



# Craigieburn

## Land Management Plan

### 2024-2034

### South Region

**Plan Reference No:**

**Plan Approval Date: 22/08/2024**

**Plan Expiry Date: 22/08/2034**

We manage Scotland's national forests and land 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



# Contents

## 1.0 Objectives and Summary

- 1.1 Plan overview and objectives
- 1.2 Summary of planned operations

## 2.0 Analysis and Concept

## 3.0 Management Proposals - regulatory requirements

- 3.1 Designations
- 3.2 Clear felling
- 3.3 Thinning
- 3.4 Other tree felling in exceptional circumstances
- 3.5 Restocking
- 3.6 Species diversity and age structure
- 3.7 Road operations and quarries
- 3.8 EIA screening requirements for forestry projects
- 3.9 Tolerance table

## 4.0 Management Proposals – guidance and context

### 4.1 Silviculture

- 4.1.1 Clear felling
- 4.1.2 Thinning
- 4.1.3 Low Impact Silviculture Systems (LISS) / Continuous Cover Forestry (CCF)
- 4.1.4 Long term retention (LTR) / Minimum intervention (MI) / Natural reserve (NR)
- 4.1.5 Tree species choice / Restocking
- 4.1.6 Natural regeneration
- 4.1.7 New planting
- 4.1.8 Protection
- 4.1.9 Road operations, Timber haulage and other infrastructure

### 4.2 Biodiversity

- 4.2.1 Designated sites
- 4.2.2 Native woodland
- 4.2.3 Ancient woodland / Plantation on Ancient Woodland sites (PAWs)
- 4.2.4 Protected and priority habitats and species.
- 4.2.5 Open ground
- 4.2.6 Dead wood
- 4.2.7 Invasive species

#### 4.3 Historic Environment

##### 4.3.1 Designated sites

##### 4.3.2 Other features

#### 4.4 Landscape

##### 4.4.1 Designated areas

##### 4.4.2 Other landscape considerations

#### 4.5 People

##### 4.5.1 Neighbours and local community

##### 4.5.2 Public access

##### 4.5.3 Renewables, utilities, and other developments

##### 4.5.4 Support for the rural economy

#### 4.6 Soils

##### 4.6.1 Protection and Fertility

##### 4.6.2 Cultivation

#### 4.7 Water

##### 4.7.1 Drinking water

##### 4.7.2 Watercourse condition

##### 4.7.3 Flooding

Appendix I Description of woodlands

Appendix II EIA screening opinion request form (attached)

Appendix III Consultation record

Appendix IV Tolerance table

Appendix V Historic Environment records

Appendix VI Private Water Supplies (Confidential)

Map 1 Location

Map 2 Key Features

Map 3 Analysis and Concept

Map 4 Management

Map 5 Thinning

Map 6 Future Habitats and Species

Map 7 Road Operations and Timber Haulage

Map 8 Current Woodland Composition

Map 9 Soils

Map 10 DAMS

Map 11 Visitor Zones and Access

Map 12 Heritage Features

Map 13 Private Water Supplies (Confidential)

# 1.0 Objectives and Summary

## 1.1 Plan overview and objectives

<b>Plan name</b>	Craigieburn
<b>Forest blocks included</b>	Craigieburn
<b>Size of plan area (ha)</b>	791
<b>Location</b>	See Location map (Map 1)

<b>Long Term Vision</b>
Craigieburn will be a resilient, healthy, and productive forest, providing a sustainable contribution to South Region's softwood timber production and income. PAWS areas will be fully restored and together with other ancient woodland areas will provide a broad corridor along the eastern side of the forest, rich in biodiversity. This will be connected to the riparian habitat network also rich in biodiversity and protecting watercourses and associated wildlife. The forest will be an attractive setting for local people and visitors to enjoy informal recreation.
<b>Management Objectives</b>
<ol style="list-style-type: none"><li>1. Ensure a sustainable supply of high-quality timber, supplying local timber markets, securing timber income, and providing secure employment in the forestry industry.</li><li>2. Plan and design a resilient and healthy forest, mitigating the risks posed by climate change, and a growing number of pests and diseases.</li><li>3. Improve the biodiversity value of the forest, caring for priority habitats and species, and enhancing the overall value through expansion of riparian broadleaf areas and developing a better balance and connectivity between forest and open habitat. Continue PAWS restoration of the ancient woodland on the east side of the forest.</li><li>4. Maintain good water quality throughout the forest, protecting private water supplies.</li><li>5. Provide a resource for community and wider public access and continue to develop an attractive forest landscape as a backdrop to Moffat and the surrounding area.</li></ol>
<b>Critical Success Factors</b>
<ul style="list-style-type: none"><li>• Protection of restocking and natural regeneration from deer damage in PAWS areas, broadleaf riparian areas, and productive conifer coupes.</li><li>• Removal/suppression of non-native trees, especially Sitka spruce and western hemlock, in PAWS areas and riparian corridors.</li><li>• Timely thinning of all thinable conifer stands, ensuring first thinning windows are not missed.</li></ul>

## 1.2 Summary of planned operations

**Table 1**

<b>Summary of Operations over the Plan Period</b>	
Clear felling (gross)	128 ha
Thinning (potential area)	215 ha
Restocking (gross)	145 ha
Afforestation	0 ha
Deforestation	0 ha
Forest roads	0 m
Forestry quarries	0.9 ha

The forest is managed to the UK Woodland Assurance Standard – the standard endorsed in the UK by the *Forest Stewardship Council and the Programme for the Endorsement of Forest Certification*. Forestry and Land Scotland is independently audited to ensure that we are delivering sustainable forest management.

## 2.0 Analysis and Concept

The planning process was informed by collecting information about the woodland, which is presented in Appendix I and on the Key Features map (Map 2). During the development of this plan, we have consulted with the local community and other key stakeholders, and a Consultation Record is presented in Appendix III.

Below lists the objectives for the site and how the key features present opportunity or constraint. The Analysis of these form the concept for this Land Management Plan.

**Objective: Ensure a sustainable supply of high-quality timber, supplying local timber markets, securing timber income, and providing secure employment in the forestry industry.**

- **Opportunities:**
  - Well-established forest with the potential to grow a sustainable supply of softwood for sawlogs and other timber products.
  - Craigieburn is close to major timber markets with good roads networks.
  - Well established forest road network to access all areas of the forest.
- **Constraints:**
  - Much of the forest is on poorer soils (in terms of soil nutrient regime), limiting opportunities to produce higher yielding crops in the second rotation. (fertiliser is highly unlikely to be applied).
  - Exposed sites (DAMS > 16) combined with shallow, wet soils limit opportunities for thinning and thus better-quality timber.
  - The best areas for timber production are PAWS restoration sites which will no longer be available for timber production.

- Recent felling of windblow and larch have resulted in more extensive felling over the previous plan period than originally planned, so timber production over this plan period will be far more limited.
- **Concept:**
  - Where soils and other site conditions allow, seek opportunities to diversify choice of conifer species, without compromising productivity. Sitka spruce is likely to continue to be the dominant species.
  - Identify potentially thinable stands, ensuring first thinning is programmed early to promote stand stability. Similarly, ensure subsequent thinning is carried out as early and frequently as practicable, to develop stability and better-quality timber.
  - Adjust future felling years of management coupes to 'smooth' the forest age structure and develop a more sustainable long-term supply of timber.

**Objective: Plan and design a resilient and healthy forest, mitigating the risks posed by climate change, and a growing number of pests and diseases.**

- **Opportunities:**
  - Some sub-compartments have been thinned already, and some will be ready for first thinning during this plan period. Thinning, where it is possible, will help develop forest stability.
  - PAWS restoration areas and riparian corridors offer opportunities to establish native broadleaf woodland of diverse species and structure, which can lead to stronger resilience.
  - Except for areas to be retained for biodiversity value, first rotation restructuring (felling) is almost complete, giving the opportunity to develop and manage coupes with more windfirm 'green' edges, rather than having to deal with the unstable 'brown' edges associated with restructuring large areas of even-aged plantation forest.
- **Constraints:**
  - Increasing threat of pests and diseases, as illustrated by the rapid spread of *Phytophthora ramorum* and subsequent felling of larch.
  - Increasing number, intensity, and unpredictability of extreme weather events, combined with more exposed northern and western parts of the forest.
  - Limited opportunities to significantly diversify conifer species due to poorer soils across much of the forest, the best sites being subject to PAWS restoration to native broadleaf woodland.
- **Concept:**
  - Carry out timely first and subsequent thinning, to help develop stand stability and keep future silvicultural options open.
  - Develop future felling plans to ensure overall forest stability, reducing rotation lengths on more exposed sites.
  - Optimise native broadleaf species and structural diversity in the PAWS area, accepting a small proportion of non-invasive conifers (<10%).

- Using ESC and local site knowledge, diversify conifer restock species where possible without significant loss in productivity (yield class). Given that the area where most alternative conifers are 'very suitable' is largely PAWS restoration, the scope for this is limited, and Sitka spruce will continue to be dominant in the rest of the forest. Alternative conifers should be targeted where they also offer amenity, landscape, and biodiversity benefits.

**Objective: Improve the biodiversity value of the forests, caring for priority habitats and species, and enhancing the overall value through expansion of riparian broadleaf areas and developing a better balance and connectivity between forest and open habitat. Continue PAWS restoration of the ancient woodland on the east side of the forest.**

- **Opportunities:**

- Existing riparian corridors with native broadleaves and open habitat
- Forest edge habitat work already carried out on western forest boundary.
- Existing Natural Reserve (NR) and Long-Term Retention (LTR) in north-east of forest.
- Extensive area of ancient woodland including Ancient (of semi-natural origin) and Other (on Roy map).
- Extensive area of larch felled in 2020 following infection by *Phytophthora ramorum*, providing the opportunity for faster PAWS restoration through natural regeneration and planting.
- Well-thinned, mature conifer stands offer opportunity for further thinning, providing there is sufficient stability following larch clearfelling.

- **Constraints:**

- Natural regeneration of unwanted Sitka spruce and western hemlock in riparian areas, PAWS areas and other native broadleaf/juniper/Scots pine/open areas being managed for biodiversity.
- Browsing by deer, sheep, and feral goats, although the latter two are not currently considered a major issue.
- Impacts of tree diseases and pests, for example the impact in recent years of *Hymenoscyphus fraxineus* (ash dieback) on native ash.

- **Concept:**

- As further felling and restocking is carried out, continue to develop the riparian habitat network of native broadleaves and open space.
- Encourage natural regeneration, where possible, of more resilient species such as birch, willow and rowan. Where there is no source of native seed, plant suitable native broadleaves, targeting this where it is easier to establish them and protect them from deer browsing.
- Look for opportunities to improve linkage between the main riparian habitat network, forest edge habitat and areas of LTR, minimum intervention (MI) and NR within the forest.
- Fell mature western hemlock and Sitka spruce that is providing a seed source for unwanted non-native conifer natural regeneration in the PAWS area.
- Clear out western hemlock and Sitka spruce natural regeneration from the PAWS area.

- Retain mature stands of Scots pine, Douglas fir and Norway spruce in PAWS area during the 10-year plan period, providing they remain stable.

**Objective: Maintain good water quality throughout the forest, protecting private water supplies (PWS), salmonid spawning grounds and other water interests.**

- **Opportunities:**

- Many riparian corridors already provide good buffering for watercourses, with scope to expand this throughout as forest restructuring is further progressed through felling and restocking.
- PAWS restoration area will provide permanent native woodland habitat with minimal forest operations.
- Extensive forest road infrastructure to minimise the need for timber lorries and forest machinery to cross or pass close to particularly sensitive watercourses (although this is unavoidable in places).

- **Constraints:**

- Forest operations, including forest road traffic and civils works, continue to pose a risk to good water quality in water catchments throughout the forest.
- Catchments for water supplies can be extensive and include large areas of plantation forest. They can also extend beyond the forest boundary, and therefore beyond FLS control.

- **Concept:**

- Review existing riparian zones with native broadleaves and open habitat, and identify opportunities to expand and improve these, especially within PWS catchments.
- Continue to create riparian buffer zones as further coupes are felled and restocked.
- Ensure watercourses are adequately protected during all forest operations, including civil engineering works, strengthening existing measures where necessary.
- Ensure good communication with neighbours and householders dependent on PWS, when carrying out detailed site planning for a forest operation.

**Objective: Provide a resource for community and wider public access and continue to develop an attractive forest landscape as a backdrop to Moffat and the surrounding area.**

- **Opportunities:**

- Existing access network, of forest roads and a waymarked forest trail, plus informal paths linking Moffat to the forest.
- Attractive forest environment with viewpoints looking over Moffat and the wider landscape, and a variety of wildlife.
- The forest sits in the Moffat Hills, a relatively small area at the south-west end of the forest is highly visible from Moffat itself, with the wider forest in more distant views from the west.
- PAWS restoration will significantly expand the area of native broadleaf woodland, providing attractive views from the east, including the A708.

- **Constraints:**
  - Disruption caused by windblow and tree health issues e.g. *Phytophthora ramorum*, although nearly all larch has already been felled.
  - Harvesting operations may temporarily restrict public access.
  - Forest roads and paths are not necessarily suitable for all recreational users.
  - 'Hard' forest boundary with open hill land to the west.
- **Concept:**
  - Identify opportunities to enhance 'welcome' and 'interactive' visitor zones when carrying out forest operations. Thinning, where possible, will help develop a more open forest environment.
  - Maintain formal access to a high standard, and where possible improve access links between Moffat and the forest.

Different management options for achieving the plan's objectives were considered against the constraints and opportunities identified during scoping and consultation. The preferred approach is summarised on the Concept map (Map 3).

## 3.0 Management Proposals - regulatory requirements

This land management plan was produced in accordance with a range of government and industry standards and guidance as well as recent research outputs, recognised at the time of its production. A full list of the current standards and guidance which guide the preparation and delivery of FLS Land Management Plans can be found using the link [HERE](#).

### 3.1 Designations

The plan area forms part of, includes, or is covered by the following designations and significant features.

Table 2

Designations and significant features		
Feature type	Present	Note
Site of Special Scientific Interest (SSSI)	No	
National Nature Reserve (NNR)	No	
Special Protection Area (SPA)	No	
Special Area of Conservation (SAC)	No	
World Heritage Site (WHS)	No	
Scheduled Monument (SM)	No	
National Scenic Area (NSA)	No	
National Park (NP)	No	
Deep peat soil (>50 cm thickness)	Yes	Small areas on LMP northern boundary
Tree Preservation Order (TPO)	No	
Biosphere reserve	No	
Local Landscape Area	Yes	Moffat Hills
Ancient woodland	Yes	ASNO and Other (Roy map)
Acid sensitive catchment	No	
Drinking Water Protected Area (Surface)	No	

The Key Features map (Map 2) shows the location of all designated areas and significant features. Any deep peats are indicated on the Soils map (Map 9).

## 3.2 Clear felling

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

Table 3

Clearfell Summary by Phase and Coupe Number		Fell Year	Gross Area (ha)
Phase	Coupe Number		
1	26002	2025/26	92.3
1	26012	2025/26	21.4
1	26020	2025/26	12.6
1	26037	2026/27	1.9
		Total	128.2

Table 4

Clearfell by Species												
Coupe Number	Fell Year	Net Area (ha) by Main Species >20% (or MC, MB)										Coupe Total
		DF	EL	HL	JL	LP	NS	SP	SS	MC	MB	
26002	2026					0.3			86.8			<b>87.1</b>
26012	2026								20.4			<b>20.4</b>
26020	2026								12.2			<b>12.2</b>
26037	2026									1.6		<b>1.6</b>
<b>Plan Area Total</b>						<b>0.3</b>			<b>119.4</b>	<b>1.6</b>		<b>121.3</b>

**NB:** Coupe totals: Table 3 shows gross coupe area / Table 4 shows net area of species.

Table 5

Scale of Proposed Felling Areas										
Total Woodland Area			791 ha							
Felling	Phase 1	%	Phase 2	%	Phase 3	%	Phase 4	%	Long Term Retention	%
Net Area (ha)	128.2	16.2	0	0	13.6	1.7	10.7	1.4	0	0

### 3.3 Thinning

Potential sites for thinning in the plan period are identified on the Thinning map (Map 5).

This covers an area of 215 ha and includes a riparian area adjacent to the Craigie Burn with larger Sitka spruce (>10cm dbh).

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.

### 3.4 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].

### 3.5 Restocking

Proposed restocking is shown on the Future Habitats and Species map (Map 6). See Table 6 for areas, establishment, and mix proportions. Timing of restocking will comply with the plan tolerance table shown in Appendix IV.

Table 6

Restocking						Minimum stocking Density (s/ha)	Note
Phase †	Coupe Number	Gross Area (ha)	Proposed Restock Year	Species	Method *		
F	26023	16.7 (4)	2024/25	SP/BI	R	2500	70:30 (1)
				SS	NR	2500	
				NMB/open	R	1600	
1	26002	92.3	2026/27	SS	R	2500	
				SS/open	NR	~400	(2)
				NMB/open	R	1600	50:50 (3)
1	26012	21.4	2026/27	SS	R	2500	
				SS/NF	R	2500	70:30
				NMB/open	R	1600	50:50 (3)
1	26020	12.6	2026/27	SS/NF	R	2500	70:30
				NS	R	2500	
				NMB/open	R	1600	50:50 (3)
1	26037	1.9	2036/37	NMB/open	NR	1600	50:50 (3)

<b>Total</b>	144.9
--------------	-------

† recently felled awaiting restock (F) / Phase 1 (1) / Phase 2 (2)

\* replant (R) / natural regeneration (NR) / plant alternative area (ALT) / no restocking (None)

Notes:

- (1) Small groups of birch throughout the Scots pine.
- (2) Buffer between restocked area and forest boundary where some Sitka natural regeneration is desirable to create a more open forest edge habitat. This will be monitored and respaced if too dense.
- (3) NMB groups planted at 1600/ha targeted where it offers most benefit – refer to section 4.1.5 below.
- (4) Part of coupe already restocked with NMB.

If the Restock or natural regeneration should fail to reach 1600 stems per ha (Native Broadleaves) or 2500 stems per ha (productive Conifers) the site will be beaten-up to the required planting density. This will be assessed at year 3 and year 5 after planting with beat up by at least year 5.

### 3.6 Species diversity and age structure

The following tables show how the proposed management of the forest will help to maintain or establish a diverse species composition and age-class structure, as recommended in the UK Forestry Standard. The current woodland composition is shown on Map 8.

Stands adjoining felled areas will be retained until the restocking of the first coupe has reached a minimum height of 2m.

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.

Table 7

Plan area by species		Current		Year 10		Year 20	
Species		Area (ha)	%	Area (ha)	%	Area (ha)	%
Sitka spruce		480.7	60.8	443.5	56.1	411.6	52.0
Other conifers		66.7	8.4	69.7	8.8	73.9	9.3
Native broadleaves		65.3	8.3	115.6	14.6	126.0	15.9
Other broadleaves		0.5	0.1	0.5	0.1	0.5	0.1
Fallow		39.1	4.9	1.8	0.2	21.1	2.7
Open ground		137.8	17.5	158.3	20.1	157.1	20.0
<b>Total</b>		<b>791</b>	<b>100</b>	<b>791</b>	<b>100</b>	<b>791</b>	<b>100</b>

Chart 1

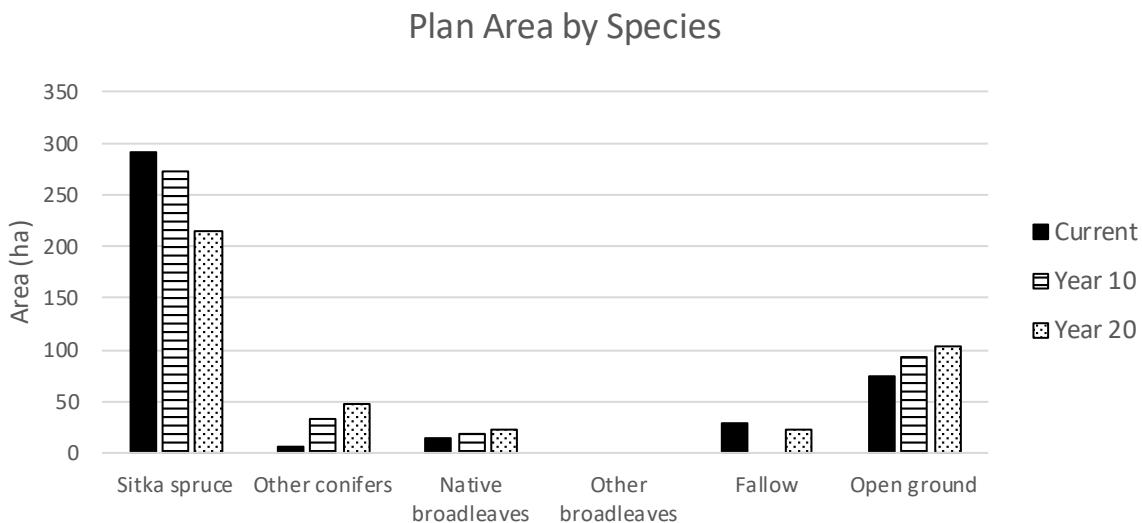
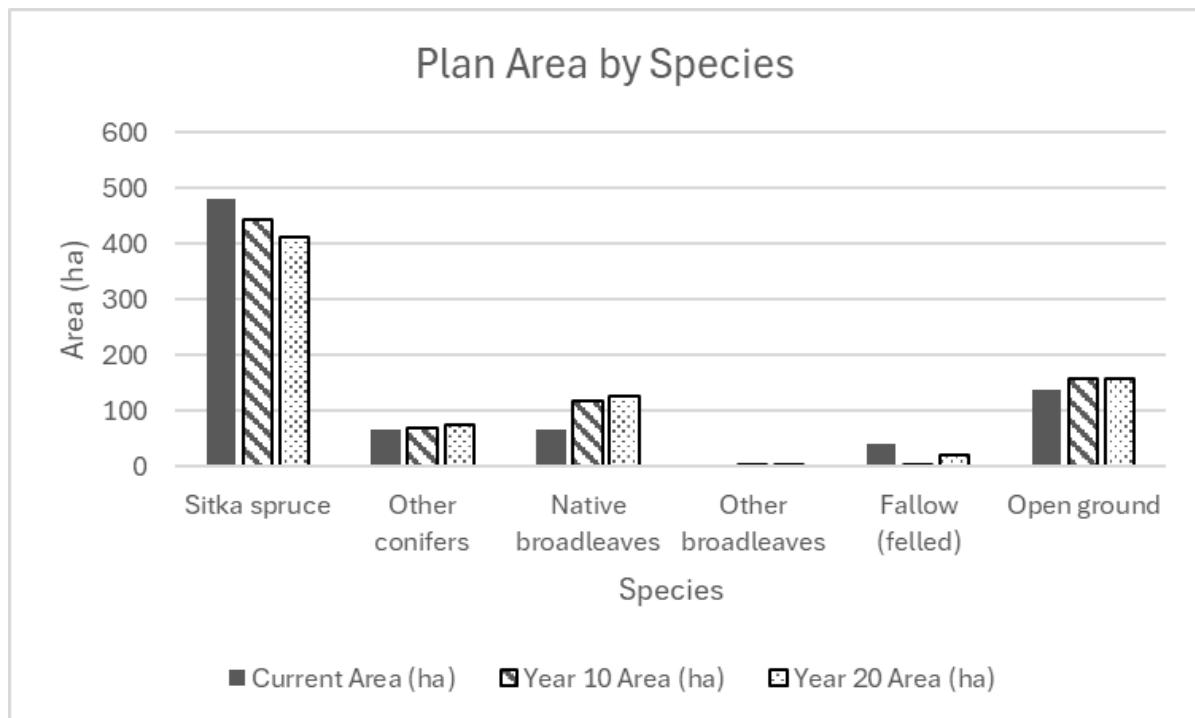


Table 8

Plan area by Age		Current Area (ha)		Year 10 Area (ha)		Year 20 Area (ha)	
Age Class (years)		Area (ha)	%	Area (ha)	%	Area (ha)	%
0 – 10		202.1	25.5	152.5	19.3	42.7	5.4
11 – 20		129.6	16.4	199.4	25.2	147.3	18.6
21 – 40		118.6	15.0	191.9	24.3	323.6	40.9
41 – 60		99.9	12.6	32.6	4.1	70.0	8.9
60+		63.1	8.0	53.1	6.7	28.8	3.6
Open/fallow		178.5	22.5	161.5	20.4	178.3	22.5
<b>Total</b>		<b>791</b>	<b>100</b>	<b>791</b>	<b>100</b>	<b>791</b>	<b>100</b>

Chart 2



### 3.7 Road Operations and Quarries

Planned new roads, road realignments, road upgrades, new quarrying, and timber haulage routes are shown on the Road Operations and Timber Haulage map (Map 7).

Table 9

Forest Road Upgrades, Realignments, New Roads and New Quarrying				
Phase	Name / Number	Length/Area	Year	Operation
Road upgrades				
1	M206	350 m	2025	Road upgrade for coupe 26020 felling
Quarrys				
1	Craigieburn Quarry	0.9 ha	2025	Quarry expansion

## 3.8 Environmental Impact Assessment (EIA)

Any operations requiring an EIA determination are shown in the table below. If required, the screening opinion request form is presented in Appendix II.

Table 10

EIA projects in the plan area		
Type of project	Yes / No	Note
Afforestation	No	
Deforestation	No	
Forest roads	No	
Forestry quarries	Yes	

## 3.9 Tolerance table

Working tolerances agreed with Scottish Forestry are shown in Appendix IV.

# 4.0 Management Proposals – guidance and context

## 4.1 Silviculture

### 4.1.1 Clear felling

Coupes for clearfelling during the plan period (refer to Map 4):

Phase 1

26002 (2025/26)

P1964/65/71/73 Sitka spruce with substantial areas of windblow especially in the southern part of the coupe (>15% of coupe is windblown). Age and exposure are likely to lead to increasing windblow, so it is proposed to clearfell as one large coupe. In the longer term the coupe may be split and managed as two or more coupes.

26012 (2025/26)

P1983/89 Sitka spruce adjacent to the Craigie Burn, with extensive windblow (>25%) at the southwest end of the coupe. This is a sensitive watercourse that provides a back-up private water supply for several properties downstream. Summer working will be required to allow forest operations to be carried out in drier conditions and minimise risk to the burn and adjacent riparian zone. Careful log bridging across the Craigie Burn, and associated water protection, will be needed to access the western side of the coupe. Ideally the harvesting will be carried out by Direct Production to ensure FLS has maximum control over the operation.

26020 (2025/26)

P1983/86/93 Sitka spruce close to the riparian zone of the Craigie Burn, also with large patches of windblow (>20%) at the southwest end of the coupe.

26037 (2025/26)

Fell mature conifers in PAWS area – where possible remove western hemlock and Sitka spruce but leave other (less invasive) conifers. The western hemlock and Sitka spruce area are a seed source for unwanted natural regeneration in the wider PAWS area.

To achieve the UK Forestry Standard of separation between adjacent crops, adjoining coupes should not be felled before the restocking of the first area has reached an average height of at least two metres. We expect this to be achieved in 5 years following planting. Any unforeseen reduction in separation during the period of the plan will be formally agreed with Scottish Forestry as an amendment. Felling will be undertaken once trees in adjacent restocked coupes have reached 2 m height.

#### 4.1.2 Thinning

Refer to Map 5.

In total this LMP aspires to have 215 ha approved for thinning operation. Priority will be given to potential first thinning coupes. A riparian area adjacent to the Craigieburn within the minimum intervention coupe 26035 is included, to give options to fell larger Sitka spruce (>10cm dbh).

#### 4.1.3 Low Impact Silviculture Systems (LISS)

Refer to Map 4.

LISS management is focused on the PAWS and other ancient woodland area on the eastern slopes of the forest. Larch removal following infection by *Phytophthora ramorum* in recent years has resulted in intensive harvesting operations, clear-felling and thinning out non-native conifers faster than would otherwise have been planned. Over the plan period it is therefore proposed to take a lighter touch in these areas. Other than removing mature western hemlock and Sitka spruce in coupe 26037, the only proposed work is removal of small conifer natural regeneration.

Some areas have already been restocked with native broadleaves, with further suitable natural regeneration expected, and these areas have been designated as minimum intervention. Elsewhere in the LISS coupes, felled areas will be monitored for natural regeneration and further restocking considered. Remaining stands of mature conifers will be considered for long term retention within LISS areas, where they will add value for biodiversity and visual amenity.

#### 4.1.4 Long term retention (LTR)/Minimum intervention (MI)/Natural reserve (NR)

Refer to Map 4.

##### **Long Term Retention**

Two coupes have been identified for long term retention:

26030

Other than a few patches of windblow along exposed southern and northern edges (following adjacent felling), the coupe appears stable. With so much of the forest having been felled in recent years, following windblow events and larch infection with *Phytophthora ramorum*, it is important to retain areas of older trees to give structural diversity for wildlife habitat and landscape benefit. It is proposed to retain this coupe for as long as it appears sufficiently stable.

26033

Similarly, this coupe will provide structural diversity in the northern part of the forest, especially important for raptor.

##### **Minimum Intervention (MI)**

Current areas of MI, totalling 113 ha, are mainly in the following three areas:

- Riparian corridors where native broadleaves are already established in varying proportions alongside open habitat, or where further natural regeneration is expected with minimal management input. Natural regeneration of invasive tree species such as western hemlock and Sitka spruce will be monitored,
- PAWS and ancient woodland areas where native broadleaves are established. As above, intervention will be limited to removal of non-native invasive species.
- Woodland edge areas where native broadleaves and low-density conifers have been established.

The area of MI will increase as further riparian habitat is established, PAWS areas restored, and other areas of non-productive native broadleaves are established, through the process of clear-fell and restocking.

##### **Natural Reserve (NR)**

The previously designated small NR within the LISS coupe on the south side of Shortwoodend Burn has been expanded to 16.4 ha (coupe 26042) to take in a several conifer stands of variable age (mainly Sitka spruce with some Norway spruce and Scots pine). This ties in with neighbouring MI and LISS areas.

#### 4.1.5 Tree species choice / Restocking

Refer to Map 6.

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 Appendix IV.

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 3 and year 5 after planting with beat-up by at least year 5.

Species choice is guided by desk-based Ecological Site Classification (ESC) and aims to meet the plan objectives. Diversifying conifer species while maintaining softwood productivity is challenging, with Sitka spruce remaining the only very suitable or suitable option over much of the plan area. Despite that, there will be a modest decrease in the proportion of Sitka during the 10-year plan period with a continuing decrease over time. The best sites for species diversification are in the PAWS/ASNW areas where only a small proportion (<10%) of conifers will be retained.

Noble fir is proposed in mixture with Sitka on suitable sites, but these are currently younger coupes, so species change will take much longer. Norway spruce is proposed in favour of Sitka spruce where it is suitable, generally on surface water gleys. It will offer better future conifer habitat for red squirrels. Scots pine, and Scots pine with Silver birch, is proposed where suitable and where non-timber objectives are of higher importance, notably landscape enhancement and creation of more diverse wildlife habitat.

Native broadleaves will continue to be targeted in the main riparian corridors. Birch and willows will be the main species choice, either through natural regeneration or planting, because they offer the best chance of successful establishment in less accessible areas where deer browsing is a major threat. Other suitable native broadleaf species such as oak, aspen and rowan will be planted where they can be adequately protected from browsing.

All broadleaf planting will be native to the area and should complement and/or enrich existing naturally growing scrub and woodland to give the most ecological value. Some groups of trees should be planted right up to watercourse banks to afford benefits of shade and nutrients from leaf litter.

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.

#### 4.1.6 Natural regeneration

Natural regeneration of the desired species in LISS areas will be recruited as the next rotation, and it will be important that thinning/CCF interventions avoid damage to young trees.

There should be a preference for natural regeneration of broadleaf areas (to maintain provenance and improve the chances of establishment) but where this is unlikely or has not been successful then these areas should be planted/beaten up to the required stocking density and site requirements.

It is expected that some of the riparian zones, designed open ground and broadleaf areas will fill in with natural regeneration of both conifers and broadleaves. This will be managed in such a way as to ensure that, where practicable, it does not significantly impose a negative impact upon the objectives of the plan or create a negative impact upon the watercourse in terms of shading and acidification.

There are some productive sites where natural regeneration is occurring. These will be monitored and recorded in the FLS sub-compartment database. Where this is the desired species, we will endeavour to use it to establish the required stocking density. If stocking density is too low it will be beaten up by year 5. If the natural regeneration is too dense it may be necessary to clear and restock. Where the natural regeneration is not the desired species it will be considered against the plan objectives and tolerance table and either accepted (with a plan amendment if necessary) or removed.

#### 4.1.7 New planting

No new planting is proposed.

#### 4.1.8 Protection

##### **Deer**

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. Deer Management Plans direct the priorities for management and are available on request.

Craigieburn falls within Ae Main Block/Auchen Castle Deer Management Unit (DMU). Roe and Sika Deer are found throughout Craigieburn, with Roe being the predominant species.

#### DMU Objectives:

- To enable re-stocking to take place without the need for deer fencing and to achieve the appropriate stocking density at year five in accordance with OGB 4.
- To maintain a sustainable deer population.
- To monitor the Fallow population and limit their spread from neighbouring land.
- To monitor the Sika population and limit their spread from neighbouring land.

DMU population modelling suggests a spring population of around 5 deer per square kilometre. Cull targets for the next 3-5 years are set for circa 60 Roe and five Sika, to be carried out by a wildlife contractor.

There is a Feral Goat heft resident on the Moffat Hills which have unrestricted access to the Craigieburn Forest Block. There have been sporadic incursions into the northern area of Craigieburn (particularly in periods of harsh weather on the open hill) with significant browsing impacts on vulnerable forest crops as a result. Feral Goat Policy has a commitment to “actively conserve the feral goats which thrive in the Moffat hills and on Kielderhead, while discouraging their expansion into new areas to prevent destructive browsing of sensitive woodland and hill vegetation in adjacent SSSI areas.”

Sheep trespass is a regular occurrence in Craigieburn block, because of stock fencing issues along the eastern boundary, resulting in significant browsing impacts on vulnerable restock crops in that immediate area.

#### Venison

- FLS subscribe to the Scottish Quality Wild Venison (SQWV) scheme. This sets the standards for our larders and actions of our staff and contractors to ensure we provide a safe food item to market.
- All venison is quality assured and sold to Highland Game where it is further processed.
- All waste from the larders is removed by a licensed waste disposal contractor.
- All animal by-products are sold to Highland Game along with the venison.

#### Tree Pests and Diseases

The main tree pests and diseases are outline in Appendix 1. All larch has been felled in Craigieburn. There is on-going monitoring for *Dendroctonus micans* and other pests and diseases, including annual helicopter flights organised by Scottish Forestry.

#### Fire

FLS continues to work closely with the 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.

## 4.1.9 Road operations, Timber haulage and other infrastructure

Map 7 shows the existing forest road network, planned new roads, main egress points, and agreed Timber Transport Routes. Table 9 shows details of proposed new roads and quarry expansion in the plan period.

## 4.2 Biodiversity

### 4.2.1 Designated sites

There are no designated sites in the plan area.

### 4.2.2 Native woodland

Native woodland is scattered throughout Craigieburn mostly in riparian areas, and as woodland edge habitat on the western forest boundary but is otherwise concentrated in the ancient woodland areas (see below). Riparian habitat with native broadleaves will continue to be expanded as felling and restocking is carried out. Native broadleaves are also due to be planted on the recently felled coupe 26023.

### 4.2.3 Ancient woodland / Plantation on Ancient Woodland sites (PAWs)

The slopes along the eastern edge of the forest are all either ancient woodland of semi-natural origin, under PAWS management, or other ancient woodland (on Roy map). The origin plan was to gradually thin out conifers from these areas, but infection of larch by *Phytophthora ramorum* and subsequent rapid clear-felling has accelerated PAWS restoration. Following the recent extensive intervention, it is proposed to carry out minimal further work in this plan period. Mature western hemlock and Sitka spruce in coupe 26037 will be felled, and felled areas will be monitored for invasive natural regeneration.

### 4.2.4 Protected and priority habitats and species

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.

#### **Red squirrel**

FLS has a single licence to cover forest management activities that may affect red squirrels on Scotland's forests and land. This is in accord with the Scottish Biodiversity Strategy's aim to resolve species management issues. All works within the Plan area will follow the assessment and mitigation actions set out as conditions of this licence.

Much of the forest is now young second rotation conifers, with further felling and restocking to be carried out. Areas of long-term retention and natural reserve will be important to provide suitable habitat, including stable mature conifer stands in the PAWS and ancient woodland. Timely thinning of younger trees will help provide suitable, more stable future habitat.

#### **Schedule 1 Raptors**

There are several known raptor nesting sites in Craigieburn, with the possibility of further birds settling in the forest. Through the FLS work plan process, environmental checks are carried out prior to forest operations being carried out. Where necessary, mitigation will be put in place including timings, buffers, and phased working.

As outlined above for red squirrels, suitable habitat will be retained and protected as far as possible, and future habitat developed.

#### **Black grouse**

Native broadleaf planting with Scots pine, along with re-spaced Sitka spruce natural regeneration and open ground in coupes 26014, 26038 and 26044 will develop to provide more suitable woodland edge habitat for black grouse and other wildlife. Restocking of coupe 26002 will leave a sizeable buffer along the forest edge unplanted. Sitka spruce natural regeneration will be expected but will be monitored and respaced as necessary to ensure a low-density forest edge.

#### **4.2.5 Open ground**

Open ground currently accounts for around 17% of the plan area, spread between open habitat in riparian corridors, forest rides, road corridors and open habitat on the upper forest boundary. This will increase to around 20% by year 10.

Open habitat will be managed pragmatically as 'successional open,' where a degree of natural regeneration of trees and other vegetation encroachment will be tolerated.

Monitoring of these areas will allow us to identify any significant changes, and Scottish Forestry will be notified if these require amendments to the plan.

#### **4.2.6 Dead wood**

Opportunities for retaining or creating deadwood will be identified during the planning of all felling and thinning works, favouring areas with the highest deadwood ecological potential. Valuable deadwood and deadwood areas will be marked on contract maps. Areas of natural reserve will offer some of the best opportunities for the development of standing and fallen deadwood. Where it is safe to do so, standing mature dead trees will be retained as this offers excellent potential for a range of species.

## 4.2.7 Invasive species

### Grey squirrels

FLS will continue to support efforts by Saving Scotland's Red Squirrels to reduce grey squirrel numbers. Trapping of grey squirrels will be carried out in Annan Valley Priority Area for Red Squirrel Conservation (PARC).

## 4.3 Historic Environment

Refer to Map 12.

Our key priorities for archaeology and the historic environment are to undertake conservation management, condition monitoring and archaeological recording at significant historic assets; and to seek opportunities to work in partnership to help to deliver Our Place in Time: the historic environment strategy for Scotland (2014) and Scotland's Archaeology Strategy (2015). Significant archaeological sites will be protected and managed following the UK Forestry Standard (2017) and the FCS policy document Scotland's Woodlands and the Historic Environment (2008). Harvesting coupes, access roads and fence lines will be surveyed prior to any work being undertaken to ensure that upstanding historic environment features can be marked and avoided. At establishment and restocking, work prescriptions remove relevant historic environment features from ground disturbing operations and replanting. Where appropriate, significant historic assets are recorded by archaeological measured survey, see active conservation management, and may be presented to the public with interpretation panels and access paths. Opportunities to enhance the setting of important sites and landscapes will be considered on a case-by-case basis (such as the views to and from a significant designated site).

The Regional Historic Asset Management Plan includes conservation management intentions for designated historic assets on the National Forest Estate. Details of all known historic environment features are held within the Forester Web Heritage Data 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 should be checked both on FLS's internal historic environment records and with the Council's HER prior to the commencement of forestry activities. Any upstanding features should be clearly marked, both on the ground and on operational maps. Care should be taken to avoid any damage to surviving structural elements.

### 4.3.1 Designated sites

Details of designated sites can be found in Appendix V.

### 4.3.2 Other features

Likewise, details of other recorded features can be found in Appendix V.

## 4.4 Landscape

### 4.4.1 Designated areas

There are no nationally designated areas, but Craigieburn does sit within the Moffat Hills Local Landscape Area. Following a period of more intensive felling operations, because of larch removal due to infection by *Phytophthora ramorum*, there will be relatively little felling in this plan period. 26002 is a large felling coupe at the northern end of Craigieburn but the scale of felling fits in with the landscape and the coupe is not highly visible from any particular viewpoint.

The lower slopes at the southwestern end of the forest are more visible from Moffat. Coupe 26023, felled in 2019, will be restocked with broadleaves on lower slopes and Scots pine/birch higher up which will over time provide a more attractive forested landscape, in contrast to neighbouring pure spruce.

## 4.5 People

### 4.5.1 Neighbours and local community

Several neighbours have taken an active interest in the development of the plan and their aspirations have been incorporated where they do not conflict with the objectives of the plan and are consistent with FLS's approach to land management.

### 4.5.2 Public access

Refer to Appendix I and Map 2.

Visitors are welcome to explore FLS land 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.

Formal access will continue to be provided with a small car park at the main forest entrance and a single waymarked trail.

## **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. Visitor Zones are mapped on Map 11.

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.

### **4.5.3 Renewables, utilities, and other developments**

There are currently no developments.

### **4.5.4 Support for the rural economy**

Craigieburn is part of the local landscape that attracts visitors to the Moffat area, who take advantage of local businesses and services. It also provides a more intimate backdrop for those following the Southern Upland Way. Careful forest design with these factors in mind, along with responsible delivery of forestry operations will provide a positive visitor experience and encourage return visits to the area.

FLS supports a sustainable rural economy by managing the national forests and land in a way that encourages sustainable business growth, development opportunities, jobs, and investment.

## **4.6 Soils**

### **4.6.1 Protection and Fertility**

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. Brash mats (or alternative measures) will be used to protect sensitive soils. Felling residue will usually be left on site to allow nutrient recycling, with consideration for the practicalities of restocking.

### **4.6.2 Cultivation**

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

## 4.7 Water

### 4.7.1 Drinking water

All private drinking water supply points (and pipes) are recorded as a layer in our Forester Web GIS (included in Map 2). This is consulted during the work plan process for all forest operations to ensure their protection. Affected neighbours will be consulted prior to any works commencing. Features will be clearly marked on all contract maps, as well as on the ground. The design of the future forest has incorporated an open space or broadleaf buffer of at least 50m around these supply points to minimise future disturbance.

### 4.7.2 Watercourse condition

All forestry operations will meet the requirements of the UKFS Guidelines on Forests and Water.

### 4.7.3 Flooding

There are no specific flood prevention considerations within the plan area at this time (see Description of Woodlands). The scale and timing of felling in the forest, along with an increasingly diverse age structure is likely to have a beneficial impact on downstream flood risk and may contribute to flood alleviation.

For enquiries about this plan please contact:

John Ogilvie  
Planning Forester  
Forestry and Land Scotland  
South Region  
Selkirk Office  
Weavers Court  
Forest Mill  
Selkirk  
TD7 5NY

[john.ogilvie@forestryandland.gov.scot](mailto:john.ogilvie@forestryandland.gov.scot)

# Appendix I: Description of Woodlands

Description of woodlands
<b>Topography and Landscape</b>
<p>Craigieburn Forest is situated on the northwest side of the U-shaped valley of Moffat Water, just to the northeast of, and overlooking, the town of Moffat. It lies in the transition area between the agricultural dominated Annan Valley floor and Southern Uplands dominated by open moorland.</p> <p>The forest includes two distinctive Landscape Character Types (LCT). A brief description is given below; for a full description refer to NatureScot's <a href="#">Landscape Character Assessment in Scotland website</a></p> <p><b>Southern Uplands – Dumfries and Galloway</b> Characterised by large smooth domed or slightly conically shaped hills, most of the plan area falls within this LCT. The hills have a strong relief, dissected by steeply sided clefts and glens.</p> <p><b>Upland Glens – Dumfries and Galloway</b> Characterised by pronounced 'U' shaped glaciated valley with steep sides and narrow flat valley floors, the steep slope above the A708 falls within this LCT.</p> <p>The forest is within Moffat Hills Regional Scenic Area</p> <p>The forest is also within Central Southern Uplands Environmentally Sensitive Area – this is an agricultural designation with no direct relevance to this plan.</p>
<b>Geology and Soils</b>
<p>Underlying geology is Llandovery Series (Silurian Period) sedimentary rock, with glacial till deposits on the lower eastern slopes.</p> <p>Soil types within the forest block are shown on Map 9. The map shows a complex mosaic of soils with most types represented. Brown earths are limited mainly to the relatively steep lower southeast slopes. The most abundant soil types, peaty surface water gleys, surface water gleys and ironpans are found throughout the forest, and most existing management coupes have a mosaic of these. There are extensive patches of skeletal soils with rock and scree. Unflushed peatland (11b Blanket Bog) is mainly limited to the northern edge of the forest, adjacent to a more extensive area of blanket bog on private land. There is a large patch of flushed peatland (9b Trichophotum Bog) at the northern end of the forest.</p>

## Description of woodlands

Species selection will be limited by the soil types over most of the plan area.

## Climate

### Accumulated temperature (day-degrees above 5°C)

Current values vary from 1659 in the more sheltered southwest to 1067 in the more exposed northeast end of the forest. Medium to high climate predictions is for 2179 to 1634 respectively.

### Moisture Deficit (mm)

Current values vary from 106 to 48. Medium to high climate predictions is for 135 to 81.

The predicted climate change is illustrated in the table below. Essentially, on average the climate will become warmer and drier, with a longer growing season.

		Accumulated temperature (day-degrees above 5°C)								
		>1800	1800-1475	1475-1200	1200-975	975-775	775-575	575-375	375-175	<175
Moisture Deficit (mm)	>200									
	180-200	Warm	Dry							
	160-180									
	140-160									
	120-140	Warm	Moist			Cool	Moist			
	90-120									
	60-90			Warm	Wet					
	20-60					Cool	Wet			Sub-Alpine
	<20									Alpine

Climatic Zones in Great Britain (shading indicates combinations not present)

## Hydrology

Map 2 (Key Features) shows all watercourses and open water in the plan area.

The forest sits in the Solway Tweed River Basin District, in the catchment for the River Annan. Waterbody catchments within this are Birnock Water and Moffat Water.

### Water quality

Bodies of surface waters (as identified by SEPA) in the plan area are listed below. Data is taken from SEPA 2021 update to the Water Environment Hub: [RBMP3 \(sepa.org.uk\)](https://rbmp3.sepa.org.uk)

Name: Birnock Water      Overall Condition: Poor

Impacted condition / Responsible pressures (Responsible activity):

Access for fish migration / barrier to fish migration (electricity power generation)

Description of woodlands
<p>Name: Moffat Water      Overall Condition: Poor</p> <p>Impacted condition / Responsible pressures (Responsible activity): Access for fish migration (poor) / barrier to fish migration (electricity power generation)</p> <p>Physical condition (moderate) / modification to bed, banks, and shore (farming)</p>
<p><u><b>Flooding</b></u></p> <p>Moffat is identified as being within a Potentially Vulnerable Area (PVA 14/02), and the town itself a Target Area (136), in the Solway Local Flood Risk Management Plan. Most of the plan area drains via Moffat water to the River Annan south of Moffat. A small proportion of the plan area falls within the catchment for Moffat and will have minimal influence of downstream flooding.</p>
<p><u><b>Water supplies</b></u></p> <p>There are several private water supplies (PWS) within the forest or fed from watercourses in the forest. These are shown on Map 13, with details provided in Appendix VI.</p>
<p><u><b>Windthrow</b></u></p> <p>Map 10 illustrates the DAMS measurements for the Plan area. These vary from 10 in the most sheltered areas to 21 on the hill tops.</p>
<p><u><b>Adjacent land use</b></u></p> <p>To the north and west, neighbouring land use is hill grazing. To the east the forest overlooks an extensive fish farm surrounded by agricultural fields. The southeastern corner is adjacent to a privately-owned productive conifer forest of similar age to Craigieburn.</p>
<p><u><b>Public access and community</b></u></p> <p>Maps 2 (Key Features) and 11 (Visitor Zones and Access) show the location of promoted trails and other public access. There is only one waymarked trail, starting and finishing at the visitor car park at the main forest entrance.</p> <p>The public right of way (PROW) and core path on the east side of Moffat links with the southwest corner of the forest below Auldtoun Hill.</p> <p>The local community in and around Moffat has an interest in the forest, although this is relatively low key, given that they have their own community woodland at Gallow Hill, closer to the town.</p> <p>There is considerable interest from neighbours living close to the forest, including those with private water supplies in the forest and those with rural businesses that benefit from the forest.</p>

<b>Description of woodlands</b>
<b>Historic environment</b>
Historic environment records for the forest are shown in Appendix V and on Map 12. There are no scheduled monuments.
<b>Biodiversity</b>
<p><b>Designated Sites</b> There are no designated sites in the plan area.</p> <p><b>Priority Habitats</b> There are no known priority habitats within the plan area.</p> <p><b>Priority Species</b> The forest supports several protected and important species including:</p> <ul style="list-style-type: none"> <li>• Red squirrel</li> <li>• Schedule 1 raptors</li> <li>• Ravens</li> <li>• Badgers</li> <li>• Bats</li> <li>• Salmonids</li> </ul> <p><b>Ancient Woodland / PAWS</b> The slopes along the eastern edge of the forest are all either ancient woodland of semi-natural origin, under PAWS management, or other ancient woodland (on Roy map).</p> <p><b>Natural Reserves</b> There is currently one area designated as natural reserve in the north-east of the forest, but there is scope to expand this.</p> <p><b>Deadwood potential</b> The areas of ancient woodland and the main riparian corridors provide much scope for retention of deadwood.</p> <p><b>Open ground</b> There is relatively little open ground, mainly in the main riparian corridors. There is scope to develop more open habitat in these areas as well as on the high ground along the western forest boundary.</p>
<b>Invasive species</b>
On the ancient woodland sites, the main threat is from naturally regenerating western hemlock and Sitka spruce.  Grey squirrels are present in the plan area.

Description of woodlands
Woodland composition
Refer to Map 8, Current Species, and Section 3.6, Species diversity and age structure.
Plant health
<p>Many pests and diseases pose a potential threat to tree health in the forest.</p> <p><i>Phytophthora ramorum</i> has swept through the forest and all larch has now been felled.</p> <p><i>Dendroctonus micans</i> (Great spruce bark beetle) is increasingly widespread, with many confirmed cases in the forest in recent years. <i>Rhizophagus grandis</i>, a host-specific predatory beetle, has been released to control the spread of this pest.</p>
Infrastructure
Refer to Map 7, Roads and Haulage.

# Appendix II: EIA screening opinion request form

## Appendix III: Consultation record

Consultee	Date contacted	Date of response	Issues raised	FLS response
<b>Community Scoping</b>				
<p>A community drop-in session was held at Moffat Town Hall on 24<sup>th</sup> May 2023 and an on-line questionnaire was provided on the FLS LMP website. The questionnaire was also available at the drop-in session to complete by hand. Three questions were asked:</p> <ol style="list-style-type: none"><li>1. What is your connection to Wauchope West Forest?</li><li>2. Why is this place important to you?</li><li>3. Are there any significant features or issues we should be aware of?</li></ol> <p>The drop-in session was attended by 15 members of the public, and 11 questionnaires were completed on-line or at the drop-in. The following is a summary of responses received:</p> <ol style="list-style-type: none"><li>1. Respondents lived locally or visited the forest regularly for walking, dog walking and cycling.</li><li>2. The forest is appreciated as a peaceful and attractive place for walking and cycling, and for its wildlife.</li><li>3. Main issues or comments are summarised below.</li></ol>				
			Desire to replant as much as possible with native species.	The whole eastern side of the forest is PAWS or ancient woodland and will over time be planted or naturally regenerate mainly with native broadleaves, in total nearly 100 ha or 12% of the plan area. The main riparian corridors, notably of the Cragie Burn and the Frenchland Burn, will continue to develop as native broadleaf/open habitat. The lower south-facing slope of Auldtoun Hill will be restocked with native broadleaves, the upper slopes mainly with Scots pine and birch.

Consultee	Date contacted	Date of response	Issues raised	FLS response
			Desire to replant as much as possible with native species (cont.)	Parts of the western forest boundary have been restocked with low density native broadleaves and conifers. Softwood timber production will continue to be the main objective in core plantation areas, Sitka spruce being the most suitable species but with other conifers where possible.
			More broadleaves asked for generally and more specifically along the town-facing side of the forest.	See above.
			Reduce the amount of Sitka spruce.	See above. Sitka spruce remains the most (often only) suitable softwood species. However, Scots pine has been favoured where it is suitable and where it meets other management objectives, with some Norway spruce and Noble fir where suitable.
			Riparian corridors should be planted with broadleaves and/or reverted back to natural habitats.	See above.
			Remove self-seeded conifers along the Craigieburn riparian corridor.	Some work carried out in 2024 but on-going monitoring and further removal will be required during the plan period.
			Concerns regarding large unstable-looking spruce along neighbouring farm boundary.	Referred to Forest Management & Stewardship Team.

Consultee	Date contacted	Date of response	Issues raised	FLS response
			Request for measures to remove barriers to brown trout movement further up the Craigie Burn in the forest.	Referred to Area Civil Engineer and Environmental Advisor to investigate further.
			There has been an increase in irresponsible access. Access points to paths are not secure.	The Dumfries and Galloway Access Team is responsible for pedestrian gates at the southwest corner of the forest where, and they are aware of issues local issues.
			Improve hill access from the end of the forest road at the northern end of the forest.	While there are no proposals to formalise access from the forest road end, early felling and restocking of the management coupe in this plan will provide an opportunity to maintain a more open route from the forest onto the open hill.
			Protect/restore historic settlement sites (where damaged in first planting).	Refer to Section 4.3 Historic Environment
<b>Stakeholder Consultation</b> A LMP consultation email was sent to stakeholder 21 <sup>st</sup> April 2023 and the following responses received.				
Historic Environment Scotland (HES)		03/05/2023	<p>Proposals affect the following scheduled monuments:</p> <ul style="list-style-type: none"> <li>• SM12723 Alton, moated site</li> <li>• SM12726 Frenchland, farmstead and cultivation remains</li> </ul> <p>The above scheduled monuments are located within the wider area of forestry operations; however, they have not been</p>	<p>Refer to Appendix 1 Historic Environment section, Appendix V – Historic Environment Records, Map 12 – Heritage Features, and LMP main text section 4.3 Historic Environment.</p> <p>Both scheduled monuments highlighted are outside the forest boundary, but the point regarding adequate buffering from the SM</p>

Consultee	Date contacted	Date of response	Issues raised	FLS response
Historic Environment Scotland (HES) (cont.)			<p>marked on the concept map. Being scheduled confers legal protections to a site under the Ancient Monuments and Archaeological Areas Act 1979, and scheduled areas can often extend a considerable distance beyond any upstanding remains. It is important that accurate spatial data for these designated sites is included on any revised constraints maps.</p> <p>Although no forestry operations are proposed within the scheduled areas, the works are located in the immediate vicinity of these monuments. This is particularly the case for SM12723, as the scheduled area abuts the boundary of a forestry compartment within the LMP area. It is important that all works associated with the proposals must avoid direct impacts to the monuments in order to prevent accidental damage, as any damage (including vehicle damage and accidental damage) within the scheduled areas would be in breach of the aforementioned Act and could be considered a criminal offence. All staff and contractors should be made aware of</p>	boundary is noted. The area close to the SMs was clearfelled in 2020, following infection of larch by <i>Phytophthora ramorum</i> , and will be restocked with broadleaves in the next two years.

Consultee	Date contacted	Date of response	Issues raised	FLS response
Historic Environment Scotland (HES) (cont.)			<p>the presence and significance of, and legal protections afforded to, the monuments before works begin. We would also strongly recommend that the locations of all designated assets are marked on all relevant forestry plans and are uploaded to in-cab GPS systems during all forestry operations.</p> <p>We would finally direct your attention to the UK Forestry Standard Guidelines (<a href="https://www.forestry.gov.uk/ukfs">https://www.forestry.gov.uk/ukfs</a>), which provide clear advice relating to forest management and the historic environment, including the creation of buffer zones. The guidelines recommend a minimum 20m buffer is created around the boundary of scheduled monuments. We would not support any scheme that proposed woodland creation or maintaining woodland within 20m of the edge of any scheduled area, and strongly recommend that a 20m buffer is designed into the scheme which would further aid in reducing the likelihood of accidental vehicle access and damage on scheduled monuments. Therefore, we recommend that forestry is pulled back within the</p>	

Consultee	Date contacted	Date of response	Issues raised	FLS response
Historic Environment Scotland (HES) (cont.)			<p>compartment abutting SM12723 to ensure that the minimum 20m buffer, or more, would be in place around the monument.</p> <p>We do not have significant concerns in relation to impacts upon the setting of the scheduled monuments at this stage, as the current proposals only detail operations within pre-existing forestry compartments. However, woodland creation in the vicinity of any of these monuments would likely negatively impact upon the setting. We would welcome measures to limit setting impacts in forestry adjacent to monuments beyond the maintenance of a 20m buffer, such as the feathering of woodland areas, the planting of principally broadleaved species with open canopies on the monument-facing edge, and other creative design measures.</p>	
Scottish Water		19/05/2023	<p><b>Drinking Water Protected Areas</b></p> <p>A review of our records indicates that there are no Scottish Water drinking water catchments or water abstraction sources, which are designated as Drinking Water Protected Areas under the Water</p>	None required.

Consultee	Date contacted	Date of response	Issues raised	FLS response
Scottish Water (cont.)			<p>Framework Directive, in the area that may be affected by the proposed activity.</p> <p><b>Scottish Water Assets</b></p> <p>A review of our records indicates that there are no Scottish Water assets (including water supply and sewer pipes, water and wastewater treatment works, reservoirs, etc.) in the area. This should be confirmed however through obtaining plans from our Asset Plan Providers, listed in the SW list of precautions for assets, which can be found on the activities within our catchments page of our website at <a href="http://www.scottishwater.co.uk/slm">www.scottishwater.co.uk/slm</a>.</p> <p>In the event that asset conflicts are identified then early contact should be made with the HAUC Diversions Team via the Development Services portal - <a href="http://www.scottishwater.co.uk/portal">www.scottishwater.co.uk/portal</a></p>	
Dumfries and Galloway Council Archaeologist		08/06/2023	<p>Most heritage features would appear to have been identified on the Constraints and Opportunities map.</p> <p>In respect of historic environment assets of lesser interest, the sheepfolds at NT 1204 0750 and NT 1296 0882 are also</p>	<p>The point regarding the sheepfolds is noted, and it is confirmed that these are in open ground with a suitable buffer. These sites will be flagged up to the Environment Team to see if they can be added to the FLS heritage GIS layer.</p>

Consultee	Date contacted	Date of response	Issues raised	FLS response
Dumfries and Galloway Council Archaeologist (cont.)			<p>noted on the Council's HER. Upstanding remains of these assets should not be adversely impacted by forestry activity and should be retained within a minimum 5m open ground buffer.</p>	
NatureScot		26/07/2023	<p>We are satisfied that there will not be any detrimental impacts on the range of national or international designations for which NatureScot carries responsibility such as Sites of Special Scientific Interest, Special Protection Areas, Special Areas of Conservation and National Scenic Areas.</p> <p>Our approach to forestry consultations is set out in the Scottish Forestry – NatureScot concordat, August 2021. In general, NatureScot focuses on guidance, standing advice and early engagement. Inputs to individual proposals is usually restricted to those that could significantly affect protected areas such as those listed above.</p> <p>We have no further comments to make in respect of this proposal.</p>	

## Appendix IV: 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>FC 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 FCS, 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 FCS 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>FC 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.

# Appendix V: Historic Environment records

Refer to Map 12

Historic Environment Records					
Designation	Name	Feature Description	Grid Reference	Importance	Area (ha)
Scheduled Monument SM12723	Alton	Moated site ( <b>just outside forest boundary</b> )	NT101060	National	0.63
Scheduled Monument SM12726	Frenchland	Farmstead and cultivation remains ( <b>outside forest boundary</b> )	NT102057	National	1.28
Unscheduled	Auldtoun Hill	A scooped settlement, oval on plan, it measures about 28m from N to S by 16m transversely within a bank about 3.5m thick and 0.4m high. No internal features or entrance were visible.	NT098062	Regional	0.14
Unscheduled	Auldtoun Hill	A scooped settlement, oval on plan, it measures 41.5m from N to S by 30m transversely within a grass-covered stony bank, 3.5m in thickness and 0.5m in height with an entrance, 4m wide, on the SW. The interior may have two house stances.	NT099063	Regional	0.25

Historic Environment Records					
Unscheduled	Frenchland Burn	A possible scooped settlement is partially overlain by a sheep stell. Roughly oval on plan, it measures about 27m from NNE to SSW by 22m within a grass-grown stony bank 4.3m thick and 0.6m high. A 3m wide entrance on W side, a scooped interior.	NT104061	Regional	0.42
Unscheduled	Auldtoun Hill	Two buildings set side-by-side. The NW building is 8.6m from NE to SW by 5.7m, stone walls 0.8m thick and up to 0.4m high with entrance in SE. The SE building is 6.2m from NNE to SSW by 3.8m, walls 0.9m thick and up to 0.3m high and entrance in NW wall.	NT107064	Uncategorised	1.0
Unscheduled	Craigieburn Wood	Rough gravestone in a small clearing, of unknown age but known locally by word-of-mouth, on the north side of the dyke. Information from Forest Enterprise 27 August 2002	NT124070	Regional	0
Unscheduled	HLA Relict Area	Medieval/Post-medieval Settlement and Agriculture	NT135090	Uncategorised	1.87
Unscheduled	HLA Relict Area	18th Century-Present Rectilinear Fields and Farms	NT119057	Uncategorised	8.69
Unscheduled	HLA Relict Area	18th Century-Present Rectilinear Fields and Farms	NT136079	Uncategorised	1.24