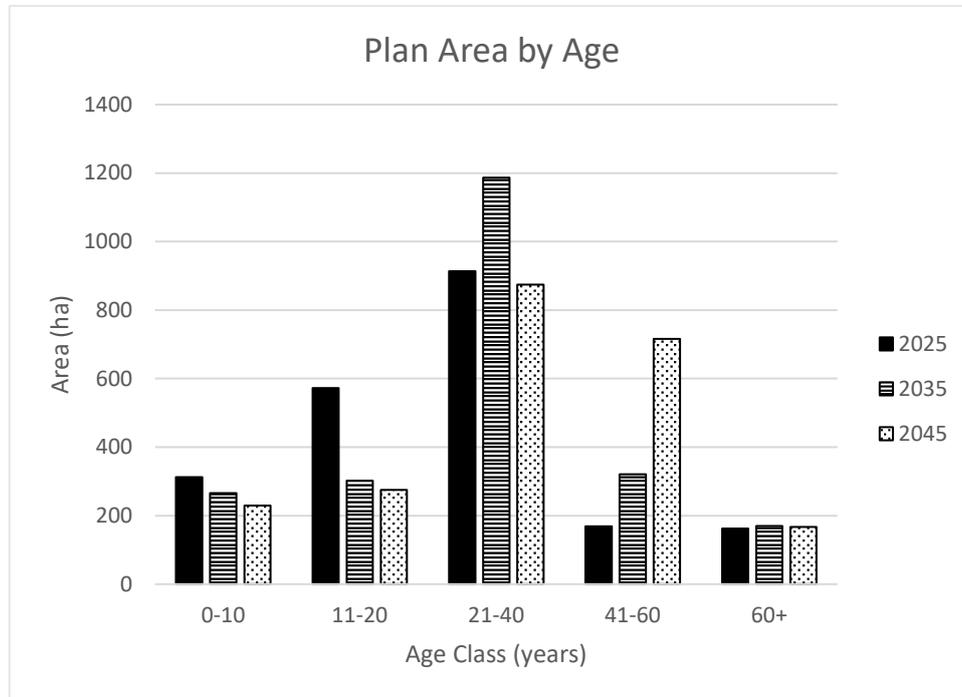


Table 2: Area by age

Plan area by Age						
Age Class (years)	Current Area (ha)	%	Year 10 Area (ha)	%	Year 20 Area (ha)	%
0 – 10	312.24	11	266.25	9	229.64	8
11 – 20	572.25	20	302.13	11	274.96	10
21 – 40	913.82	32	1186.78	42	874.18	31
41 – 60	168.61	6	321.27	11	716.22	25
60+	162.43	6	170.12	6	167.4	6
Open ground (incl. fallow)	701.44	25	584.24	21	568.39	20
<b>Total *</b>	<b>2831.00</b>	<b>100</b>	<b>2831.00</b>	<b>100</b>	<b>2831.00</b>	<b>100</b>

\* 729 ha of open hill removed from total area

Chart 2: Area by age



## A.8 Plant Health

*Phytophthora ramorum* is present across the LMP area and a number of SPHNs have been issued over recent years. It is likely that this trend will continue and European, Japanese and Hybrid larch will not currently be planted.

*Dendroctonus micans* (Great spruce bark beetle) is also present within the LMP area although it is not currently causing significant damage. Where new sites have been confirmed, the predator beetle, *Rhizophagus grandis*, has been released to control the spread of *D.micans*.

*Dothistroma* Needle Blight (DNB) has been identified on Scots Pine crops across the Region. The pine in Wauchope East is likely infected, although mortality is currently low.

*Hylobius abietis*, the Large pine weevil, is found in this plan area and throughout the region.

## B. Analysis of Information

### B.1 Constraints and Opportunities – and Concept

Constraints and Opportunities		
Factor	Constraints	Opportunities
Biodiversity	<ul style="list-style-type: none"> <li>• Kielderhead Moor SSSI</li> <li>• Cragbank &amp; Wolfleehope SSSI</li> <li>• Kielderhead NNR</li> <li>• Whitelee Moor NNR</li> <li>• Feral goats</li> <li>• Deer</li> <li>• 3 Natural reserve areas</li> <li>• Ravens, red squirrels, fungi, great greyshrike, grouse, hobby, harrier, owls, goshawks, badgers</li> <li>• Grey squirrel control area</li> <li>• Protection challenges of young trees due to migration of roe deer from neighbouring land. Deer control resources are limited.</li> <li>• High levels of spruce regeneration may hamper diversification efforts in some areas.</li> <li>• Much of forest is dominated by un-thinned single specie stands reducing biodiversity.</li> </ul>	<ul style="list-style-type: none"> <li>• Opportunities to improve biodiversity of these protected areas either via sensitive planting in adjacent areas or active habitat management works within protected areas inside the LMP area.</li> <li>• Opportunities to collaborate with other stakeholders to bring landscape level improvements (e.g. Kielderhead Moor and Kielderhead rewilding project).</li> <li>• Opportunities to help red squirrels by active grey squirrel control.</li> <li>• Opportunity to maintain mature conifers and order felling to provide refuges for birds of prey etc.</li> <li>• Riparian corridor improvement opportunities via clearance of conifer regeneration beat-up of broadleaves where required.</li> <li>• Opportunity to create peatland edge habitat around Hardlee Flow area.</li> <li>• Opportunities to improve biodiversity via expansion of the thinning program.</li> <li>• Deadwood</li> </ul>

<b>Constraints and Opportunities</b>		
<b>Factor</b>	<b>Constraints</b>	<b>Opportunities</b>
Climate	<ul style="list-style-type: none"> <li>• Need to increase native broadleaved element to 5% to be compliant with UKFS 5.</li> <li>• Soil types and exposed areas will limit suitable species choice.</li> <li>• Future climate may result in warmer drier summers, an increase in drought events and more wet winters presenting seasonal water availability issues for drought prone, shallow rooting species on freely draining soils.</li> <li>• Wetter poorer soils limit management options in some areas.</li> </ul>	<ul style="list-style-type: none"> <li>• Opportunity to plan more native broadleaves.</li> <li>• Where better soils are present there is opportunity to improve resilience via alternative species and conversion Low Impact Silvicultural Systems (LISS).</li> <li>• Expansion of the thinning program in suitable areas has potential to improve overall stand stability and tree health.</li> <li>• Opportunities for conversion to LISS in some areas.</li> <li>• Expansion of mixed stands has the potential to improve resilience and stability via differing rooting depths, increased drought resistance and improved pest/disease resilience.</li> </ul>
Historic Environment	<ul style="list-style-type: none"> <li>• Two scheduled monuments within LMP area.</li> <li>• Number of other historical features recorded within the block.</li> </ul>	<ul style="list-style-type: none"> <li>• Opportunity to review importance and opportunities for future protection as coupes hosting heritage features are felled.</li> </ul>

Constraints and Opportunities		
Factor	Constraints	Opportunities
Landscape	<ul style="list-style-type: none"> <li>• Long term vision to achieve positive effects on the wider landscape views, so unlikely to be fully realised during this plan revision.</li> <li>• Loss of larch reduces visual diversity and autumn colours.</li> <li>• Although area not heavily populated the upper slopes of the LMP area are visible from a wider area and a gentler transition to the open hill would be preferred but potentially challenging to implement due to the ability of spruce to regenerate on poorer soils.</li> </ul>	<ul style="list-style-type: none"> <li>• Opportunities to increase species diversity and redesign coupe edges on upper slopes to develop the external views from public roads and the impact on local landscape views.</li> <li>• Larch loss provide opportunity to include other suitable alternative species.</li> </ul>

Constraints and Opportunities		
Factor	Constraints	Opportunities
Timber	<ul style="list-style-type: none"> <li>• Clearfell will continue to be used in exposed areas with unsuitable soil/species combinations.</li> <li>• The felling order has been somewhat compromised due to windblow and SPHNs leaving some exposed mature crops and difficult decisions regarding future felling sequence.</li> <li>• The generally poor-quality soils reduce diversification options.</li> <li>• Much of the LMP area comprises of wet, peaty gleys presenting possible compaction issues for subsequent thinning interventions.</li> <li>• Windblow areas and infected larch stands and exposed long-term retentions require felling causing potential disruption to the existing plan structure.</li> </ul>	<ul style="list-style-type: none"> <li>• Opportunity to carry out first and second thinnings on a number of coupes within the plan period to provide an additional revenue stream, increase timber quality and provide the option of future potential conversion to Low Impact Silvicultural Systems (LISS).</li> <li>• Opportunities to re-order some of the felling to reduce potential future windblow damage.</li> <li>• Options to reduce future clearfell coupe sizes to mitigate possible drought, soil erosion and pest issues.</li> <li>• More sheltered areas of the site present opportunities for future conversion to LISS.</li> </ul>
Roads & Haulage	<ul style="list-style-type: none"> <li>• New roads/upgrading required to access some coupes.</li> </ul>	<ul style="list-style-type: none"> <li>• In the main block there is a good forest road network and existing quarry will provide site-won material will help to reduce costs and facilitate maintenance required over the term of this plan.</li> </ul>

Constraints and Opportunities		
Factor	Constraints	Opportunities
Water	<ul style="list-style-type: none"> <li>• Four main watercourses (Hyndlee Burn, Jed Water, Black Burn, Carter Burn) with a high number of smaller tributaries, drains etc.</li> <li>• All rated as good or high for water quality.</li> <li>• Bonchester Bridge and Jedburgh both at risk of flooding (from Rule Water [fed by Hyndlee Burn] &amp; Jed Water respectively) but neither forest contains over 40% of NFI.</li> </ul>	<ul style="list-style-type: none"> <li>• Opportunity to maintain good water quality and maintain good neighbour relations via the adherence to Forestry and Water Guidelines to protect watercourses and PWSs during operations.</li> <li>• Introduction and expansion of broadleaved riparian zones following felling of existing conifer stands provides opportunity to maintain and improve water quality on site and prevent acidification.</li> <li>• Opportunity to reduce the size of clearfells and implement LISS where possible to reduce possible erosion and siltation risks.</li> </ul>

### Concept

Sustainable timber production will be prioritised in Wauchope East. Stand resilience and climate change adaption will be improved via active management to increase the proportion of quality sawlogs produced. Thinning will be reinstated to provide an additional timber resource and improve the quality and stability of the future crop and provide biodiversity benefits. This will also provide options for future conversion to low impact silvicultural systems in some areas. Species and stand age diversification will continue whilst restructuring some of the coupes and the felling order to improve wind firmness.

Biodiversity will also be boosted by the creation and maintenance of wildlife corridors in riparian zones, particularly along the Black Burn.

Heritage features will be protected and recreational access will be improved via the clearance of Scheduled Monuments and the initiation of a process of clearance of the Wheel Causeway.

The Kielderhead Moor SSSI will be sensitively managed in coordination with external partners.

Map 3 illustrates how the plan concept incorporates the important constraints and opportunities into the management objectives.

## C. Management Proposals

### C.1 Silvicultural Practice

The prevailing silvicultural practice used within the block will be clear felling as per the previous plan, however the aim for more sheltered younger stands on suitable soils will be eventual transition to low impact silvicultural systems via timely thinning interventions. Stands suitability for conversion to LISS will be re-appraised at each plan revision. To improve the age structure efforts have been made to increase areas of Long-Term Retention thus retaining some mature standing trees and providing deadwood habitat.

### C.2 Prescriptions

#### C.2.1 Felling

Sites proposed for clear felling in the plan period are identified as Phase 1 and Phase 2 management coupes on Map 4. Refer to Table 3 for scale of felling.

Stands adjoining felled areas will be retained until the restocking of the first coupe has reached a minimum height of 2m. Phase 1 and 2 clearfell coupes identified in this plan with known adjacency issues are listed below with the planned approach to achieving height separation. For any future clearfell coupes where adjacency is not possible, and there is no exemption under the Scottish Forestry Act, an amendment will be discussed and agreed with Scottish Forestry before the coupe is felled.

55026 and 55001: 55001 and part of 55026 were felled out of sequence via SPHN. Diversification of species and growth rates will alleviate the adjacency issue.

55080 and 55054: 55080 was separated from 55054 when felled out of sequence via SPHN. These coupes will be combined back into a single coupe following restocking in the next LMP revision.

55080 and 55057: These coupes were felled out of sequence via SPHN. Diversification of species and growth rates will alleviate the adjacency issue.

Any other planned tree felling (e.g. selective felling, felling of individual trees, or felling of coppice) is shown on Map 5. This includes the aim to remove scattered naturally regenerated SS along 1km of the Jed water/Black Burn riparian zone every 2 years.

#### Other tree felling in exceptional circumstances

FLS will normally seek to map and identify all planned tree felling in advance through the LMP process.

However, there are some circumstances requiring small scale tree felling where this may not be possible and where it may be impractical to apply for a separate felling permission due to the risks or impacts of delaying the felling.

Felling permission is therefore sought for the LMP approval period to cover the following circumstances:

Individual trees, rows of trees or small groups of trees that are impacting on important infrastructure (as defined below\*), either because they are now encroaching on or have been destabilised or made unsafe by wind, physical damage, or impeded drainage.

\*Infrastructure includes forest roads, footpaths, access (vehicle, cycle, horse walking) routes, buildings, utilities and services, and drains.

The maximum volume of felling in exceptional circumstances over the plan area covered by this approval is 75 cubic metres per calendar year.

A record of the volume felled in this way will be maintained and will be considered during the five-year Land Management Plan review.

[N.B. Trees may be felled without permission if they are of less than 10 cm diameter at breast height (1.3 m); pose immediate danger to persons or property; are completely dead; or are part of Authorised Planning Permission works or wayleave agreements].

#### C.2.2 Thinning

Potential sites for thinning in the plan period are identified on Map 5. Table 4 indicates the potential area.

Thinning will normally be carried out at, or below, the level of marginal thinning intensity (i.e. removing no more than 70% of the maximum MAI, or YC, per year). Higher intensities (no more than 140 % of maximum MAI, or YC, per year) may be applied where thinning has been delayed, larger tree sizes are being sought or as part of a LISS prescription. In all cases work plans will define the detailed thinning prescription before work is carried out and operations will be monitored by checking pre and post thinning basal areas for the key crop components.

### C.2.3 Low Impact Silvicultural Systems (LISS)

See Map 4 for areas identified for LISS management. The table below outlines the management approach.

Wauchope East has many areas that are too exposed or soils that are too wet or sensitive to manage as CCF, thinning should be possible across much of the lower portion of the forest. This allows for the possibility of implementing LISS. Whilst this is not practical in the mature stands it is possible for younger crops if thinned early and regularly. The restocking focuses on mixtures which improve stand stability via differing rooting patterns and compatible shade tolerances. Coupes 55019, 55034, 55044 and 56066 are identified for potential LISS management.

55019 requires a first thin in Phase 1 to allow management under LISS. If this does not occur the coupe will revert to clearfell and restock management at the next plan revision. Thinning interventions in the other three coupes are not required until phase four. The continued feasibility of identified coupes remaining in LISS management, and new potential coupes, will be considered at each LMP revision.

Coupe no. (area)	Species / Planting year	Proposed LISS	Management Objectives	Management Prescription
55019 (26.05 ha)	SS (100%) / 2009	Uniform shelterwood (See FDT 1.1.1/2 – SS)	Sawlogs of DBH >50cm in 65 years.  Increase biodiversity, stand diversity and stability.	Select 150-250 FC trees/ha and begin crown thinning at 10-12m TH. Continue thinning at 3m height intervals. Assess regen potential. To promote regen harvest to reduce BA to 30m <sup>2</sup> /ha.

Coupe no. (area)	Species / Planting year	Proposed LISS	Management Objectives	Management Prescription
<b>55034</b> (4.57 ha)	SP (50%) & NS (50%) / 2017	Uniform shelterwood (See FDT 2.1.3 SP & XCST)	NS sawlogs, target DBH >50cm in 80 - 100 yrs. Restock via NR  SP sawlogs, target DBH > 40cm in 100 yrs. No restock.  Increase biodiversity, stand diversity and stability.	Select 150-250 FC trees/ha and begin crown thinning at 10-12m TH. Continue thinning at 3m height intervals. Favour NS to allow best regen potential. To promote regen harvest reduce BA to 30m <sup>2</sup> /ha.
<b>55044</b> (28.89 ha)	SS (75%) & NS (15%) & LP (10%) / 2020	Strip shelterwood (See FDT 1.1.4 - SS & XCLD and 1.1.5 – SS & XCST)	Sawlogs, target DBH >50cm in 70 years.  Increase biodiversity, stand diversity and stability.	Select 150-250 FC trees/ha and begin crown thinning at 10-12m TH. Continue thinning at 3m height intervals. Assess regen potential. To promote regen harvest to reduce BA to 35m <sup>2</sup> /ha.
<b>56066</b> (6.12 ha)	SBI (67%) & SOK (33%) / 2016	Uniform shelterwood (See FDT 7.2.2 SBI & SOK)	SOK sawlogs DBH>50cm in 120-180 years, BI sawlogs DBH>40cm in 60-80 years.  Increase biodiversity, stand diversity and stability.	At 10-14m TH where no suitable SOK select 200-300 BI trees/ha and thin to provide >1m around crowns. Selective respase SOK whilst maintaining closed canopy.  At 16-18m TH continue to crown thin BI. Select 80-100 FC SOK trees/ha and begin crown thinning once reached 6m clean bole.  Continue to thin as necessary. Maintain 60% live crown of FC trees. Time final harvesting with mast year.

#### C.2.4 Long Term Retentions (LTR) / Natural Reserves

Stands identified as LTR and Natural Reserve are shown on Map 4.

Wauchope East has three areas of Natural Reserve making up 2.8% of the LMP area. These have been selected to allow natural processes to dictate the evolution of those areas. 56010

is an area of mature SP with an understory of SS with some broadleaved components. Part of the NR to the north of the forest road is mature larch and will be felled in phase one pre-emptively and be restocked with native broadleaves. 55047 is a sphagnum bog area with mature SS/LP. 56086 is an area of mature SS in the most southern tip of the LMP area.

Areas of long-term retention exist across Wauchope East, particularly where permanent forest cover is lacking and other areas of high biodiversity value. They have been established to create suitable habitat for adoption by mobile rare species (e.g. raptors). It has been desirable to retain these existing stand areas beyond normal economic maturity for environmental benefits but there is no imperative to retain permanent woodland cover on the site once the existing stand has fulfilled its objective. These areas also retain an element of windblown dead wood, in some cases, providing a diverse and dynamic habitat as different organisms require different kinds of deadwood. LTRs include coupes 55016, 55018, 55071, 55074, 55051, 55068, 55077, 55048, 55055, 56074, 56050, 56044, 56009, 56013, 56014, 56022, 56087, 56033 making up 4% of the LMP area

#### C.2.5 Restocking Proposals / Natural Regeneration

Planned restocking of felled areas, and proposals for the future habitats and tree species over the whole plan area are shown on Map 6. See Table 5 for areas, establishment, and mix proportions. Timing of restocking will comply with the plan tolerance table shown in section C.4.

Where required, the choice of ground cultivation technique will consider the short-term benefits for establishment against any long-term side effects on tree stability, access for future forest operations and the environment. There will be a preference for the least intensive technique.

Stocking densities will be at least 2500 stems per ha for conifers and 1600 stems per ha for broadleaves unless justified elsewhere in this plan. If the restock or natural regeneration should fail to reach these levels the site will be beaten-up to the required planting density. This will be assessed at year 1 and year 5 after planting with beat-up by at least year 5.

There will be a preference for natural regeneration of native woodland areas. Any non-productive broadleaf planting will be native to the area and will complement existing naturally growing scrub and woodland to give the most ecological value.

The Restocking Strategy for Scotland’s National Forest Estate explains that we will minimise chemical usage in restocking (insecticides and herbicides) by considering options at the site scale and using tactics such as delayed planting to achieve this.

Table 3: Felling

Scale of Proposed Felling Areas										
Total Plan Area		2831 ha								
Felling	Phase 1	%	Phase 2	%	Phase 3	%	Phase 4	%	LTR	%
Area (ha)	125.8	4.4	37.3	1.3	78.8	2.8	164.6	5.8	7.5	0.3

\* 729 ha of open hill removed from total area

Table 4: Felling by species by phase

Species	Phase	
	Phase 1 (ha)	Phase 2 (ha)
Conifers	103.4	36.2
Broadleaves	0.7	0.1

\* P1 felling coupes include 21.7 ha open ground and P2 include 1 ha open ground.

Table 5: Thinning

Thinning over the first 10 years of the plan		
Coupe	Prescription	Area (ha)
56034	First thin	6.28
56003	Slightly late first thin but remove larch as priority	45.02
55018	Second thin	51.36
55022	Second thin	27.56
55032	First thin	20.96
55012	First thin	64.99
55010	Second thin	46.47
56029	First thin	17.45
56040	First thin	20.93
56013	First thin	17.8
55033	First thin - concentrate on the larch	5.54
56042	First thin	37.88
56020	First thin	28.41
56006	First thin	53.23
56002	First thin	66.83
56035	First thin	12.3
56017	First thin	18.6
55004	First thinning	26.04
56039	First thin	29.64
56027	First thin	30.79
56022	First thin	20.17
56010	First thin	41.43

56037	First thin	18.11
<b>Total area where thinning may be undertaken during the plan period</b>		<b>708</b>

Table 4: Thinning

<b>Thinning over the first 10 years of the plan</b>	
Total area where thinning may be undertaken during the plan period	708 ha

Table 5: Restocking

<b>Felling Phase</b>	<b>Map ID (coupe no.)</b>	<b>Species to be planted - or established through natural regeneration (nr)</b>	<b>Area (ha)*</b>
1 (Fallow)	50001	SOK 60%, BI 30%, ASP 10%, ROW <10%	4.23
1 (Fallow)	55015	NS 60%, SP 40% NS 100 %	5.83 0.59
1 (Fallow)	55021	NS 60%, SP 40% NMB 50% (Open 50%)	3.72 0.19
1 (Fallow)	55023	NS 60%, NF 30%, ASP 10% NMB 30%, SP 20% (Open 50%)	9.61 0.1
1 (Fallow)	55031	SP 60%, NS 30%, ASP 10% NMB 50%, (Open 50%)	4.82 0.23
1 (Fallow)	55040	SS 100% NMB 50%, (Open 50%)	6.77 3.28
1 (Fallow)	55057	SP 60%, NS 40% NMB 30% (Open 70%)	1.9 0.2
1 (Fallow)	55064	BI 30%, SCI 30%, ROW 30% CAR 10% (Low density – 500 stems/ha) SS 50%, LP 50%	8.53 6.34
1 (Fallow)	55080	SS 100%	4.22

<b>Felling Phase</b>	<b>Map ID (coupe no.)</b>	<b>Species to be planted - or established through natural regeneration (nr)</b>	<b>Area (ha)*</b>
1 (Fallow)	56020	SS 50%, LP 50% NMB 50% (Open 50%) NMB 50% (Open 50%)	26.16 2.55 0.73
1 (Fallow)	56052	NS 100% NMB 50% (Open 50%)	3.8 0.23
1 (Fallow)	56064	NMB 50% (Open 50%) BI 90%, NMB 10%	1.79 2.22
1 (Fallow)	56078	SS 60%, BI 40% SS 50%, LP 50% SS 50%, SP 50%	8 6.46 4.7
1	55043	BI 30%, SCI 30%, ROW 30%, CAR 10% BI 100%	9.2 1.98
1	55054	SS 100% NS 60%, BI 30%, ASP 10% SP 60%, NS 40%	9.64 2.87 0.73
1	56029	SS 50%, LP 50% NMB 50%, (Open 50%) SS 50%, LP 50%	29.66 2.03 3.02
1	56059	SS 70%, (LP 30%) NMB 50%, (Open 50%) NS 90%, BI 10%	12.78 1.87 3.41
1	56090	SBI 60%, SP 40%	0.84
1	56089	SS 50%, LP 30%, SP 20% NMB 50%, (Open 50%)	9.97 0.62
1	55026	DF 50%, NS 40%, BI 10% NS 80%, SBI 20% NMB 50% (Open 50%) SP 60%, (SBI 40%)	11.53 3.66 0.45 0.9
2	55014	SOK 70%, SY 10%, ASP 10%, WCH 10% NMB 50%, (Open 50%) NMB 50%, (Open 50%)	5.41 2.3 1.06
2	55037	SS 70%, LP 30% SS 100% NMB 50%, (Open 50%)	11.17 4.06 1.12

Felling Phase	Map ID (coupe no.)	Species to be planted - or established through natural regeneration (nr)	Area (ha)*
2	56002	SS 50%, SP 30%, LP 20%	6.4
		NS 70%, CAR 30%	1.36
		NMB 50%, (Open 50%)	0.2
		NMB 50%, (Open 50%)	0.15
<b>Total Restocking Area (ha)</b>			257.5

\*net area to be planted excluding designed open ground

### C.2.6 Protection

Management of deer is an underpinning activity essential for the delivery of benefits from Scotland’s National Forests and Land. The aim is to manage healthy wild deer populations and manage deer impacts across the Estate consistent with the carrying capacity of the land and successful delivery of FLS land management objectives. The FLS Deer Management Strategy directs the priorities for management (copies are available upon request).

The LMP area is part of the Wauchope Deer Management Unit (as denoted in the FLS Deer Management Strategy): Spring mean deer density for 2024 was approximately 8/km<sup>2</sup> (8 roe/km<sup>2</sup>). In the last full four-year culls from April 2020 to April 2024, FLS have culled: 800 roe and 50 goats. Culls are ongoing with targets set based on population modelling, cull data and site evidence.

In South Region, FLS currently aim to achieve  $\leq 5$  deer/km<sup>2</sup> by 2035. This is subject to regular review and will be influenced by rate of deer immigration, ever-changing forest structures, and resourcing.

### C.2.7 Fence erection / removal

0.85 km of deer fencing will be required around SOK/BI in coupe 55001.

1.25 km of deer fencing will be required around SOK/NMB in coupe 55014.

### C.2.8 Road Operations

Map 7 shows the existing forest road network and any associated quarries, timber haulage egress points, and any local ‘Agreed Timber Transport Routes’. Any planned new roads or quarry expansions in the plan period are also indicated on this map. The lengths of planned

new roads are given on the map and are reflected in the EIA determination submitted with the plan.

#### C.2.9 Public Access

Visitors are welcome to explore Scotland's National Forests and Land (managed by FLS) and will only be asked to avoid routes while certain work is going on that will create serious or less obvious hazards for a period (e.g. tree felling). Scotland's outdoors provides great opportunities for open-air recreation and education, with great benefits for people's enjoyment, and their health and well-being. The Land Reform (Scotland) Act 2003 ensures everyone has statutory access rights to most of Scotland's outdoors, if these rights are exercised responsibly, with respect for people's privacy, safety and livelihoods, and for Scotland's environment. Equally, land managers must manage their land and water responsibly in relation to access rights, and FLS will only restrict public access where it is necessary and will keep disruption to a minimum.

Improved public access had been raised in the consultation process. Improvements will focus on clearing core paths as budget, and the felling and restock programme allow. Priority will be given to clearing the Wheel Causeway. This will be done as coupes are felled and linear core path / heritage feature corridors are not restocked.

#### Woodland Management in Visitor Zones

Visitor Zones have been identified in areas where FLS encourage and manage access or where the woodland managed by FLS interacts with popular visitor sites or access routes. Where present these are shown on Map 3.

In these areas, single trees or small groups of trees will be removed when necessary to protect facilities, infrastructure and trails, or to enhance the setting of features, or to maintain existing views.

Woodland in these zones will also be thinned, or trees re-spaced, for safety reasons (including to increase visibility to ensure that sites are welcoming and feel safe) and where it is necessary to enhance the experience of the forest setting, through the development of large trees, or preferential removal of trees to favour a particular species.

#### C.2.10 Historic Environment

The Regional Historic Asset Management Plan includes conservation management intentions for designated historic assets on Scotland's National Forests and Land. Details of all known historic environment features are held in FLS's Heritage Dataset and included within work plans for specific operations to ensure damage is avoided. Significant historic environment features will be depicted on all relevant operational maps. Areas of historic environment interest will be checked both on FLS's records and with the Council's HER prior to the commencement of forestry activities. Any upstanding features will be clearly marked, both on the ground and on operational maps. Care will be taken to avoid any damage to surviving structural elements.

Tamshiel Rig Scheduled Monument will be fully cleared of non-native regeneration as a matter of urgency. Wheel causeway will be progressively cleared as the associated coupes are felled and restocked to help preserve this heritage feature and improve access. Buffer zones will be increased around heritage feature to the required 5m, 10m or 20m progressively as coupes are harvested.

Map 9 and Appendix II provide more information about the historic environment features within and adjacent to the plan area.

#### C.2.11 Biodiversity

UK Forestry Standard guidance is to manage a minimum of 15% of the forest management unit with conservation and the enhancement of biodiversity as a major objective. The figure for this plan is 36%.

The LMP contains the SSSI Kielderhead Moor. NatureScot's consultation feedback was considered when developing the felling and restocking plan. Kielderhead Moor SSSI will continue to be monitored and opportunities taken to remove non-native conifers taken as the program allows.

Black Burn is a Special Area of Conservation and a program of riparian zone improvements will be undertaken.

#### Notable species

Nightjar *Caprimulgus europaeus*: Nightjar have been recorded near the Lethem entrance. The LMP will build on previous work by maintaining habitat linkages between internal open space and the moorland edge and creating transition woodland edge habitat.

Black Grouse *Lyrurus tetrix*: Black grouse have previously been sited near Dand's Pike. The LMP will build on previous work by maintaining habitat linkages between internal open space and the moorland edge.

Red squirrel *Sciurus vulgaris*: This species is present within the LMP area and efforts will continue to be made to further encourage the species through habitat provision, retaining mature trees, increasing areas of Scots pine, Norway spruce and small seeded broadleaved species, and reducing coupe sizes.

Badgers *Meles meles*: Badgers are present in the block. Forestry Practice Guide 9 Forest Operations and Badger Setts is followed as appropriate. Operations will avoid interference where possible. If this is not possible any interference will be carried out under licence.

### Birds

Various raptors are present within the LMP area (previous sitings include ravens, redstarts, hen harrier, peregrine, long eared owl, tawny, barn owls, merlin, goshawks, black grouse & historic golden eagles). The Eurasian Hobby (*Falco tinnunculus*) has been sited near Scaw'd Law. The plan provides a mosaic of habitats providing a range resources for different bird species which will increase as the plan is delivered.

### Open Habitats

Priority habitats include blanket bog, upland heathland and neutral grassland. Peatland areas within the active forest block are focused at Hardlee flow. This is upland sphagnum bog and edaphically unsuited to woodland; most of the area will not be restocked with commercial conifer. Kielderhead Moor SSSI will continue to be monitored and opportunities to remove non-native regeneration will be taken as adjacent coupes are felled.

Some areas have regenerating spruce present, especially on the upper slopes of Long Hill which requires management.

Prior to restocking, the areas will be assessed for evidence to support replanting as per the FC Practice Guidance. If evidence is found to clearly support good growth of YC 8 or more, they will be restocked.

All forest management operations involve a planning process before work commences which includes checks for wildlife and important habitats. Work plans will be adjusted if

necessary to avoid disturbance, and opportunities to further protect species or enhance habitats will be identified.

### Deadwood

Opportunities for retaining or creating deadwood will be identified during the planning of all felling works, favouring areas with the highest deadwood ecological potential (typically within riparian corridors). Valuable deadwood and deadwood areas will be marked on contract maps. Where it is safe to do so, and does not compromise LMP objectives, standing mature dead trees will be retained as these offer excellent potential for a range of species. Riparian areas present the best ecological potential for deadwood retention. This process has begun in 56009, 56068, 56014, 56050, and 55048 and will continue. Similar opportunities will be identified when felling coupes 56029, 56059, 55043, 55026, 55014 and 56067 in areas with high ecological deadwood potential.

### C.2.12 Tree Health

Wauchope East is within the Priority Action Zone for *Phytophthora ramorum* on larch. The forest has seen several infections in recent years with Statutory Plant Health Notices being issued. Any future infections will be felled as required. There is 49.6 ha of larch remaining in the LMP area.

As part of the districts chemical minimisation strategy, the *Hylobius* Management Support System (HMSS) is used to measure *Hylobius* numbers on clearfell sites. This may suggest a fallow period between felling and re-stocking may result in restocking not taking place within two years of felling (see Tolerance Table in Appendix III).

Instances of *Dendroctonus micans* will continue to be monitored and reported as required. Control via the predatory beetle *Rhizophagus grandis* has been undertaken by Forest Research.

Stump treatment with urea post felling may be required, for *Heterobasidion annosum*, in the areas of poorer site types.

Areas of pine will continue to be monitored for *Dothistroma* Needle Blight (DNB) infections as per the guidance laid out in the FLS DNB Strategy v5 (2024), with any identified outbreaks managed accordingly.

When designing the restock of this plan, species have been appropriately matched to sites, and efforts have been made to diversify the range of species and silvicultural systems used

where appropriate, including greater use of mixtures to reduce future impacts of climate affects.

#### C.2.13 Invasive Species

There is conifer regeneration in many of the riparian corridors and some priority open habitats, the aim is to deal with this in stages as budget constraints allow. Black Burn in Lethem is a priority (see Map 5). Regeneration in the SSSI area will be monitored.

Monitoring of INNS is ongoing, and any invasive species identified will be treated as per the Region's INNS Policy and this includes the use of biosecurity measures, which are also highlighted before operations begin, at the work plan stages.

#### C.2.14 Other

##### Riparian Buffer Zones

As noted above there is conifer regeneration in many of the riparian corridors and some priority open habitats. Black Burn will be prioritized. The aim will be to clear 1km every 2 years of non-native regeneration for the duration of the plan period along riparian corridors within the plan area with an initial focus on Black Burn (see Map 5). The additional sensitivity of the River Tweed SAC is acknowledged, riparian buffer along the Black Burn, and most other watercourses, are to be increased beyond the UKFS minimum requirement to protect the SAC.

##### Flooding

As noted in section A.6.4, nearly 60% of the Bonchester Bridge catchment is afforested and nearly 45% of the Jedburgh catchment is afforested. The forest plan area only makes up approximately 16% of the Bonchester Bridge catchment area and 16% of the Jedburgh catchment area. Less than 1% of the Bonchester Bridge catchment area will be felled in Phase 1 and approximately 0.5% in Phase 2. Approximately 0.5% of the Jedburgh catchment area will be felled in Phase 1 and less than 0.1% in Phase 2. Therefore the proposed felling plan will result in negligible impact on flooding. Further measures include significantly increasing broadleaved riparian buffer zones, beyond the UKFS minimum requirement, along most of the watercourses and committing to greater conifer removal from Black Burn specifically. Where possible, coupe size has been reduced to minimise the size of clearfelled coupes to help minimise run off.

##### Wildfire

FLS continues to work closely with Scottish Fire and Rescue Service (SFRS) to prevent and tackle wildfires that threaten Scotland's National Forests and Land. FLS support SFRS in their lead role for fire prevention and suppression through creating annual fire plans, maintaining a duty rota, and providing additional logistical support. FLS's primary objective is always to protect people's health, safety and wellbeing.

### Soils

Brash mats (or alternative measures) will be used to protect sensitive soils. There will be minimal soil disturbance and machine movement on sites with clayey soils to reduce the risk of compaction or damage to the soil structure. Felling residue will usually be left on site to allow nutrient recycling, with consideration for the practicalities of restocking. Where required, the choice of ground cultivation technique will consider the short-term benefits for establishment against any long-term side effects on tree stability, access for future forest operations and the environment. There will be a preference for the least intensive technique.

The area of upland sphagnum bog of approximately 60 ha near Hardlee Knowe will gradually be converted to peatland edge woodland via low density native broadleaved planting following felling. It is not economically viable to undertake a full peatland restoration of area.

Legacy areas of non-native conifers planting within the Kielderhead Moor SSSI will be felled when the nearest adjacent coupe reaches maturity and is felled.

### Utilities, Renewables and other developments

Liddesdale Windfarm is proposed for the LMP area. This is not yet confirmed but would require a complete revision of the LMP if approved.

Millmoor Rig windfarm is also proposed for the property to the north of Wauchope East with possible access route across the LMP area.

Other known utilities include limited private water supply infrastructure.

For further information on Private Water Supplies and mitigation put in place at the Land Management Plan stage, see Appendix IV: Private Water Supplies (Confidential)

## C.3 Environmental Impact Assessment (EIA) and Permitted Development Notifications

Table 6 – EIA projects (in Phase 1)

Total area (hectares) for each project type and details by sensitive or non-sensitive area.					
Type of Project	Sensitive Area		Non-sensitive Area		Total
Afforestation	%Con	%BL	%Con	%BL	ha
Deforestation	%Con	%BL	%Con	%BL	ha
Forest Roads	ha		1.08 ha		1.08 ha
Quarries	ha		ha		ha
Provide further details on your project if required.					
Wauchope East LMP Area Lethem block: Planned road W49 (NT6440 0768) - 0.63km Hyndlee block: Planned road W84 (NT5948 0648) - 0.45km					

## C.4 Tolerance Table

See Appendix III.

## Appendices

Map 1 – Location

Map 2 – Current tree species

Map 3 – Concept

Map 4 – Management

Map 5 – Thinning

Map 6 – Future habitats and species

Map 7 – Timber haulage

Map 8 – Soils

Map 9 – Historic environment

Map 10 – DAMS (Windiness)

Map 11 – Private water supplies - CONFIDENTIAL

Map 11A – PWS S01 - CONFIDENTIAL

Map 11B – PWS S02/03, S04/05, S06 - CONFIDENTIAL

Map 11C – PWS S06, S07, S08 - CONFIDENTIAL

- Appendix I – Consultation record
- Appendix II – Historic environment records
- Appendix III – Tolerance table
- Appendix IV – PWS CONFIDENTIAL
- Appendix V – CCF plan

## Appendix I: Consultation record

See section A.4 for a summary of the main points raised below by stakeholders and where they are addressed in the plan.

Issue	Raised by	Requirement / Recommendation / Concern / Aspiration
Riparian zones	SEPA	Follow Forestry and Water Guidelines, protect riparian zones, prevent pollution and siltation
Protection of Black Burn SAC	Nature Scot	Increase tree cover and width of buffer zones where necessary
Kielderhead SSSI	Nature Scot	Increase open buffer zone to 100m with additional area of low density native broadleaved transition zone. Block drains if present, increase open area around deep peats outside of SSSI. Assist Black Grouse by having native BL transition zone to open moorland.
Tamshiel Rig, Wheel Causeway, Westshiels, Black Hill.	HES	Remove all regen, bracken and shrubbery and maintain open and prevent future damage.
Core paths and walking routes	Southdean Community Council	Maintain core paths, increase/reinstate circular walking routes, install kissing gate at locked gate at A6088 entrance.
Proposed windfarm	Southdean Community Council	Concerns over impact of windfarm on access, forest, community benefits
Southdean Place Plan	Southdean Community Council	Wish to increase co-operation with FLS regarding input to Local Place Plan and provision/maintenance of routes etc
Flooding	Southdean Community Council	Concerns of recent increase in local flooding events being linked to increased tree felling.
Anti-social access	Southdean Community Council	Concerns over access of trail bikers
Riparian woodland	River Tweed Forum	Increase native riparian woodland cover across LMP but especially in SAC area, concentrating on slow moving sections
Recreational access	British Horse Society	Improve maintenance of ROW and core paths and create circular routes. Provision of horse box car parking

Issue	Raised by	Requirement / Recommendation / Concern / Aspiration
Lynx	Local Resident via email	Concerns over Northumberland Wildlife Trusts ambitions to release lynx and the impact on local farmers - wished to know FLS position
Recreational access	Google Survey responses	Numerous responses concerned over of maintenance/improvement/increased provision of walking and riding routes especially drove roads, access via A6088, Carter Fell track.
Wildlife	Google Survey responses	Would like to see increase in native species and species diversity.
Heritage	Google Survey responses	Protection of Carter Fell track and associated coal industry heritage
Wildlife	Google Survey responses	Increase of riparian cover to protect fish populations
The following stakeholders responded with no comment or no issues: Scottish Water, Timber Transport Forum		
The following stakeholders were contacted during scoping but did not respond: Scottish Forestry, SPEN, Scottish Borders Council (Planning, Consultation, Archaeology, Highways, Access, Ecology, Landscape, Flooding. Upper Liddesdale & Hermitage Community Council, RSPB, CONFOR, Scottish Wildlife Trust, Visit Scotland, Ramblers Association Scotland, Red Squirrel Forum for South Scotland, Southern Upland Partnership, EDF, South Scotland Golden Eagle Project.		

## Appendix II: Historic Environment records

Historic Environment Records						
Map ref	Designation	Name	Feature Description	Grid Reference	Importance	Area (ha)
1	Undesignated	JEDHEAD	Located to a 100m square: shown on Pont's Map as Jedd R. Head in Teviotdail.	NT624050	Uncategorised	1
2	Undesignated	DYKERAW PLANTATION	A line of a drove road.	NT624051	Local Importance	5.43
3	Undesignated	CAUSEWAY RIG	Four earthworks in a distance of about 350 yards cross the ridge. Only one can be identified on the ground. There is a large gap were Wheelcauseway cross the feature. The earthwork is made up of a bank and ditch.	NT612029	Local Importance	2.3
4	Undesignated	WHEEL CAUSEWAY	Line of former road or track known as Wheel Causeway.	NT613020	National Importance	19.48
5	Scheduled Monument	BLACK HILL	A settlement, measures 325ft from NE to SW by 200ft, enclosed by a ditch separating two earthen banks up to 15ft wide and over 2ft high, 200ft on the NW has been destroyed. A track, now a gully, reused the entrances in the E and SW. Interior featureless.	NT596065	National Importance	0.96
6	Undesignated	WHEEL CAUSEWAY	Line of drove road, which split then reform. Described as a branch of	NT623049	Local Importance	4.05

Historic Environment Records						
Map ref	Designation	Name	Feature Description	Grid Reference	Importance	Area (ha)
			Wheel causeway and also as a drove road.			
7	Undesignated	KNOX KNOWE	Single track on summit. More worn down to N. More numerous tracks on steep slopes of Duntae. These are eventually lost in watercourse. Road shown on the OS 1st edition map is probably the road described above.	NT652039	Uncategorised	1
8	Undesignated	WHEELRIG HEAD	A line of a possible drove road. Its N end connects with Wheel Causeway.	NT613016	Local Importance	2.18
9	Undesignated	BURNS PLANTATION	An oval earthwork measures 220' N-S by 180' E-W, surrounded by a ruined wall of earth and stone spread to a width of 18' and now nowhere more than 1' in height. An entrance gap at the N end. Lies within a former plantation enclosure.	NT650068	Regional Importance	0.61
10	Scheduled Monument	TAMSHIEL RIG	A field system and settlement. A multivallate fort with an overall diameter of c 85m. A settlement which has been superimposed on the fort. An extensive field system possibly contemporary with the	NT642062	National Importance	16.26

Historic Environment Records						
Map ref	Designation	Name	Feature Description	Grid Reference	Importance	Area (ha)
			settlement. Excavation provided evidence of hut circles.			
11	Undesignated	BURNS	A possible road and bridge over a ravine, where squared stone abutments 4 courses high suggest a bridge. Road first reported as possibly roman but may have been a coal road from Kielder. Bridge site not located in 1960.	NT649060	Uncategorised	1
12	Undesignated	COBLAW PLANTATION	An oval enclosure measuring internally 180' NW-SE by 140' NE-SW. The wall is up to 15' thick and 2' high, derived from an intermittent external quarry-ditch. An entrance in NW leads to scooped courtyard. Two buildings lie outside on SW are reported lost.	NT629053	Regional Importance	0.4
13	Undesignated	COBLAW PLANTATION	A cairn, probably circular, about 30' in diameter up to 2'6" high. Has been damaged by ploughing and later forestry and was reported destroyed in 1976 by construction of a forestry road.	NT625053	Regional Importance	0.03
14	Undesignated	NEEDS LAW	The cairn is in a ruinous condition, appearing as an uneven, stony mound	NT606022	Regional Importance	0.03

Historic Environment Records						
Map ref	Designation	Name	Feature Description	Grid Reference	Importance	Area (ha)
			about 55' in diameter by 3' high. One large and two small modern cairns, known as Meg and the Bairns, have been built upon it with its own stones.			
15	Undesignated	HARE CAIRN	A cairn, reported in 1859 as a considerable heap of stones, with two cists found beneath it. The OS reported that nothing now exists of this cairn in an area of afforestation and the site was de-scheduled, formerly no. 2321, in 1990.	NT608054	Regional Importance	0.05
16	Undesignated	OLD RD.DAWSTON BURN-CATLEE BURN	A line of a road. The toll road between Jedburgh and Newcastleton was laid down by William Oliver of Dinlabyre and John Elliot of Whithaugh (Sheriff of Roxburghshire). A toll house bar was installed in 1825 and a house built in 1830 at Note O' the Gate.	NT588029	Local Importance	5.8

## Appendix III: Tolerance table

	Maps Required (Y/N)	Adjustment to felling period *	Adjustment to felling coupe boundaries **	Timing of Restocking	Changes to Restocking species	Changes to road lines	Designed open ground ** ***	Windblow Clearance ****
<b>SF Approval normally not required</b>	N	<ul style="list-style-type: none"> <li>Fell date can be moved within 5 year period where separation or other constraints are met.</li> </ul>	<ul style="list-style-type: none"> <li>Up to 10% of coupe area.</li> </ul>	<ul style="list-style-type: none"> <li>Up to 3 planting seasons after felling.</li> </ul>	<ul style="list-style-type: none"> <li>Change within species group e.g. evergreen conifers or broadleaves.</li> </ul>		<ul style="list-style-type: none"> <li>Increase by up to 5% of coupe area</li> </ul>	
<b>Approval by exchange of letters and map</b>	Y	<ul style="list-style-type: none"> <li>Advance felling of Phase 2 coupe into Phase 1</li> </ul>	<ul style="list-style-type: none"> <li>Up to 15% of coupe area</li> </ul>	<ul style="list-style-type: none"> <li>Between 3 and 5 planting seasons after felling, subject to the wider forest and habitat structure not being significantly compromised.</li> </ul>		<ul style="list-style-type: none"> <li>Additional felling of trees not agreed in plan.</li> <li>Departures of &gt; 60m in either direction from centre line of road</li> </ul>	<ul style="list-style-type: none"> <li>Increase by up to 10% of coupe area</li> <li>Any reduction in open space of coupe area by planting.</li> </ul>	<ul style="list-style-type: none"> <li>Up to 5ha</li> </ul>
<b>Approval by formal plan amendment may be required</b>	Y	<ul style="list-style-type: none"> <li>Felling delayed into second or later 5 year period.</li> <li>Advance felling (phase 3 or beyond) into current or 2nd 5 year period.</li> </ul>	<ul style="list-style-type: none"> <li>More than 15% of coupe area.</li> </ul>	<ul style="list-style-type: none"> <li>More than 5 planting seasons after felling, subject to the wider forest and habitat structure not being significantly compromised.</li> </ul>	<ul style="list-style-type: none"> <li>Change from specified native species.</li> <li>Change Between species group.</li> </ul>	<ul style="list-style-type: none"> <li>As above, depending on sensitivity.</li> </ul>	<ul style="list-style-type: none"> <li>In excess of 10% of coupe area.</li> <li>Colonisation of open space agreed as critical.</li> </ul>	<ul style="list-style-type: none"> <li>More than 5ha.</li> </ul>

### NOTES:

\* Felling sequence must not compromise UKFS, in particular felling coupe adjacency

\*\* No more than 1ha, without consultation with SF, where the location is defined as 'sensitive' within the Environmental Impact Assessment (Forestry) 1999 Regulations (EIA)

\*\*\* Tolerance subject to an overriding maximum 20% open space

\*\*\*\* Where windblow occurs SF should be informed of extent prior to clearance and consulted on where clearance of any standing trees is required

## Larch Tolerance Table

	<b>Adjustment to Felling period</b>	<b>Timing of Restocking and species component</b>	<b>Felling of larch within a mixed coupe</b>	<b>Changes to Road Lines</b>
<b>SF Approval normally not required</b>	Fell date for phase 2 can be moved forward where larch comprises 50% or more of the coupe species component.	changes to restocking proposal that exclude larch and closely related species in the same genus, eg Sitka and Norway Spruce.  Up to 3 planting seasons after felling		
<b>Approval normally by exchange of letters and map</b>	Felling moved between phases 1 and 2 where larch comprises less than 50% of the coupe species component	Changes to restocking proposals that include larch or closely related species in the same genus, eg Sitka and Norway Spruce.  Between 3 and 5 planting seasons after felling	Areas of pure larch up to 20% of coupe area within phase 1 and 2 can be felled to remove the sporulating host, with restocking deferred until the rest of the crop is felled. Where the Larch constitutes more than 20% of the coupe component, then the whole coupe must be felled and restocked together.	New road lines (subject to EIA screening opinion) or tracks within existing approved plans necessary to allow the extraction of Larch material.  Where necessary Prior Approval should be dealt with directly with the relevant Regional Council
<b>Approval by formal plan amendment is required</b>	Advance felling into current or 2 <sup>nd</sup> phase for pre-emptive larch removal			Where a new public highway entrance or exist is required. Where necessary Prior Approval should be dealt with directly with the relevant Regional Council

Larch felled in the autumn and winter, when the presence of P ram cannot be assessed visually must be treated as infected and will therefore require a movement licence. When carrying out operations where the clearance has not been on the Public Register or through the consultation procedure it is important that due diligence is undertaken to identify sites that will require to be protected.