Glentress, Cardrona and Cademuir Land Management Plan 2022 - 2032 V1.1

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.

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Property details	
Property Name:	Glentress, Cardrona and Cademuir Forests
Grid Reference (main forest entrance):	Glentress (Peel): NT 2835 3959 Nether Horsburgh: NT 3032 3937 (Glentress operational access) Venlaw: NT 2551 4076 Cardrona (Kirkburn): NT 2922 3845 Cademuir: NT 2508 3828
Nearest town or locality:	Peebles and Cardrona
Local Authority:	Scottish Borders

Applicant's details	
Title / Forename:	Mr John
Surname:	Ogilvie
Position:	Planning Forester
Contact number:	07887 822525
Email:	john.ogilvie@forestryandland.gov.scot
Address:	Forestry and Land Scotland, Weaver's Court, Forest Mill, Selkirk
Postcode:	TD7 5NY

Owner's Details (if different from Applicant)	
Name:	N/A
Address:	N/A

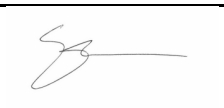
1. I apply for Land Management Plan approval for the property described above and in the enclosed Land Management Plan.

2. I apply for an opinion under the terms of the Forestry (Environmental Impact Assessment) (Scotland) Regulations 2017 for afforestation / deforestation / roads / quarries as detailed in my application.

3. I confirm that the scoping, carried out and documented in the Consultation Record attached, incorporated those stakeholders which the FC agreed must be included. Where it has not been possible to resolve specific issues associated with the plan to the satisfaction of the consultees, this is highlighted in the Consultation Record.

4. I confirm that the proposals contained in this plan comply with the UK Forestry Standard.

5. I undertake to obtain any permissions necessary for the implementation of the approved Plan.

Signed, pp Regional Manager		Signed, Conservator	
FLS Region	South	SF Conservancy	South
Date	08/02/2023	Date of Approval	
		Date Approval Ends	

Contents

1.0 Objectives and Summary

1.1 Plan overview and objectives

Plan name	Glentress, Cardrona and Cademuir
Forest blocks included	As above
Size of plan area (ha)	2028 ha
Location	See Location map (**Map 1**)

Long Term Vision
As part of Tweed Valley Forest Park, Glentress, Cardrona and Cademuir Forests will be resilient, healthy and productive forests, providing a multipurpose resource for timber and recreation. Landscape and environmental services provided by the forests will be protected and enhanced.
Management Objectives
1. To maintain multi-purpose and multi-benefit forests for the local and national economy, including production of quality timber and provision of an attractive forest setting that supports a range of local tourism businesses. 2. To plan and design resilient and healthy forests, mitigating the risks posed by climate change, and a growing number of pests and diseases. In line with FLS Larch Strategy, target priority areas for reduction in the area of larch. 3. To enhance the forest landscape in 'welcome' and 'interactive' visitor zones to contribute to the visitor experience, and in the 'passive' zones that provide the wider setting in the Tweed valley and a backdrop to local communities. 4. To 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.
Critical Success Factors
• Achieve clearfell and thinning programmes to contribute to the Region's sustainable timber production targets; • Carry out timely thinning and Continuous Cover Forestry (CCF) interventions; • Achieve timely and successful restock through planting and natural regeneration; • Successfully establish native broadleaves in riparian zones and other priority areas for expansion; • Protect broadleaves and 'soft' conifers from deer browsing damage.

1.2 Summary of planned operations

Table 1

Summary of Operations over the Plan Period	
Clear felling (gross)	563 ha
Thinning (potential area)	791 ha
Restocking (gross)	633 ha
Afforestation	0 ha
Deforestation	0 ha
Forest roads	1750 m
Forestry quarries	0 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.

1. **Objective:** Maintain multi-purpose and multi-benefit forests for the local and national economy, including production of quality timber and provision of an attractive forest setting that supports a range of local tourism businesses.

- **Opportunities**:
    - Good quality growing conditions across much of the forest, providing opportunities for high quality timber, and for growing a variety of productive tree species.

- Much of the northern and eastern parts of Glentress are reaching economic felling age, and forest re-structuring through clearfelling and restocking will provide an increase in quality timber over the plan period.
- Large areas of all three forests have been well thinned, with some well-developed areas managed as Continuous Cover Forestry.
- Structural and species diversity provides opportunities to enhance the setting for the extensive recreational infrastructure in all three forests, and for on-going developments in Glentress (Glentress Master Plan and Forest Holidays Cabin Site).
- Wind damage in Glentress, from Storm Arwen (November 2021), provides an opportunity to fell some areas in the north of the forest earlier than might otherwise been planned, and therefore enable earlier restructuring and restocking.

- **Constraints**:
  - High concentration of formal and informal recreation infrastructure in all three forests, and high visitor numbers all year round. This creates challenges in managing safe forest operations while minimizing disruption to public access and recreation.
  - Wind damage in Cardrona, from Storm Arwen, will lead to some areas being felled that would otherwise have been retained longer and possibly managed as continuous cover.
  - The threat to larch of *Phytophthora ramorum* is likely to result in premature felling of some larch, and felling larch previously being managed under continuous cover systems. It might also result in more larch being felled, reducing availability of spruce to core markets.
  - Deer pressure can seriously hamper efforts to establish 'softer' alternative conifer species and broadleaves. Roe deer have learned to live in areas with high concentrations of visitors and are therefore difficult to cull. Sika deer continue to thrive on the south side of the valley.
- **Concept**:
  - Develop a felling plan to continue re-structuring the forest, targeting large windblow areas first, and including a large proportion of larch (in line with FLS Larch Strategy)
  - Use Ecological Site Classification (ESC) and local site knowledge to optimize the use of alternative productive conifer species. Where possible restock quickly to minimize competition from vegetation and natural regeneration of species such as Sitka spruce and western hemlock and ensure there is adequate protection from deer. Look for opportunities to increase the area being managed for productive broadleaves, including in mixture with conifers.

- Where possible plan felling and thinning operations during non-peak times of year and in such a way as to minimize disruption to access that could have a negative impact on local businesses.

2. **Objective:** Plan and design resilient and healthy forests to meet the challenges posed by climate change. In line with FLS Larch Strategy, target priority areas for reduction in the area of larch.

- **Opportunities:**
  - Good soils and site conditions for a wider variety of species on lower slopes across much of the plan area.
  - Extensive area of forest well thinned, including areas managed as continuous cover forest.
  - All three forests already have a higher proportion of conifers other than Sitka spruce.
- **Constraints:**
  - Increasing threat of pests and diseases, notably the spread of *Phytophthora ramorum* which now poses a significant threat to larch in the Tweed Valley.
  - Increasing number, intensity and unpredictability of extreme weather events.
  - Upper slopes and plateau generally of more nutrient poor podzol and ironpan soils, limiting options for species diversification.
  - High proportion of Sitka spruce, likely to generate significant Sitka natural regeneration.
- **Concept:**
  - Increase the diversity of conifer and broadleaf species in the forests, in particular reducing the dependence on Sitka spruce where other conifer species are suitable.
  - Develop forest structure and silvicultural practice to improve forest stability. Review felling coupe design to promote windfirm edges and carry out timely first and subsequent thinning to promote stability.

3. **Objective:** To enhance the forest landscape in 'welcome' and 'interactive' visitor zones to contribute to the visitor experience, and in the 'passive' zones that provide the wider setting in the Tweed valley and a backdrop to local communities.

- **Opportunities:**
  - Mature forests, with many well-thinned stands and areas that have been managed as continuous cover for many decades, lend themselves…to what?
  - Great viewpoints from each forest, including views of the other forests in the plan.
  - Glentress Master Plan and Forest Holidays cabin site development offer opportunities to showcase the forest.

- LMP for woodland creation at Nether Horsburgh, on the south side of Glentress, was designed to give an opportunity to improve the overall design.

- **Constraints:**
  - High visitor numbers in core recreation areas and the wider forest provide challenges in safely managing forest operations.
  - Large areas of windblow will need to be felled as a priority, leading to challenges in achieving optimal forest design.
  - Similarly, larch infected with Phytophthora ramorum may need to be felled prematurely and replaced with other less attractive species (from a landscape diversity perspective).
- **Concept:**
  - Continue to manage the core recreation zones within the forests as continuous cover as far as possible, accepting likely clearfelling of larch.
  - Maintain key viewpoints within the forests and identify opportunities to open up new views as the forests are restructured through felling and restocking. This will be particularly important at the work planning stage.
  - Review the size and shape of felling coupes in line with the Landscape Analysis, to ensure as far as possible that they are appropriate within the wider landscape.

4. **Objective:** To 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.

- **Opportunities:**
  - Existing open habitats, including upland heathland in the upper areas of Glentress and Cardrona forests provide opportunities for better linkage and integration with the forest.
  - Many riparian broadleaf areas already established with a good seed source for expansion.
  - Potential to expand areas of minimum intervention and natural reserve.
- **Constraints:**
  - Conifer and broadleaf natural regeneration, in particular Sitka spruce, is likely to in areas to be managed as open or broadleaf/open. This is particularly true of harvested areas where there is a plentiful seed source and ground has been disturbed by forest machinery.
  - Deer browsing of young broadleaves.
  - Impacts of tree diseases and pests, as well as storm damage, on mature stands of trees that provide habitat for raptors, red squirrels and other species.
- **Concept:**

- Carefully target areas to be 'managed open' habitat, designating other open habitat as 'successional open', accepting a degree of tree and other vegetation regeneration.
- Where there is a good seed source of native broadleaves such as birch and willow, this will be favoured for native woodland expansion, in particular in riparian corridors, enriching with other suitable species as appropriate. This is likely to be more resilient to deer browsing, especially if prolific enough.
- Target new native broadleaf planting as far as possible where it can be protected from excessive deer browsing.

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)	Yes	Watercourses are tributaries of the River Tweed SSSI
National Nature Reserve (NNR)	No	
Special Protection Area (SPA)	No	
Special Area of Conservation (SAC)	Yes	Watercourses are tributaries of the River Tweed SAC
World Heritage Site (WHS)	No	
Scheduled Monument (SM)	Yes	SM2784 Cardrona Tower SM2954 Castle Knowe (fort) SM3028 Janet's Brae (fort) SM3029 Janet's Brae (fort) SM3131 Green Hill (settlement) SM3040 Glenbield (fort) SM3667 Eshiels (Roman camps) SM8674 Shieldgreen Tower
National Scenic Area (NSA)	Yes	On the boundary of Upper Tweeddale NSA
National Park (NP)	No	
Deep peat soil (>50 cm thickness)	No	
Tree Preservation Order (TPO)	No	
Biosphere reserve	No	
Local Landscape Area	Yes	Tweed Valley and Tweedsmuir Uplands LLAs
Ancient woodland	Yes	Janet's Brae LEPO
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**).

Table 3

Clearfell Summary by Phase and Coupe Number			
Phase	**Coupe Number**	**Fell Year**	**Gross Area (ha)**
Glentress			
1	78016	2025	15.8
1	78029	2024	20.6
1	78030	2026	32.7
1	78042	2024	25.6
1	78044	2024	34.1
1	78048	2024	4.8
1	78051	2024	21.7
1	78059	2025	4.0
1	78061	2024	1.3
1	78079	2024	14.3
Cardrona			
1	77015	2024	1.7
1	77038	2024	6.9
1	77043	2024	21.0
1	77056	2024	26.7
1	77064	2025	15.2
Cademuir			
1	80020	2025	10.5
1	80030	2027	3.8
Total Phase 1			**260.7**
Glentress			
2	78004	2028	6.5
2	78006	2030	11.0
2	78111	2028	5.3
2	78014	2028	5.8
2	78024	2028	17.6
2	78033	2031	30.9
2	78035	2028	27.1
2	78047	2030	36.6
2	78049	2032	3.5
2	78052	2032	7.8
2	78062	2032	1.4
2	78066	2031	1.8
2	78070	2031	2.3
2	78081	2032	4.9

Clearfell Summary by Phase and Coupe Number			
Cardrona			
2	77024	2028	1.5
2	77025	2028	2.3
2	77037	2032	22.2
2	77046	2032	15.6
2	77054	2030	33.8
2	77057	2032	17.2
2	77061	2029	36.7
Cademuir			
2	80016	2032	10.1
Total Phase 2			**301.9**
		Total	**562.6**

Clearfell by Species

Table 4

Coupe Number	Fell Year	SS	NS	DF	Larch	SP	LP	NF/ GF	Coupe Total
Net Area (ha) by Main Species >20% (or MC, MB)									
Glentress - Phase 1									
78016	2025	13.0			1.4	0.3		1.0	15.7
78029	2024	11.7	6.3	2.1	0.1				20.2
78030	2026	23.2			0.5		5.2	0.3	29.2
78042	2024	17.7	5.0	2.1	0.3				25.1
78044	2024	29.9							29.9
78048	2024	6.8							6.8
78051	2024	9.0		0.4	7.7	1.3			18.4
78059	2025				3.9				3.9
78061	2024	1.0							1.0
78079	2024	9.0			0.7				9.7
Cardrona - Phase 1									
77015	2024	1.2				0.2			1.4
77038	2024	2.1	0.9		3.9				6.9
77043	2024	7.4	0.9		5.3	4.0			17.6
77056	2024	11.6			7.1		6.1		24.8
77064	2025	13.0			1.9				14.9
Cademuir - Phase 1									
80020	2025	2.3		2.6	4.1	1.3			10.3
80030	2027	0.1	0.1	1.8	1.9				3.9

Glentress - Phase 2									
78004	2028	3.3			2.9				6.2
78111	2028		0.2		4.9	0.2			5.3
78006	2030	10.6			0.3				10.9
78014	2028	2.7			2.9				5.6
78024	2028	16.0		0.3	0.1				16.4
78033	2031	22.5			3.6			0.3	26.4
78035	2028	22.6		1.3	2.6				26.5
78047	2030	25.9	1.3	0.7	2.5	1.9		1.8	34.1
78049	2032	6.8							6.8
78052	2032	2.1		4.8	0.3				7.2
78062	2032	1.4							1.4
78066	2031	1.0	0.1						1.1
78070	2031	1.6							1.6
78081	2032	2.6			1.1	1.1			4.8
Cardrona - Phase 2									
77024	2028	1.4							1.4
77025	2028	1.8			0.1	0.2			2.1
77037	2032	2.5			15.1				17.6
77046	2032	8.3	0.3	0.3	3.9	0.7			13.5
77054	2030	30.1							30.1
77057	2032	12.1		0.2	2.8		1.7		16.8
77061	2028	27.3			9.2				
Cademuir – Phase 2									
80016	2032				10.0				10.0
Plan Area Total		361.6	15.1	16.6	101.1	11.2	13.0	3.4	485.5

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			**2028 ha**							
Felling	Phase 1	%	Phase 2	%	Phase 3	%	Phase 4	%	Long Term Retention	%
Net Area (ha)	261	13	302	15	263	13	166	8	66	3

3.3 Thinning

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

This covers an area of 792 ha.

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 Mean Annual Increment (MAI), or Yield Class (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. Where trees need to be removed to accommodate facilities to support approved thinning and CCF, including stacking areas, ramps and access racks within adjacent management coupes, this should ideally be identified in thinning maps and thinning plans as part of the LMP submission. Where this is not the case, additional felling necessary for reasonable infrastructure can be agreed by exchange of email. 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 (approximately 3 lorry loads of timber) 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**).

Table 6

Restocking							
Phase[1]	Coupe Number	Gross Area (ha)	Proposed Restock Year	Species	Method[2]	Minimum stocking Density (s/ha)	Note[3]
Glentress							
F	78005	8.4	2023/24	DF/NS SP/SBI	R R	2500 2500	
F	78020	13.3	2023/24	SS/SP	R/NR	2500	Prolific NR of SS so SP may not be needed
F	78023	6.8	2023/24	DF/NS DF/SS MB/open	R R NR/P	2500 2500 1600	 50% open
1	78016	15.8	2026/27	SP/NS/SBI SS/NF SS MB/open	R R R	2500 2500 2500 1600	

Restocking							
							50% open
1	78029	20.6	2025/26	DF/NS/NF MB/open	R R	2500 1600	50% open
1	78030	32.7	2027/28	SS/SP MB/open	R R	2500 1600	50% open
1	78042	25.6	2025/26	DF/NS SS/SP MB/open	R R R	2500 2500 1600	50% open
1	78044	34.1	2025/26	SP/SBI SS/DF MB/open	R R R	2500 2500 1600	
1	78048	4.8	2025/26	MB/open	NR/R	1600	20% open
1	78051	21.7	2025/26	DF/NS/NF SS/SP	R R	2500 2500	
1	78059	4.0	2026/27	DF/NS/NF	R	2500	
1	78061	1.3	2025/26	MB/open	NR/R	1600	20% open
1	78079	14.3	2025/26	SP/SOK/MB MB	R R	2500 1600	
2	78004	6.5	2029/30	SS/NF MB/open	R R	2500 1600	50% open
2	78111	5.3	2029/30	SP/SBI MB/MC/open	R NR/R	2500 1600	50% open
2	78014	5.8	2029/30	DF/NS/NF MB/open	R R	2500 1600	50% open
2	78006	11.0	2031/32	DF/NS SS/NF	R R	2500 2500	
2	78024	17.6	2029/30	DF/SS MB/open	R R	2500 1600	50% open
2	78033	30.9	2032/33	DF/NS SP/SBI SS/DF MB/open	R R R R	2500 2500 2500 1600	

Restocking							
							50% open
2	78035	27.1	2029/30	DF/NS MB/open	R R	2500 1600	50% open
2	78047	36.6	2032/33	SS/SP DF/NS MB/open	R R R	2500 2500 1600	50% open
2	78049	3.5	2033/34	MB/open	NR/R	1600	20% open
2	78052	7.8	2033/34	DF/MC/MC MB/open	R/NR NR/open	2500 1600	50:40:10 20% open
2	78062	1.4	2033/34	MB/open	R/NR	1600	20% open
2	78066	1.8	2029/30	MB/open	NR/R	1600	20% open
2	78070	2.3	2029/30	MB/open	NR/R	1600	20% open
2	78081	4.9	2033/34	SP/SOK	R	2500/3000	
Cardrona							
F	77053	12.2	2023/24	DF/SS MB/open	R R	2500 1600	50% open
1	77015	1.7	2025/26	SP/SBI	R	2500	
1	77038	6.9	2025/26	BE/MC MB/open	R R	6000/3000	
1	77043	21.0	2025/26	DF/NS/NF MB/open	R R	2500 1600	50% open
1	77056	26.7	2025/26	SS/SP	R	2500	
1	77064	15.2	2026/27	SS/SP MB/open	R R	2500 1600	50% open
2	77024	1.5	2029/30	MB/open	R	1600	20% open
2	77025	2.3	2029/30	DF/NS/NF MB/open	R R	2500 1600	50% open
2	77037	22.2	2033/34	DF/NS/NF SP/BI MB/open	R R R	2500 2500 1600	

Restocking							
							50% open
2	77046	15.6	2033/34	NF/DF SP/BI MB/open	R R R	2500 2500 1600	 50% open
2	77054	33.8	2031/32	SS/SP SS/NF SP/BI NS/NF MB/open	R R R R R	2500 2500 2500 2500 1600	 50% open
2	77057	17.2	2033/34	SS/SP MB/open	R R	2500 1600	 50% open
2	77061	36.7	2029/30	SS/SP	R	2500	
Cademuir							
1	80020	10.5	2026/27	DF/NS SS/SP			
1	80030	3.8	2028/29	DF/NS SS/SP MB/open	R R R	2500 2500 1600	 50% open
2	80016	10.1	2033/34				

Total	633.2

1. Recently felled awaiting restock (F) / Phase 1 (1) / Phase 2 (2)
2. Replant (R) / natural regeneration (NR) / plant alternative area (ALT) / no restocking (None)
3. The % open in the Notes column refers to % open in MB/open mix – not % open in the whole coupe.

Proposed restock years are indicative only and may change depending on exact felling year and other factors.
More information on restocking of each coupe is provided in 4.1.1 below.
If the Restock or natural regeneration should fail to reach 1600 per hectare (Native Broadleaves) or 2500 stems per hectare (sph) (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. Where this is not possible (e.g., due to windblow risk), the planned approach to achieving height separation between adjacent coupes is outlined in section 4.1 – Clear felling.

Table 7

Plan area by species						
Species	**Current Area (ha)**	**%**	**Year 10 Area (ha)**	**%**	**Year 20 Area (ha)**	**%**
Sitka spruce	982.7	48.5	735.3	36.2	604.2	29.8
Other conifers	680.2	33.5	743	36.6	855.9	42.2
Native broadleaves	57.7	2.8	138.5	6.8	214	10.6
Other broadleaves	19.5	1.0	19.4	1.0	16.7	0.8
Fallow	70.6	3.5	142.7	7.0	61.7	3.0
Open ground	217.3	10.7	249.2	12.3	275.5	13.6
Total	**2028**	**100**	**2028**	**100**	**2028**	**100**

Chart 1

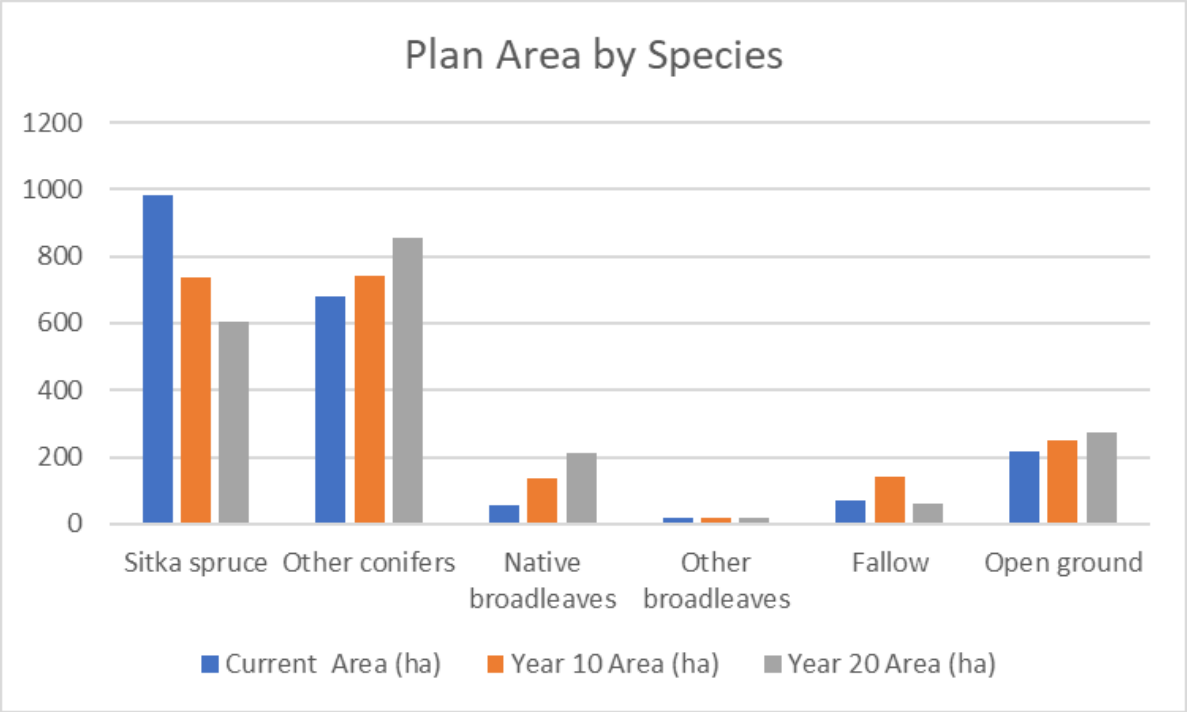


Table 7 and Chart 1 show a clear decrease in the proportion of Sita spruce over the next 10 and 20 years, with a corresponding increase in other conifers, native broadleaves and open ground. Other (non-native) broadleaves continue to occupy a small area of the forest. Fallow ground will initially increase as the pace and scale of clearfelling increases over the 10 years of this plan, due to the need to clear windblow, pre-emptively fell larch and restructure the forest. There has been relatively little clearfelling in the last 10 years. The amount of fallow ground will drop again by Year 20, as the pace of forest re-structuring steadies.

Table 8

Plan area by Age						
Age Class (years)	**Current Area (ha)**	**%**	**Year 10 Area (ha)**	**%**	**Year 20 Area (ha)**	**%**
0 – 10	99.1	5.7	581.5	35.5	523.8	31.0
11 – 20	68.2	3.9	136.9	8.4	508.6	30.1
21 – 40	361.5	20.8	97.4	6.0	200.0	11.8
41 – 60	686.0	39.4	465.7	28.5	109.6	6.5
60+	524.5	30.2	354.4	21.7	348.6	20.6
Total		**100**		**100**		**100**

Chart 2

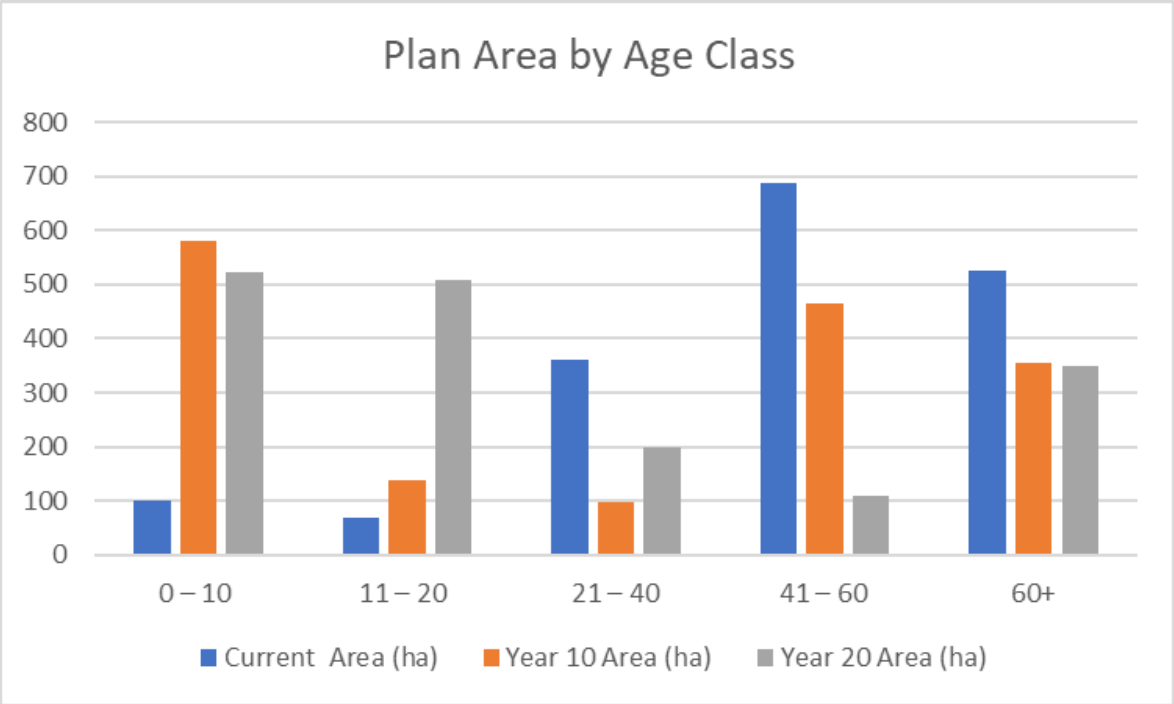


Table 8 and Chart 2 show a significant increase in young forest by year 10 as a result in the increase in clearfelling and restocking. There is a corresponding significant decrease in trees of 21-40 and 41-60 years old. This is due to the age of trees being felled to clear windblow, pre-emptively remove larch, and re-structure the forest after a period of reduced felling activity. By year 20 there is a correspondingly high proportion of 11-20 year old trees, but less of a drop in trees under 10 years old, as the pace of restructuring slows again. By year 20 the proportion of 41-60 year old trees drops significantly again, as further forest re-structuring focuses on this age group. After an initial drop in 60+ year old trees at year 10, the area of these older trees steadies due to retention of long-term retentions, areas of natural reserve and most significantly the substantial area being managed as continuous cover.

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 (m)**	**Year**	**Operation**
1	Glentress T20	700	2023	New road construction (Forest Holidays Bypass) [1]
1	Glentress T1e	200	2024	New forest road construction
1	Glentress T1c	2610	2024	Upgrade (widen and re-surface)[2]
1	Glentress T7	2830	2024	Upgrade (rebuild)[2]
1	Glentress T14	1460	2024	Upgrade (rebuild)[2]
1	Glentress T44	300	2024	Upgrade[2]
1	Venlaw T40	960	2024	Upgrade (rebuild)[2]
1	Cardrona T112a	850	2024	New road construction
2	Glentress T14	870	2029	Upgrade (rebuild)[2]
2	Glentress T19	1400	2027	Upgrade (rebuild)[2]
2	Glentress T21	940	2026	Upgrade (rebuild)[2]

Notes:
1. Glentress T20 was required ahead of the new LMP approval, so a separate Felling Licence was requested and approved by Scottish Forestry in December 2022 to fell the new road corridor. EIA determination was also sought, and confirmation received from Scottish Forestry that EIA was not required.
2. All forest road upgrades and rebuilds may require roadside felling up to 5m either side of the road.

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	Yes	
Forestry quarries	No	

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

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

Phase 1
Glentress
78016 Upper Shieldgreen
P1953 Sitka spruce/hybrid larch/noble fir, P1937 Sitka spruce, P1938 Sitka spruce, P1938 Scots pine and P1964 Sitka spruce/hybrid larch. Consideration should be given to leaving some of the older conifers as future old growth and deadwood. Soils are largely brown earth (typical/upland), edging into typical ironpan on the upper slope, and with a little surface water gley in the southern riparian area. Slopes are mostly steep (35 – 45%), so assisted harvesting is likely to be required. There is good forest road access from T18 and T16b, which will require some roads maintenance (grade and roll).

Other planning considerations include the 7 Stanes Black mountain bike route that contours through most of the coupe, and other informal mountain bike routes. The Glentress Tower footpath goes along the upper coupe boundary and through the southeastern part of the coupe. This part of the forest has several raptor nesting sites that will influence forest operations.

To be restocked primarily with Scots pine/Norway spruce/birch in group mixture. There will inevitably be naturally regenerated Sitka spruce as part of the mixture, but this should be minimized as far as reasonably practicable. Riparian areas to be native broadleaves, planted if insufficient seed source in the surrounding area. On the northern boundary, these may be under a reasonably open mature conifer overstory.

78029 Soonhope Burn

P1975/84/92 Sitka spruce/P1984 Japanese larch/P1975 Norway spruce, P1983 Norway spruce/P1992 Sitka spruce and P1975 Sitka spruce. Soils are predominantly typical brown earth, with some surface water gley associated with the riparian zone of the Soonhope burn. Slopes are moderately steep (> 35%), with some steeper sections (up to 50%), so assisted harvesting may be required. DAMS score a modest 12-14, but Storm Arwen in November 2021 resulted in nearly all this coupe being windblown, with a high proportion of snapped trees. There is good forest road access. Other considerations include a well-used Public Right of Way/Core Path along the southern coupe boundary, and adjacent private forestry that also has some windblow.

To be restocked with Douglas fir/Norway spruce/Noble fir, with native broadleaves in the riparian zone between the forest roads. Future management is likely to be by clearfell and restock, but CCF management should be considered if thinning on steeper ground becomes viable again.

78030 Caresman Hill

Fell Year 2025/26 (32.7 ha)

Mainly unthinned P1976 Sitka spruce with a small proportion of P1976 Lodgepole pine, Noble fir and hybrid larch. There are some larch patches of windblow, mainly along the eastern coupe boundary. Soils are predominantly ironpan or podzolic intergrade ironpan, but with large patches of brown earth and peaty surface water gley, and some surface water gley and ranker. Slopes are generally moderate, but with some steeper areas of 35-40% gradient. This is an exposed site with DAMS scores of 20-22. The main forest road access on the western coupe boundary will require upgrading. There is also limited access from the southeast corner of the coupe. Other planning considerations include the black mountain bike route in the northern part of the coupe, and a black grouse conservation area immediately to the north of the coupe.

To be restocked with Sitka spruce/Scots pine (the latter as a nurse species), and native broadleaves in the riparian area.

78042 East Kirn Law

Fell year 2023/24 (25.6 ha)

This coupe includes approximately 7 hectares of windblow as a result of Storm Arwen in November 2021. Predominantly P1978 Sitka spruce with some P1977 Douglas fir and Japanese larch, and an area of P1982 Sitka spruce, above the forest road, with P1977 Norway spruce below the road. Soils are brown earth on the mid slope, graduating to ironpan and

podzol on the upper slope, with surface water gley in the riparian area of the lower slope. Slopes are moderately steep above the road (35 – 45%), less steep below the road (approx. 35%). Harvesting facilities will be needed for access from the forest road, and assisted harvesting systems may be required. Other site planning considerations include badger setts and unscheduled archaeological features within the coupe, and the 7 Stanes Black mountain bike route at the very top (western boundary) of the coupe.

To be restocked with Douglas fir/Norway spruce, Sitka spruce/Scots pine (the latter as a nurse species if required), and 50% native broadleaves in the riparian area, and further up the slope on the southern boundary, to tie in with broadleaf new planting in Nether Horsburgh.

78044 Green Hill

Fell year 2022/23 (34.4 ha)

A coupe designed to incorporate a significant area (approx. 14 ha) of windblow as a result of Storm Arwen in November 2021. Mainly P1976 Sitka spruce, with some P1977 and P1982 Sitka spruce. Soils are predominantly brown earth but with some ironpan and peaty surface water gley. This is a steep coupe with slopes generally greater than 35% and some slopes in excess of 50%, so assisted harvesting is likely to be needed. There is good forest road access. Planning considerations include the operational quarry at Green Hill, and the Blue and Black 7 Stanes mountain bike routes, the former on the forest road above the coupe, the latter within the coupe at the northern and southern ends.

To be restocked with Sitka spruce/Douglas fir on Green Hill, Scots pine/silver birch in the northern part of the coupe, and 50% native broadleaves in riparian areas.

78048 Upper Cramb Burn

Fell year 2023/24 (4.8 ha)

Previously thinned P1969 Sitka spruce on surface water gleys in the riparian zone of the Cramb Burn. Slopes are of modest gradient, generally less than 30%, and there is easy access from the forest road. The main planning consideration is the high recreational use of the area, with the red mountain bike route running close to the coupe.

This small coupe was previously part of the CCF management area, and small areas were felled in 2006, and restocked with broadleaves. However, it is now proposed to fell this riparian corridor in two small felling coupes to accelerate riparian habitat development.

To be restocked with native riparian broadleaf species compatible with NVC woodland W4 (birch woodland with purple moor grass), including downy birch, goat willow and alder. This

area forms an important part of the riparian habitat network within the forest, as well as providing an attractive setting for the mountain bike trail.

78051 East Kirn Law

Fell Year 2023/24 (22.2 ha)

This coupe includes two stands of P1981 hybrid larch (one of these unthinned), a stand of unthinned P1984 hybrid larch and a stand of thinned 1927 European larch, as well as P1984 hybrid larch in mixture with very poor P1984 Scots pine, and P1969 European larch in mixture with P1969 Sitka spruce. It also includes Sitka spruce of varying planting years from P1951 to P1990, and a stand of P1959 Scots pine. Soils are broadly typical brown earth on the lower slope and typical podzol on the upper slope, but with an irregular boundary between them. There are also some bands of surface water gley pushing up the slope from the valley bottom. Slopes are moderately steep, with 35-40% gradient in places, but should be accessible for harvester-forwarder operations. There is good forest road access.

Other planning considerations include the official and unofficial mountain bike routes that follow the upper and lower forest roads and descend through the trees. As part of the Glentress Masterplan, being implemented 2022-23, the official trails will be re-routed out of the forest from the end of the forest roads, but unofficial trails are still likely to be used.

This coupe was previously part of the Glentress Core CCF area, with thinning and some group felling last being carried out in 2016. Following a review of the CCF Plan and taking into consideration the presence of larch vulnerable to infection by *Phytophthora ramorum*, it was decided to revert to clearfelling and restocking this area.

To be restocked with Sitka spruce/Scots pine on the upper slopes and Douglas fir/mixed conifers/broadleaves on the lower slopes. There will inevitably be significant natural regeneration of Sitka spruce in particular, and quick restocking of other species along with respacing of Sitka will be required to avoid it becoming dominant on the lower slopes where we are trying to achieve a more diverse species mixture. On the upper slopes, including where Sitka spruce natural regeneration is already prevalent in the previously felled (and windblown) areas, we may have to focus more on re-spacing this to promote a healthier, more stable future crop.

78059 Falla Brae

Fell Year 2024/25 (4.0 ha)

P1974 Japanese larch on typical brown earth. This is an area of high recreational use, with mountain bike and walking trails running through or close to the site, as well as Go Ape high ropes course immediately to the east of it. Other planning considerations include presence of raptors, red squirrels and badgers in or close to the coupe. The main aim here is to pre-emptively remove potentially vulnerable larch from the high recreation area, in line with FLS Larch Strategy.

To be restocked with Scots pine and silver birch.

78061 Glentress Burn

Fell Year 2023/24 (1.3 ha)

P1976 Sitka spruce on mainly surface water gley, on fairly level ground close to the Glentress Burn, and consequently a wet site. The other planning considerations are the Blue mountain bike trail running through the site and recreational use of the forest roads either side of the coupe. The forest road to the west of the coupe will be the main access road for the proposed Forest Holidays cabin site. Felling this coupe will facilitate construction of a new forest road link, and further development of the riparian habitat corridor along Glentress Burn.

As above, to be restocked with native riparian broadleaf species compatible with NVC woodland W4 (birch woodland with purple moor grass), including downy birch, goat willow and alder. This area forms an important part of the riparian habitat network within the forest, as well as providing an attractive recreational setting.

78079 Smithfield

Fell Year 2023/24 (11.8 ha)

P1970s Sitka spruce and European larch, including 1 ha windblow at the northern end of the coupe (as a result of Storm Arwen in December 2021), and P1984 Sitka spruce. 1 ha P1970 mixed broadleaves in the coupe to be left. Mature, well-spaced broadleaves and conifers between the forest road and forest boundary on the western and eastern coupe boundaries are not part of this coupe. Soils are brown earth on moderate slopes. Other planning considerations include the Green mountain bike trail that winds its way through the coupe, and Smithfield Fort, a heritage feature on top of the hill.

To be restocked with Scots pine, oak and birch (the latter most likely by natural regeneration). Some natural regeneration of other species will be accepted. It is intended that this coupe will be managed as continuous cover in the future.

Cardrona

77015 Cardrona Quarry

Fell Year 2023/24 (1.7 ha)
Windblown P1980 and P1988 Sitka spruce on brown earth soil. Easy access from the forest road and easy gradients. Planning considerations include waymarked forest trails through the coupe and on the forest road.

To be restocked with Scots pine and silver birch.

77038 Girley Wood
Fell Year 2022/23 (6.9 ha)
P1937 European larch, P1937 Norway spruce and P1935 Sitka spruce on typical brown earth soil. Well thinned, this area was to have been managed as continuous cover, but as a result of Storm Arwen windblow will now be clearfelled and restocked. There are some steeper slopes (<35%) but most of the site is within the capability of harvester-forwarder operation. There is good access from the forest road above the site. The clearfell operation will be combined with removing large blown trees between this coupe and above the public road, clearing the informal but well-used path that runs along the lower coupe boundary. This may require a separate operation due to the size of trees (possible niche marketing opportunity) and more difficult access. Other considerations include raptor nesting sites in and close to the coupe, and a core path on the main forest road.

To be restocked with productive broadleaves and conifers. Beech and shade tolerant conifers are proposed, but other options may be considered when carrying out detailed site planning. This is a good site, capable of growing a wider range of species.

77043 Old Howford
Fell Year 2022/23 (21.0 ha)
A very mixed coupe, with more than 50% windblown and snapped trees as a result of Storm Arwen in November 2021. Windblown and snapped trees include P1935, P1972 and P1984 Sitka spruce, P1935 Scots pine and P1935 Scots pine/Sitka spruce/Norway spruce. In addition, some P1985 hybrid larch will be felled. Soils are typical brown earth, and there are steep slopes (up to 50% in places). Forest road access is good, but assisting harvesting systems are likely to be required to cope with the steep slopes. Other constraints include raptor nesting sites in the area, the core path on the forest road, and a private water supply on the southern edge of Wallacehill Wood.

To be restocked with broadleaves below the lower forest road and in the riparian zone, and Douglas fir/Norway spruce/ Noble fir in the rest of the coupe. The site is capable of growing

a wide range of species, and other shade tolerant confers may be considered when carrying out detailed site planning.

77056 Craigie Side
Fell year 2022/23 (26.7 ha)
P1962 hybrid larch/Lodgepole pine/Sitka spruce, P1961 Sitka spruce/Lodgepole pine, P1961 Sitka spruce, P1951 Sitka spruce, P1961 Lodgepole pine and P1962 hybrid larch. Soils are predominantly podzolic intergrade ironpan, with some brown earth on the lower western slope. Slopes are mostly of moderate gradient (<30%), with the exception of a very steep gully on the southern coupe boundary. Main operational access is from the forest road above the coupe. Ideally the Scots pine between the coupe and lower forest road to the west will be thinned at the same time, and access may also be available to the lower road.

To be restocked with Sitka spruce/Scots pine (the latter as a nurse species). Natural regen of Sitka spruce is likely, which may reduce the restocking required and a nurse species may be unnecessary as podzols in this part of the Region are usually of a higher in nutrients than typical podzols.

77064 Yellow Mire
Fell year 2023/24 (15.2 ha)
P1965 Sitka spruce/hybrid larch on podzolic intergrade ironpan soil. Part of the coupe was previously thinned. Slopes are of moderate gradient (<35%) so normal harvester/forwarder operation expected.

To be restocked with Sitka spruce/Scots pine (latter as nurse species), and native broadleaves along the riparian corridor.

Cademuir
80020 East Cademuir Hill
Fell year 2023/24 (10.5 ha)
A varied coupe with P1951/52 Japanese larch, P1952 Douglas fir/Norway spruce and P1952 Sitka spruce/Scots pine. Soils are predominantly brown earth with podzol on the upper slope. Most of the site is moderately steep (slope > 40%), so assisted harvesting may be required. There is direct access from the main forest road, which is part of a popular walking trail. Other constraints include badger activity across the site.

This clearfell provides the opportunity to address landscape issues created as a result of the felling of Cademuir Hill, as well as removing some larch from Cademuir (mitigation against the threat of *Phytophthora ramorum*).

To be restocked with Douglas fir/Norway spruce/silver birch on the brown earth, and Sitka spruce/Scots pine on the poorer podzol soils.

80030 The Whaum
Fell year 2023/24 (3.8 ha)
P1952 Japanese larch and P1952 Douglas fir/Norway spruce/Sitka spruce. Soils are brown earth on the lower slope and podzol on the upper slope, below the road. Most of the site is moderately steep (slope > 35%), so assisted harvesting may be required. Direct access from the forest road above the coupe, which is part of a popular walking trail.

This clearfell provides the opportunity to reduce the amount of larch in Cademuir (mitigation against the threat of *Phytophthora ramorum*)

To be restocked with Douglas fir/Norway spruce/silver birch on the brown earth and Sitka spruce/Scots pine on the podzol soils. Native broadleaves to be planted along the forest boundary, linking with existing broadleaves.

Phase 2

Glentress

78004 Lower Tower Rig
Fell year 2029/30 (6.5 ha)
P1936, P1957 and P1982 Sitka spruce and P1936 Japanese larch. Soils are mainly brown earth, with surface water gley in the riparian area at northern end of the coupe. The northern half of the coupe is very steep, with slopes in excess of 50% in places, and assisted harvesting systems will be required. Forest road access is good, although harvesting facilities may be required to facilitate steep ground working. Other planning considerations include a high level of raptor activity in this part of the forest, and the 7 Stanes Black mountain bike route along the forest road below the coupe.

To be restocked with Sitka spruce/Noble fir, and naïve broadleaves in the riparian area.

78006 Makeness Hill
Fell Year 2029/30 (11.0 ha)
P1954, P1969 and P1982 Sitka spruce with a small pocket of P54 hybrid larch. Soils are largely brown earth, with some ironpan at the northern end of the coupe, and surface water gley in the riparian area along the eastern coupe boundary. A fairly steep coupe (mostly 30 - 40% but steeper in sections), with good forest road access.

To be restocked with Douglas fir/Norway spruce on lower slopes and Sitka spruce/Noble fir on upper slopes.

78111 Upper Shieldgreen
Fell year 2029/30 (5.3 ha)
P1937/38 Japanese and European larch, on mainly brown earth soils, with surface water gley in the riparian areas. Variable slopes with some very steep gradients in excess of 50%, that are likely to require skyline harvesting. The lower forest road will require upgrading ahead of felling. Other site planning considerations include a high level of raptor activity in this part of the forest, the 7 Stanes Black MTB route along the forest road on the northern coupe boundary, and various unofficial MTB trails through the site.

This coupe includes four separate areas to be included in an expanded Natural Reserve. Due to the threat from *Phytophthora ramorum*, and in line with FLS Larch Strategy, this larch on difficult, steep ground will be pre-emptively felled.

To be restocked with native broadleaves in the riparian area on the lower slopes, and Scots pine/birch on the upper slope.

78014 Lower Shieldgreen
Fell year 2029/30 (5.8 ha)
P1937 and P1954 Japanese larch, P1985 hybrid larch, and P1968, P1982 and P1985 Sitka spruce. Soils are mainly brown earth, with some surface water gley at the southern end of the coupe. Variable slopes, but increasingly steeper towards the northern end of the coupe, including gradients in excess of 50%, so assisted harvesting is likely to be required for at least part of the site. Good access from the upper forest road on the western coupe boundary, but if needed, the lower road will require upgrading (also required for 78111). Other planning considerations include the Glentress Tower trail through the coupe.

To be restocked with Douglas fir/Norway spruce/Noble fir, although other shade tolerant conifers may be considered with the Douglas.

78024 Kittlegairy Burn
Fell year 2027/28 (17.6 ha)
P1967, P1970, P1986, P1988 and P1993 Sitka spruce and P1954 Douglas fir. Soils are mainly brown earth, with some surface water gley in riparian areas on the northern and southern coupe boundaries. Slopes are mostly moderate (<35%), with some steeper gradients on the lower slopes (<50%) where assisted harvesting may be needed. Good forest road access on the western and eastern coupe boundaries, the middle road would require upgrading if needed. Other planning considerations include Glentress Tower trail on the upper forest road on the eastern coupe boundary, and unofficial MTB trails through the coupe.

To be restocked with Douglas fir/Sitka spruce, and native broadleaves in riparian areas.

78033 Leithen Door Hill
Fell Year 2030/31 (30.9 ha)
Mainly P1977 Sitka spruce, but with some very visible pockets of P1976 and P1981 Japanese larch. Larch removal is the main reason for bringing the coupe into Phase 2 of the Felling Plan. Soils are predominantly ericaceous brown earth, but with large patches of stony brown earth and scree, and podzolic ranker at the top of the hill. Most of the coupe is very steep, especially below the forest road, with slopes above 40%, and above 50% in places, so will most likely require skyline winch working. Other planning considerations include the Black mountain bike trail through the top and bottom of the coupe, and along the forest road.

To be restocked with Sitka spruce/Douglas fir above the road, the Douglas fir on the lower slope closer to the road. Below the road to be restocked with Douglas fir/Norway spruce and Scots pine/birch/open, with native broadleaves/open in the riparian areas.

78035 Glenruve Shank
Fell year 2027/28 (27.1 ha)
Mainly P1977 Sitka spruce with pockets of P1977 Douglas fir and P1981 Japanese larch. Soils are predominantly ericaceous brown earth, with typical brown earth/surface water gley in the riparian areas, and transition to typical podzol at the top of the slope. The Slade Burn flows along the lower coupe boundary, with the Glenbeg and Glenruve Cleuchs marking the northern and southern boundaries respectively. Most of the coupe is steep with slopes over 40%, so will involve steep ground working, possibly assisted harvesting or even skyline winch work in places. Other planning considerations include the Black mountain bike trail which, although not actually in the coupe, runs along the opposite side of the Slade Burn.

To be restocked with Douglas fir/Norway spruce and native broadleaves/open in the riparian areas.

78047 Katie's Hass

Fell year 2030/31 (36.6 ha)

A diverse range of species and ages including P1958, P1976, P1978, and P1984 Sitka spruce, P1958 European larch, P1984 Scots pine, P1958 Grand fir, Douglas fir and Norway spruce. There is a mosaic of soils, with podzol dominating the western slopes and ironpan on the main ridge, but there are patches of brown earth, peaty surface water gley and podzolic ranker. Much of the coupe has been thinned in the past, to varying degrees. Slopes on the main ridge are generally of low to moderate gradient, but the eastern slopes of the coupe are steeper, typically between 40% and 45%, so steep ground harvesting is likely to be involved. Other planning considerations include mountain bike trails through the coupe and on forest roads adjacent to it.

The coupe incorporates a mini coupe clearfelled in 2016, part of a more extensive area being transformed to continuous cover forestry, and now with substantial (mainly) Sitka spruce natural regeneration. The western half of the coupe was previously included in a wider area to be managed as continuous cover forest, with small scale clearfelling along the ridge north from Kirn Law. However, the first small scale clearfelling led to some windblow, and the maturity of the crop, lack of regular thinning and moderate exposure is considered to increase the risk of more extensive windblow, so will be felled as part of the bigger coupe.

To be restocked mainly with Sitka spruce/Scots pine, although the pine may not be necessary as a nurse species if there is abundant Sitka natural regeneration. Below the road on the eastern side of the coupe to be restocked with Douglas fir/Norway spruce, and native broadleaves/open in the riparian zone of Little Hope Cleuch.

78049 Lower Cramb Burn

Fell year 2-31/32

P1969 and P1976 Sitka spruce on surface water gley close to the Cramb Burn. Slopes of modest gradient, so readily accessible for harvester/forwarder harvesting. Other planning considerations include the Red & Black mountain bike trail descending the coupe.

To be restocked with native riparian broadleaf species compatible with NVC woodland W4 (birch woodland with purple moor grass), including downy birch, goat willow and alder. This area forms an important part of the riparian habitat network within the forest, as well as providing an attractive setting for the mountain bike trail.

78062 Glentress Burn

Fell Year 2031/32 (1.4 ha)

P1976 Sitka spruce on surface water gley and brown earth, on fairly level ground close to the Glentress Burn, and consequently a wet site. The other planning considerations are the Blue

mountain bike trail running through the site and recreational use of the forest roads either side of the coupe.

To be restocked with native riparian broadleaf species compatible with NVC woodland W4 (birch woodland with purple moor grass), including downy birch, goat willow and alder. This area forms an important part of the riparian habitat network within the forest, as well as providing an attractive recreational setting.

78066 & 78070 Upper Glentress Burn
Fell Year 2031/32 (1.8 & 2.3 ha)
P1985 and P1975 Sitka spruce, P1975 Sitka spruce/Douglas fir/Norway spruce, P1960 Sitka spruce/Norway spruce/Douglas fir and intruded conifers within broadleaved areas. Soils are surface water gleys in the riparian area, transitioning to brown earth below the forest road. Access from the forest road is steep in places, but harvester/forwarder harvesting should be possible, perhaps with some manual felling.

Broadleaves are present in the riparian zone of upper Glentress Burn, so enrichment planting should focus on suitable native species not already present, compatible with NVC woodland W4 (birch woodland with purple moor grass), including downy birch, goat willow and alder. This area forms an important part of the riparian habitat network within the forest.

78081 Janet's Brae
Fell Year 2031/32 (4.9 ha ha)
P1972 Sitka spruce/P1970 European larch and P1984 Scots pine/hybrid larch on typical brown earth soil. Slopes are of moderate gradient, mostly less than 35%, so workable with harvester/forwarder. There is good forest road access along the forest road from the north, along the western coupe boundary. By Phase 2 of this plan, Forest Holidays are likely to be up and running, so operational access and timber haulage will be through the cabin site. Other planning considerations include Janet's Brae hill fort and settlement on the southern coupe boundary (a scheduled monument), the Green mountain bike trail through the coupe, and the popular Janet's Brae access route into Glentress Forest. When carrying out detailed site planning, consideration should be given to removing the larch while retaining the Scots pine, if the pine is considered sufficiently stable.

To be restocked with Scots pine, oak and birch (the latter most likely by natural regeneration). Some natural regeneration of other species will be accepted. It is intended that this coupe will be managed as continuous cover in the future.

CARDRONA

77024 Cardrona Tower
Fell year 2027/28 (1.5 ha)
P1977 Sitka spruce on forest brown earth soil. Moderate slope (<30%). A forwarder track will be required for timber extraction to the forest road. Planning considerations include the scheduled monument of Cardrona Tower, on the southwestern coupe boundary, a private water supply on the southern boundary, informal but well used local paths through the coupe, and private woodland immediately to the east.

To be restocked with broadleaves, to be developed as a fairly open woodland, ensuring views to/from Cardrona Tower are maintained. The target woodland type is NVC 11 upland oak-birch, with rowan, holly, hazel and hawthorn, but other species such as beech and sycamore are locally abundant, and proportion of non-native species is expected.

77025 Roman Camp Wood
Fell year 2027/28 (2.3 ha)
P1974 Sitka spruce with a little P1935 Scots pine and European larch. If possible, the Scots pine will be left. Moderate slope (<30%) and good forest road access. Planning considerations include the private water supply just northwest of the coupe, way marked trail on the forest road, and informal path at the northern end of the coupe.

To be restocked with Scots pine, oak and birch (the latter most likely by natural regeneration). Some natural regeneration of other species will be accepted. It is intended that this coupe will be managed as continuous cover in the future.

77037 Castle Knowe
Fell Year 2031/21 (22.2 ha)
Predominantly P1985 Japanese larch with some P1988 Sitka spruce on brown earth soil last thinned 2009. Mostly moderate slopes (<35%), so workable with harvester/forwarder. Other planning considerations include forest walking trails through the coupe, Castle Knowe scheduled monument at the top of the hill, and raptor nesting sites. This coupe has been included in Phase 2 due to the extensive larch.

To be restocked with Douglas fir/Norway spruce on the lower slopes, Scots pone and birch on the upper slopes. Broadleaves/open on the northwest and southeast coupe boundaries tie in with the neighbouring broadleaf woodland and provide habitat corridors up and round Castle Knowe to the western side of the forest.

77046 Grieston

Fell Year 2031/32 (15.6 ha)

P1975, 1984 and P1985 Sitka spruce on forest brown earth soil. Moderate slopes (< 35%), within harvester/forwarder capability, and good forest road access. Other planning considerations include raptor nesting sites close to the coupe.

To be restocked with noble fir/Douglas fir/silver birch, with broadleaves/open below the bottom road and in the riparian area.

77054 Upper Glenpeggy Burn

Fell Year 2029/30 (33.8 ha)

P1983, P1975, P1985 and P1951 Sitka spruce. Soils are mainly podzolic intergrade ironpan, but with some brown earth and surface water gley. Slopes are easy to moderate over most of the site. Other site planning considerations include raptor nesting sites in or close to the felling coupe, and a public right of way through the coupe. There is windblow in northeast corner of the coupe as a consequence of Storm Arwen in 2021, which may be left as future deadwood near the Glenpeggy Burn riparian zone.

To be restocked with Sitka spruce/Scots pine on the upper slopes, pine as a nurse species; on the lower slopes a combination of Norway spruce/noble fir, Sitka spruce/noble fir and Scots pine/silver birch, with native broadleaves/open in the riparian area.

77057 Little Craigie Side

Fell Year 2030/21

P1961 Sitka spruce, hybrid larch, Lodgepole pine and Douglas fir, and P1992 Sitka spruce. Soils are mainly podzolic intergrade iron pan, with some typical brown earth on the lower slope. The lower slope is very steep (>50%) from the end of the forest road, but most of the site is of moderate steepness and well within harvester/forwarder capability. Access is from the end of T111, but 150m of new road will be required to get beyond the steep slope. An alternative is a 300m extension of T119, which will be more useful in the longer term. Both options are included in the Roads Map.

To be restocked with Sika spruce/Scots pine on the mid to upper slopes, the pine as a nurse species. The lower slope and riparian area to be planted with 50% native broadleaves, associated with NVC W11 (upland oak-birch) woodland.

77061 Kailzie Hill

Fell Year 2027/28 (36.6 ha)

P1964 Sitka spruce/Japanese larch on podzolic intergrade ironpan soil. Slopes are mostly of moderate gradient (<35%) with some steeper sections, so suitable for harvester/forwarder operation. Thinning has previously been carried out in most of the coupe. Operational access is challenging, with no direct access from the forest road. Access for thinning was via a substantial track just north of the Skemiscleuch Burn and along the eastern coupe boundary. To improve access for significantly greater volume of timber from clearfell, a new forest road is proposed from the south, through coupe 77062. Other planning considerations include a raptor breeding site in adjacent coupe 77060, and a public right of way along the old drove road on the western coupe boundary.

To be restocked with Sitka spruce/Scots pine (the latter as a nurse species), pulling the tree line back further back from the ridge in places, and keeping an open corridor up from Skemiscleuch Burn.

4.1.2 Thinning

Refer to **Map 5**.

Map 5 shows all potential thinning coupes, but the final thinning area for each coupe may be reduced once each stand has been assessed. Some coupes may be judged not yet ready for a first thin, some may have missed the thinning window, and some potential subsequent thinning coupes may now be beyond further thinning. The map also includes some minimum intervention areas where removal of non-native conifers may effectively constitute a thinning operation.

Thinning has previously been carried out extensively across the LMP area, where site conditions have allowed, mostly using a standard line thin. Some stands, in particular on steeper slopes, have not been thinned for over 10 years, and further thinning may not be possible. There are few significant areas of windblow across the LMP area, suggesting that appropriate and timely thinning has generally been carried out. Where there are more significant pockets of windblow in thinned stands, it is likely that thinning has been carried out sites that are too exposed and/or has been started too late.

The Windiness map (map 9) gives a good indication of where thinning should be possible on sheltered or less exposed sites. On more exposed sites, thinning may still be possible on suitable soils that provide good rooting and if thinning is carried out early enough. In this plan period several younger coupes will reach a stage to be considered for first thinning. It is

important that these coupes are assessed early enough to enable early intervention where appropriate.

Areas to be managed with low impact silvicultural systems (LISS) will continue to be thinned in accordance with specific LISS plans. There may be scope to develop additional areas for LISS management, and timely first thinning and subsequent crown thinning will keep these options open.

There are two main objectives for thinning here:

- To facilitate continuous cover forestry as an alternative to clearfelling, creating a diverse forest structure including 'big trees' which contributes to the visitor experience and is more appropriate in this designated landscape;
- To produce high quality large diameter timber in the long term with a regular supply of material from thinnings.

4.1.3 Low Impact Silviculture Systems (LISS) / Continuous Cover Forestry (CCF)

Refer to **Map 4**.

372 ha, or 18% of the plan area have been identified for management under CCF. For the majority of these areas, it is beyond the scope of this plan to provide detailed management prescriptions. Most areas require a more thorough review, and the following text is intended to provide a broad overview of the intended management approach to the CCF areas. Continuing to thin these areas will be critical to continuing to develop CCF management, and all areas are included in the Thinning Map 4.

GLENTRESS AND VENLAW

Glentress CCF Trial Area: coupes 78100, 78101 and 78120

There are a several areas in Glentress being managed under some form of CCF, including the CCF Trial Area, also referred to as the 'Anderson Plots', 'University CCF Trial Area' and 'Forest Research CCF Area'. The 126 ha (302 acres) CCF Trial Area (coupes 78100 and 78120) was established by Professor Mark Anderson in 1952 to demonstrate the transformation of even-aged plantations to a forest with an irregular structure. 70 years on transformation is well on its way but certainly not complete. Management objectives and factors influencing the plan continue to evolve, and a revised management plan drawn up in 2010 will be reviewed in 2023 (detailed proposals are beyond the scope of this LMP revision). Coupe 78101 was added to the CCF Trial Area in 2012.

In the meantime, the whole CCF Trial Area is included in the Thinning Map 5. The CCF Trial area includes an area to be developed by Forest Holidays as a Cabin Site (78100), and while

prescriptions will have to be adapted, it is intended that this area continue to be managed under CCF. The extensive presence of larch in the CCF Trial Area is of concern, and plans may have to be adapted to reduce the proportion of larch, if indeed *Phytophthora ramorum* doesn't beat us to it.

Glentress Core CCF Area

The previous LMP indicated a much larger to be managed under CCF, within the core recreation area of Glentress. In 2015 a CCF plan was drawn up to include much of this, the first group felling being carried out in 2016 along with thinning of much of the rest of the area. While the aspiration remains to manage a more extensive area under CCF, some management objectives have changed, or at least evolved. There is a significant proportion of larch within this core area and, in line with the FLS Larch Strategy, it is proposed to target larch removal from some areas of higher recreational pressure. The riparian corridors of the Glentress and Cramb Burns will also undergo more rapid transformation to riparian broadleaf woodland through a series of smaller clearfell operations rather than through CCF management. The CCF Management Plan will be more fully reviewed along with the CCF Trial Area Plan in 2023/24.

78050 and 78053 Irregular Shelterwood

Transformation to a group shelterwood system was initiated in these coupes on the western slopes of Kirn Law in 2016 (together with 78051, now to be clearfelled). This was done by felling several small-scale groups and thinning the rest of the matrix, with a view to enriching natural regeneration with Douglas fir. Natural regeneration has been patchy and inevitably dominated by Sitka spruce, and as yet no restocking carried out.

This approach is likely to maintain Sitka spruce as the dominant species in an area that is capable of growing a far wider range of species. It also likely to become increasingly complex from a planning and operational perspective. It is proposed to move away from the group shelterwood CCF approach to that of an irregular shelterwood. Thinning will be carried out to control light levels, to minimize the advantage to Sitka spruce, and encourage natural regeneration from other more shade tolerant species, including broadleaves on the lower slopes. Existing gaps, including those from previous group felling, will be planted with suitable species including Douglas fir, noble fir and grand fir. Under-planting will include other species requiring more canopy shelter such as western red cedar.

78056 Single Tree Selection

P1968 and P1976 thinned Sitka spruce with a variety of broadleaves on surface water gley. On the eastern forest boundary this is in the riparian zone of the Eshiels Burn. This is the main gateway into the forest, so it is appropriate to 'micromanage' the area to develop an

attractive landscape. The spruce will very gradually be thinned, slowly opening up the woodland and encouraging further natural regeneration of broadleaves. Some spruce will be retained between the two forest roads to develop as fine large specimen trees, with Sitka natural regeneration being monitored and removed as necessary.

78057 Uniform Shelterwood

Mainly P1951 Norway spruce with some Sitka spruce and Douglas fir, and a small stand of western hemlock, on brown earth. Last thinned over 10 years ago, it has probably been under-thinned, and further thinning will aim to open up the stand slowly, to maintain stability and control light levels carefully. Depending on what natural regeneration in generated, the coupe will be enriched with other shade tolerant conifers and broadleaves. Ground vegetation is not currently an issue in establishing an understory.

78058 Uniform Shelterwood

Fairly open (well thinned) P1926 Scots pine on brown earth, on the west facing slope of Falla Brae. There is plentiful ground vegetation that may hinder establishment of natural regeneration. There are several walking and mountain bike trail through this area, so maintaining an attractive, open woodland is the main objective. It is intended to very gradually continue to open up the canopy through careful thinning and encourage natural regeneration of Scots pine and broadleaves. Some ground disturbance may be required to create better conditions for regeneration. Options for underplanting will be considered in due course, depending on the success of natural regeneration.

78060 Irregular Shelterwood

This coupe has some of the oldest trees in Glentress, a well-spaced but uniform overstory of P1926 Douglas fir, with an irregular understory of mainly sycamore, but with some other broadleaves. It provides the setting for the Go Ape high ropes and zip adventure area, and therefore maintaining tree and stand stability is extremely important. It is proposed to manage the Douglas fir on a single tree selection basis, with a presumption of minimal removal within the lease area, and to develop the understory as an irregular shelterwood.

78063 Individual Tree Selection

This coupe also includes some of the oldest Forestry Commission planting in Glentress with P1926 Douglas fir, Norway spruce and Sitka spruce, as well as P1969 mixed conifers and some broadleaf understory. The biggest trees are over 50m tall and 100 cm diameter at breast height, and are already well spaced. The aim is to continue to develop a very old stand of conifers in the upper canopy with a fairly open understory of broadleaves, through individual tree selection.

78072 Irregular Shelterwood

21 ha of mainly conifers of varied ages, including P1929 Norway spruce and P1943 Norway spruce, Douglas fir and Sitka spruce. Thinning has been carried out to varying degrees throughout the coupe, although little in the last 10 years. It is intended to continue thinning with a view to developing an irregular structure, retaining mature trees while ensuring recruitment of younger stands through natural regeneration and under-planting where necessary. The area is mainly of brown earth soils, with some surface water gleys, and Ecological Site Classification (ESC) suggests a broad range of species are very suitable now and into the future. Opportunities will be sought to further diversify species, introducing alternative conifers and broadleaves, and to minimize the proportion of Sitka spruce.

78078 Uniform Shelterwood

7 ha of P1926 Scots pine and European larch, with some P1923 Scots pine, P1929 Douglas fir, P1957 Japanese larch and some older broadleaves. It is intended to carry out further thinning and under-plant with beech and shade tolerant conifers. This will require more intense management input, but the proximity to the new Forest Holidays cabin site and prominent forest edge in the landscape justify developing what will eventually become an attractive and diverse stand of trees. Other species such as sycamore natural regeneration will be accepted as a small component of the mixture. The larch is at risk from *Phytophthora ramorum,* and in the event of premature felling, it is proposed to restock with the species mentioned above.

78084 Irregular Shelterwood

Much of Janet's Brae is Long Established of Plantation Origin (LEPO) in the Ancient Woodland Inventory. The beech and oak are recorded as P1830 and the sycamore, ash and birch as P1930. The woodland has been managed over a very long time period, last thinned around 10 years ago. Detailed management prescriptions will be reviewed, but the overall intention is to continue light thinning to favour better quality trees for potential timber, and to consider options for under-planting, to maintain a diverse broadleaved woodland, managed as continuous cover. This is a main route into Glentress Forest from Peebles, and landscape, (external and internal) is an important objective, as is conservation of biodiversity, and to a lesser extent hardwood timber production.

Venlaw 78201, 78202, 78203, 78205 and 78206 Irregular Shelterwood

Although it does not appear in the Ancient Woodland Inventory, the 1st Edition OS map shows woodland on Venlaw Hill since at least the early 19th Century. The current plantation is mainly of P1926 Scots pine, Corsican pine, Japanese larch, European larch, Norway spruce, Douglas fir and broadleaves, with some P1944 Japanese larch and broadleaves, and a little P1953 Sitka

spruce, Japanese larch and broadleaves. It has been thinned to varying degrees, but not in the last 10 years. It is intended to continue thinning and consider options for developing the woodland as an irregular shelterwood, with a diverse mixture of conifer and broadleaf species. The larch is at risk from *Phytophthora ramorum*, and in the event of premature felling, restock options will be reviewed.

CARDRONA

77004 Irregular Shelterwood
This coupe, just above the Cardrona visitor car park, has some of the older conifers in the forest including P1925 European larch, Scots pine and Douglas fir, P1936 European larch, P1937 Norway spruce and P1946 Sitka spruce, along with some mixed age and species broadleaves. Most of the coupe has been previously thinned, most recently in 2014, and it is intended to continue thinning where possible (some steeper slopes may limit this), and review options for developing an irregular structure with conifers and broadleaves. With forest trails going through the coupe, maintaining an attractive forest landscape is a key objective.

77005, 77006, 77007 and 77008 Uniform Shelterwood
P1979 Douglas fir/Sitka spruce, P1937 Norway spruce, P1936 European larch, and P1959 Douglas fir, on generally good brown earth soil and moderate slopes. Last thinned over 10 years ago, it has probably been under-thinned, and further thinning will aim to open up the stand slowly, to maintain stability and control light levels carefully. Depending on what natural regeneration in generated, the coupe will be enriched with Douglas fir and other shade tolerant conifers. *Phytophthora ramorum* poses a threat to larch, and if premature felling of pure stands is required, these areas will be restocked with Douglas fir and other shade-tolerant conifers.

77009 Uniform Shelterwood
Mainly P1935 European larch with some P1938 Scots pine and a little P1937 Norway spruce, on brown earth soil and very moderate slopes. It is intended to very gradually continue opening the canopy and underplant with suitable conifers. However, the larch includes an important European larch seed stand, and any future thinning and planting operations will be planned in consultation with Forest Research. The larch is vulnerable to *Phytophthora ramorum*, and if premature felling is required, restocking options will be reviewed.

77010 Uniform Shelterwood
A well-thinned overstorey of predominantly P1936 European larch, under-planted with Norway spruce in 1916. It is likely that the larch overstorey will remain until it is time to start thinning the Norway spruce. Part of the coupe has been deer-fenced, but the Norway spruce outside the fence appears to be establishing equally well.

77011 Irregular Shelterwood
This coupe has a variety of conifers planted in the 1930s including Sitka spruce, Norway spruce, Scots pine, and European larch. Thinning has been carried out to varying degrees over the decades, and in 2019, after a further thinning and erection of a deer fence, 3.3 ha European larch/Norway spruce was under-planted with beech. Windblow events and extensive natural regeneration of other broadleaves, birch in particular, have contributed to the development of an increasingly diverse structure and species composition.
Options for developing the coupe as irregular shelterwood will be reviewed, looking for opportunities for further thinning and under-planting, re-spacing natural regeneration, and restocking gaps created by windblow.

77012 Uniform Shelterwood
This is a small coupe of just over 1 ha, within the fence area that includes coupe 77011, that was restocked with oak in 2015, using seedlings grown from locally gathered acorns. The oak seedlings are establishing well, and options for formative pruning and thinning will be considered in due course.

77018, 77019 and 77022 Irregular Shelterwood
Various stands of broadleaves of variable ages, with some older larch and spruce. Re-spacing and thinning has been carried out to varying degrees in previous decades , but there has been little management intervention in the last 10 years. The potential for productive broadleaves will be reviewed, and options for managing as irregular shelterwood considered.

77026 and 77028 Uniform Shelterwood
Well-thinned stands of P1930s Scots pine and larch (European and Japanese), with a small proportion of Sitka spruce, on brown earth soil and moderate slopes. It is intended to very gradually continue opening up the canopy through thinning and encourage natural regeneration. Options will also be considered for underplanting with suitable alternative conifers. If premature felling of larch is required as a result of *Phytophthora ramorum*, restocking will be carried out with suitable alternative conifers.

77033, 77034 and 77035 Irregular Shelterwood

CADEMUIR

80001, 80002, 80003, 80004 and 80005 Uniform Shelterwood
Mainly well-thinned early P1950 Scots pine and Japanese or hybrid larch in pure crop stands, with some P1950 Douglas fir, Sitka spruce and Norway spruce. Some P1995 Scots pine and broadleaves in 80001 at the northern end of Cademuir. There is broadleaf intrusion in some stands, especially sycamore on the lower north-eastern slopes.

These coupes have been well thinned in the past, although there has been little active management in the last 10 years. It is intended to continue thinning these coupes and encourage natural regeneration, as well as considering options for some underplanting of suitable alternative conifers. If larch has to be felled as a result of *Phytophthora ramorum*, restocking will be carried out with suitable alternative conifers.

80007 Irregular Shelterwood
Mainly well-thinned P1950/51 Scots pine with a little P1952 Japanese larch, and some younger broadleaf and conifer natural regen. Soils are variable, with brown earth, podzol and iron pan, and slopes generally moderate. This is an attractive forest environment with several recreation trails going through it, and it is intended to continue with very light thinning, removing Sitka, encouraging natural regeneration of Scots pine, birch and other broadleaves, over time developing an irregular forest structure. At 70 years old, the Scots pine is relatively immature (in seed bearing terms), so there is no rush for management intervention. If the larch has to be felled prematurely due to *Phytophthora ramorum,* this area will be restocked with Scots pine.

80011 and 87012 Single Tree Selection
Mixed broadleaves of various ages, with some conifers, either side of the road to the visitor car park. It is intended to manage these areas with a 'light touch', felling individual trees only for public safety reasons or where younger saplings require some space and light to grow.

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

Refer to **Map 4**.

Long term retention
There are 19 LTRs of various shapes, sizes, and species and age compositions across the plan area, totaling some 66 ha or 3% of the plan area. Some have been previously thinned, and where appropriate and possible this will be continued to aid long term stability and improve habitat value.

Together with areas of Minimum Intervention and Natural Reserves these coupes will provide valuable habitat for a variety of species, in particular potential raptors nesting sites, as the surrounding forest continues to undergo restructuring through clearfelling and restocking.

Minimum intervention
This is the most appropriate type of management for the main riparian corridors where native broadleaves are well enough established, or where further natural regeneration is expected with minimal management input. It is also appropriate in forest boundary areas where

predominantly broadleaves have been established. The main objective is conservation and enhancement of biodiversity, but there are clearly benefits for landscape and general amenity too.

Many such areas are smaller components of other, mainly clearfell, management coupes, but some larger MI coupes have been specifically designated, some 57 ha or 3% of the plan area. In time, the number and size of specific MI coupes will increase, as the area of established riparian woodland increases.

Management in MI areas will be restricted to tree safety work close to paths and public access, tree felling resulting from statutory plant health notices, and removal of excessive invasive non-native species.

Natural reserve

There are three NRs included in this LMP, totaling 51.6 ha or 2.5% of the plan area, although this area will increase to 57.5 ha when 78012 is expanded (see below).

Glentress 78007

P1957 Douglas fir, Norway spruce and Scots pine and P1934 European larch, with some unplanted ground on the banks of a small tributary of Soonhope Burn. There is a risk to the larch from *Phytophthora ramorum*, but it is accessible from the forest road so could be removed if necessary. Unlike on other more difficult sites, it is not proposed to pre-emptively fell the larch.

Glentress 78012

This NR has some of the older conifer plantation in Glentress including P1930s Scots pine, larch, Norway and Sitka spruce, as well as some younger spruce and larch (P60s and P80s). Much of the NR has been previously thinned, despite some steep slopes, leaving some relatively open, mature conifer habitat ideal for raptors.

This expanded NR includes larch on steeper, more challenging ground. Due to the threat of *Phytophthora ramorum*, it is proposed to pre-emptively fell some of the larch (clearfell coupe 78111) and restock with native broadleaves and some Scots pine. Some natural regeneration of other conifers is likely and will be accepted as a minor component. Once established, the restocked areas will become part of the NR again. A benefit of this pre-emptive felling will be creating some structural and species diversity that would otherwise take much longer to achieve naturally. Well thinned and readily accessible larch will be left, in the understanding that it can be felled if affected by *Phytophthora ramorum.*

Cardrona 77059
This comprises mainly well-thinned P1940s Scots pine, with a small proportion of Sitka spruce, and some burnside broadleaves/open, plus a stand of P1940s Norway spruce that has been added to the original NR.

4.1.5 Tree species choice / Restocking

Refer to **Map 6 Future Habitats and Species**

With a high proportion of forest brown earth soils on the lower slopes and a range of other soil types, combined with favourable climatic conditions, the forests of the Tweed Valley offer opportunities for a range of species to satisfy a variety of management objectives.

Desk-based Ecological Site Classification (ESC) confirms the suitability of several conifer species, in particular Douglas fir, as an alternative to Sitka spruce for timber production. Although Sitka spruce will continue to be the primary species for timber during this plan period, the proportion of Sitka will fall by 18.5% from the current 902 ha to 735 ha by Year 10, and by a further 17.8% to 604 ha by Year 20. It should be noted that this includes Sitka with Scots pine as a nurse species at restocking, as per the Species and Habitats Plan. While in reality the proportion of established Sitka will remain higher, the trend is still towards greater conifer species diversification.

There is currently 223 ha of larch or 11% of the LMP area, much of it in the core recreation areas of all three forests. To slow the spread of Phytophthora ramorum in larch, FLS Larch Strategy requires a major reduction of the area of larch, and restocking with larch is not an option. The area of larch will therefore be reduced to 119 ha or 6% of the LMP area by Year 10, and 80 ha or 4% of the LMP area by Year 20. There are no alternative conifers that offer such good colour contrast in the landscape, as well as providing timber and biodiversity benefits. However, an increase in other alternative conifers, with a proportion of birch or other broadleaves in mixture, will offer some compensation as will an increase in area of broadleaves and open habitat.

There will be an increase of Douglas fir from 99 ha (4.9% of LMP area) to 179 ha (8.8%) by Year 10 and 190 ha (9.4%) by Year 20. ESC suggests Douglas fir is suitable on a far greater range of sites than currently planted, but this will need to be confirmed by field staff with local knowledge on a site-by-site basis. Where a mixture of Douglas fir and Sitka spruce or Norway spruce is specified, pure Douglas fir is envisaged on the most suitable parts of a site, graduating to a mixture and then pure spruce.

There will be a more modest increase in the proportion of Norway spruce from 68 ha (3.4% of LMP area) to 99 ha (4.9%) in Year 10. As well as being an important timber species, all be it of generally lower yield class than Sitka spruce, it is a valuable conifer for red squirrels. It will be favoured over Sitka on sites with a high proportion of surface water gley soils.

Scots pine is an important conifer in the LMP area, offering landscape, biodiversity and general amenity benefits, as well as reasonable timber if well managed. It currently occupies 205 ha (10.1% of LMP area), increasing to 268 ha (13.2%) by Year 10 and 330 ha (16.3%) by Year 20. Much of this increase is accounted for by the choice of Scots pine as a nurse species for Sitka spruce on nutrient poor sites where heather check may be an issue.

Other conifers currently found in the plan area include Noble fir, grand fir, western hemlock, western red cedar, coast redwood and Corsican pine. Most of these are in Glentress in very small proportions, notably within the CCF Trial Area. Restock proposals include a modest increase of Noble fir over the next 10 to 20 years, however there will be scope to increase proportions of other conifer species, in particular other shade tolerant species within areas managed under CCF.

Future projections for species can only be indicative, based on current restock proposals. As outlined in section 4.1.3, in areas to be managed as continuous cover, there is likely to be considerable flexibility in choice of alternative conifer species, depending on the success or otherwise of natural regeneration, and the final choice of alternative conifers when underplanting or restocking.

As well as increasing the proportion of alternative conifers, greater use of species mixtures is an important aspect of developing resilience to the effects of climate change, along with creating greater structural diversity. This is highlighted in recent UK Forestry Standard Practice Guide on Adapting forest and woodland management to the changing climate. Restock proposals in this plan include a lot of species mixtures, in particular of alternative (and mostly shade-bearing) conifers. As and when detailed prescriptions are drawn up, planning and delivery staff will follow the principles of ecological site classification to select the most suitable species. When considering species mixtures, species compatibility, in terms of growth rate and shade tolerance, will be most important in determining the type of mixture from intimate to large groups. Other factors such as plant supply, future management options (will thinning be an option), vulnerability to disease and pests, vegetation control and capability of planting contractors will also influence final restock plans.

The rationale for native broadleaves is covered in the Native Woodland section below. Restocking with and management of broadleaves will be carried out to enhance biodiversity,

landscape and general amenity. While there may be scope for some hardwood timber production in the future, it is not an overall LMP objective.

Non-native broadleaves are a feature of the Tweed Valley, notably beech and sycamore, in small patches of woodland and field boundaries. These species are present in small numbers in the forest, and providing they do not conflict with other objectives, they will be accepted as a component of the forest. Indeed, they can provide a number of landscape, biodiversity and silvicultural benefits, such as soil improvement. As ash is currently not an option for planting, consideration will be given to sycamore as an alternative to substitute for some of the ecological function of ash.

4.1.6 Natural regeneration

Clearfell coupes will be assessed for signs of natural regeneration ahead of felling and where there is encouraging evidence, this will be factored into restock proposals. Where the desired restock species, or an acceptable alternative, is present, we will endeavour to achieve the required restocking density with natural regeneration, beating up as necessary by year 5. Where management through continuous cover forestry is planned, and the current species is desired in the next crop, natural regeneration will be encouraged.

Dense natural regeneration is likely to require respacing, or if this is not achieved in time, premature clearfell and restock. Where natural regeneration is not the desired species or an acceptable alternative or is not appropriate for the specified land use (e.g., managed open ground), it will be considered against the plan objectives and tolerance table, and either accepted (with a plan amendment if necessary) or removed.

In riparian areas, where native broadleaves are established through planting or previous natural regeneration, it is expected that this will provide the seed source for further expansion of native woodland. Excessive natural regeneration of non-native conifers can pose a threat to this habitat, and this will be monitored.

4.1.7 New planting

No current proposals within the plan area for new woodland creation

4.1.8 Protection

<u>Deer</u>

The LMP area part of Deer Management Unit 9 – Tweed. Roe is the main deer species throughout the LMP area, but the Sika population is expanding along the south side of the valley from Cardrona, where they have been present in significant numbers for many years.

Main objectives within the DMU are:

- 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 limit the expansion of the Sika deer range and population.

In South Region there is a presumption against erecting physical protections against deer for most crop species, so culling will be the main method of control. Culling targets will be set based on damage impact assessments (of restock sites) and deer population modelling.

This plan proposes an expansion of softer conifer species and broadleaves, as well as a considerable area of LISS management, all of which will pose challenges to deer management. Additionally, high recreational use of large parts of the forest, including where many of the softer conifers and broadleaves are proposed, will make deer culling operations more difficult.

In recent years there has been a low level of clearfelling, so opportunities to cull deer on fallow and open, young coupes have been limited. During this plan period there will be a significant increase in the number of clearfell sites which will facilitate more effective deer control, making it easier to achieve cull targets and ease browsing pressure on more sensitive sites.

Where possible, areas of soft conifers and broadleaves will be established on easily accessible, defendable and consolidated sites. Where economies of scale permit, deer fencing will be considered, but only in exceptional circumstances.

The use of tree tubes will be considered on a site-by-site basis and may be used to protect broadleaves where other options for protection are considered ineffective. Once tree tubes are no longer required, they will be removed and disposed of appropriately, unless they are biodegradable in which case they may be left on site. Moving forward, all new tubes will be recycled via suppliers, once no longer required.

<u>Tree Pests and Diseases</u>

The main tree diseases are outlined in Appendix 1.

Phytophthora ramorum (PR) continues to pose the main threat. Aerial surveys of the forest are carried out by Scottish Forestry twice annually, and staff routinely monitor tree health when in forests. FLS Larch Strategy (revised 2022) requires removal of at least 20% larch in the Priority Action Zone (PAZ) by April 2027 (against an April 2021 baseline). This LMP area has a large proportion of larch in the PAZ, and felling proposals include removal of nearly half of the larch in the plan area.

Early/pre-emptive felling of coupes with pure or a high proportion of larch will focus on difficult sites (steep and less accessible), and those where future infections could cause major disruption to recreational users.

Fire

There have been few fire incidents in the LMP area in recent years, but with potentially drier summers, high recreational use and neighbouring heather burning practice, the risk is always present.

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

Refer to **Table 9** and **Map 7 - Roads**

Map 7 shows the existing forest road network, planned new roads, main egress points, and agreed Timber Transport Routes.

The LMP area has an extensive and well-maintained forest road network, but several major road upgrades are planned during the plan period to service the harvesting and restocking programmes and access for forest management and stewardship activities.

A new forest road is planned in Glentress to bypass the proposed Forest Holidays cabin site (construction due to start early 2023). A short new link road is also planned across the Glentress Burn to improve access for timber haulage in the core forest area. A new road is also planned in Cardrona to provide access to coupe 77061.

Anderson Road Quarry will become part of the new cabin site, leaving just Green Hill Quarry in Glentress, although civil engineers will explore options for a new quarry in Glentress. No new quarries are planned in Cardrona or Cademuir. Blasting will be carried out periodically during the plan period to obtain stone. All quarrying works will be carried out in accordance with the Quarry Regulations 1999 and Explosives Regulations 2014.

Haulage of timber and stone is carried out following industry best practice for timber transport, and issues addressed through the local Timber Transport Forum.

4.2 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 385 ha or 19% of the total plan area and includes areas designated as natural reserve, long term retention, and minimum intervention, managed open habitat and successional open ground. It also includes the riparian habitat network of native broadleaves and open space, where these are not currently part of designated minimum intervention. It does not include areas to be managed as CCF, although in most cases this management will also benefit biodiversity.

4.2.1 Designated sites

River Tweed Site of Special Scientific Interest (SSSI)/Special Area for Conservation (SAC) - watercourses are tributaries of the River Tweed SSSI. Refer to section on Watercourse Condition below.

4.2.2 Native woodland

Native woodland (mainly small areas of mixed broadleaves in the sub compartment database) currently occupies less than 3% of the LMP area, but this will rise to nearly 7% by Year 10 and over 10% by Year 20.

The main focus of native woodland expansion is in improving and expanding the riparian habitat network, through a combination of encouraging natural regeneration and planting. Planting will be carried out at 1600 stems/ha covering at least 50% of the site in most cases. Choice of species will be guided by ESC and NVC woodland type. The following NVC woodland types are likely to be suitable, depending on local site conditions: W4 birch woodland with purple moor-grass (downy/silver birch, willow (goat/grey/eared/bay), alder; W11 upland oak-birch (sessile/pedunculated oak, silver/downy birch, rowan, holly, aspen, hazel, hawthorn and juniper); W17 upland oak-birch woodland with bilberry/blaeberry (sessile/pedunculate oak, downy/silver birch, holly, rowan, hazel, hawthorn and juniper).

An increasing area of connected native woodland and open ground will provide habitat opportunities for a variety of flora and fauna. Increasingly these areas will be managed as minimum intervention. Deer browsing will be monitored and planting will generally be targeted where trees are more easily established and easier to protect against deer. It is hoped that over time native woodland cover will expand further along riparian corridors through natural regeneration. A small proportion (<10%) of conifer regeneration will be accepted, and indeed some conifer mixed with the broadleaves will add to all-year-round visual diversity and general amenity. Regeneration by more aggressive, invasive non-native species will be monitored and controlled as necessary.

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

There are no PAWS sites in the LMP area.

4.2.4 Protected and priority habitats and species

All forest management operations involve a work planning process before work commences which includes checks for wildlife and important habitats. This will ensure adequate protection of important species and habitats, that licences are in place where necessary, and appropriate mitigation measures are taken. Several species are highlighted in Appendix 1 (Description of Woodlands), including raptors, red squirrels and badgers.

Across the LMP area a whole, conservation efforts will focus on improving the riparian habitat network, through the on-going process of forest restructuring (mainly clearfell and restocking). An increasing area of connected native woodland and open ground will provide habitat opportunities for a variety of flora and fauna. Increasingly these areas will be managed as minimum intervention (MI). Within the forested area, natural reserves (NR) and long-term retentions (LTR) will provide more mature/semi-mature woodland, with some stands developing 'old growth' characteristics. Well thinned areas will provide opportunities for raptors to nest and improve ground vegetation conditions for other wildlife.

Upland Heathland

There are few areas of Upland Heathland in the LMP area as noted in Appendix 1. While there is no active management of these areas, they are generally clear of invasive species and in fair condition.

Raptors

As outlined above, development of LTR, NR and MI and well-thinned mature/semi-mature stands will provide potential raptor nesting sites. Mature, well-thinned stands in CCF areas also provide suitable habitat. As younger stands develop and are thinned, suitable future retentions will be identified. All raptor nest sites are monitored throughout the year, and any chicks ringed. In recent years several artificial platforms have been erected in the forest, to provide safe, attractive nest sites for the area's expanding range of raptors. A number of owl boxes have been put up and are being used throughout the forest by both barn and tawny owls.

Black grouse

Although there no current black grouse lek sites within the LMP area, the open heathland and forest edge habitat provides potential breeding habitat, shelter and food sources. There are several black grouse lekking sites on the open moorland on Leithenwater Estate, on the slopes below the eastern boundary of Glentress Forest. Opportunities will be taken to improve forest edge habitat as coupes are felled and restocked, in particular along this boundary to improve the existing upland heathland habitat.

Red Squirrels

The plan includes areas to be managed as NR, MI and LTR, all of which will contribute to suitable red squirrel habitat, along with an increase in the proportion of Scots pine and Norway spruce. NR and LTR coupes will lead to more mature/semi-mature woodland, with some stands developing 'old growth' characteristics.

4.2.5 Open ground

Currently open habitat accounts for about 11% of the total plan area, split between the habitat mentioned above and open habitat in riparian corridors. There will be an increase to 12% by Year 10 and 14% by Year 20, mainly through the expansion of riparian habitat, a combination of broadleaves and open ground. Existing open habitats will continue to be 'managed open' and monitored for unwanted natural tree regeneration and other invasive plant species. Other open habitat, primarily riparian corridors and rides within the forest will be managed more 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 and creating deadwood will be identified during the work planning phase of all felling and thinning operations, favouring areas with the highest deadwood ecological potential.
Natural reserves, minimum intervention areas, ancient semi-natural woodland and riparian zones 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, because these offer excellent potential for a range of species.

4.2.7 Invasive species

Grey squirrel

FLS will continue to support efforts by Saving Scotland's Red Squirrels to reduce grey squirrel numbers in TVFP. Trapping of grey squirrels will be carried out in Upper Tweed Valley Priority Area for Red Squirrel Conservation (PARC), focusing on forest edges around Peebles and Innerleithen that are considered to be hot spots and sources of spread by grey squirrels.

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 in order 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 wider Tweed Valley Forest Park boasts many significant historic assets: the Bronze Age burial cairns on Cairn Hill (SM 2758 and 2763); the Iron Age hillforts and settlements of Glentress, at Janet's Brae (3028 and 3029), Glenbield (3040), Greenhill (3131), Castle Hill

(2681) and Nether Horsburgh (3034), and those of Cardrona, Caberston and Yair, Castle Knowe (2954), Pirn Wood (1491), The Commons (2861), West Bold (3026) and Craig Hill (2103); the Roman camps at Eshiels (3667); and the 16th century tower houses of Shieldgreen (8674), Cardrona (2785), Nether Horsburgh (3118) and Plora Craig (3157). Many have seen archaeological measured survey in recent years, with terrestrial laser scanning at Cardrona and Nether Horsburgh tower houses, low altitude drone-based photogrammetric survey and electrical resistance tomography at West Bold, low altitude drone-based photogrammetric survey at Castle Hill (2681) and topographic terrain modelling at Janet's Brae, Castle Knowe, Castle Hill and Nether Horsburgh.

Unfortunately, none of the historic assets of the Tweed Valley Forest Park are suitable for onsite interpretation. The hill forts and settlements (such as Janet's Brae or Castle Hill) are inappropriate for presentation as significant earthworks; the Eshiels Roman camps comprise buried archaeological deposits; and the 16th century tower houses are ruinous and unsafe and are not appropriate for visitor access. However, several are currently included as part of maintained recreational trails (including Cardrona Tower and Castle Knowe) and are highlighted in appropriate trail maps and guides.

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.

4.3.1 Designated sites

There are eight scheduled monuments within the plan area:

- Shieldgreen Tower (Glentress)
- Glenbield Fort (Glentress)
- Green Hill (Glentress)
- Janet's Brae Fort (1) (Glentress)
- Janet's Brae Fort (2) (Glentress)
- Eshiels Roman Fort (Glentress)
- Cardrona Tower (Cardrona)
- Castle Knowe (Cardrona)

The main objectives of historic asset conservation management are to ensure the historic asset's stable condition or to slow its gradual decay. All scrub vegetation and regenerating trees within the relevant area will be cut off at ground level using appropriate hand or

power tools and removed. Bracken encroachment shall be controlled within appropriate areas as necessary through strimming and / or bashing. Any tree felling, harvesting or thinning work within the relevant area (and including a buffer zone of 20m around it) will be planned and organised to avoid any damage to the historic asset in the course of felling and timber extraction. Scheduled Monument Clearance will be necessary in advance of any forestry works, conservation management, consolidation or repair and development that may cause damage or disturbance within the scheduled area. No replanting will take place within the scheduled area (nor usually within a buffer zone of 20m around it). These are included in Part 2 of the Regional Historic Asset Management Plan, where any further details of conservation management and monitoring are recorded and are listed in Appendix V – Historic Environment records.
Historically, unofficial mountain bike trails have been developed through Scheduled Monument sites at Janet's Brae. In addition to annual SM inspections, these sites are monitored by FLS Visitor Services staff, in liaison with FLS Environment Team, to minimise the chances of further trail development and subsequent damage. FLS staff have met HES field staff on site, and it is the intention to re-route the infringing trails during this plan period.

4.3.2 Other features

There are a variety of other, undesignated features throughout the plan area. These are shown on Map 12 - Heritage Features, and listed in Appendix V – Historic Environment records.

4.4 Landscape

4.4.1 Designated areas

Cademuir Forest is on the boundary of Upper Tweeddale National Scenic Area (NSA).
All three forests are completely or partly within Tweed Valley Special Landscape Area (SLA), and the southern half of Cardrona and southeast edge of Cademuir are within Tweedsmuir Uplands SLA.

As highlighted in Appendix 1, the forests and open habitats of TVFP, including this LMP, are hugely important in the wider landscape, dominating many of the views seen from local communities and recreational areas. A Landscape Summary for TVFP in included as Appendix VI to the LMP.

4.4.2 Other landscape considerations

Refer to 4.4.1 above.

4.5 People

4.5.1 Neighbours and local community

Refer to Appendix 1 Description of Woodlands, Appendix III Consultation Record, Appendix VI Visitor Zones, Map 2 Key Features and Map 11 Recreation.

Peebles, Cardrona and other settlements have a strong sense of community, with an active interest in their local forests, and how they are managed and used. Local people are well represented by Peebles and District Community Council. The forests in this LMP are the major landscape feature, providing the backdrop to and views from the villages, and an amenity on their doorsteps. For many local people the forests are important for informal recreation such as dog walking and horse riding, for others it is the abundance of exciting mountain bike trails. Tourism is a vital part of the local economy, and many local businesses rely on the various visitors to TVFP.

A series of public scoping meetings were held in the Tweed Valley in August and September 2017, including Walkerburn and Innerleithen, to enable local people to feed into the LMP process, as well as inform how public access and recreation facilities should be managed to accommodate the various wishes and needs of locals and visitors alike. Refer to Appendix III Consultation Record.

Informed by this consultation process, and an understanding of visitor use, the Region has developed Tweed Valley Recreation Zones (officially 'launched September 2020) – see Appendix VIII of this LMP.

FLS will continue to collaborate with the local community and user groups to promote formal recreation and informal access in the forest, and to enhance the overall visitor experience. We will build on existing collaborations/partnerships with local groups such as Tweed Love to facilitate community led cycling events, and Tweed Valley Trails Association to develop and improve standards of mountain bike trails.

4.5.2 Public access

Refer to Appendix 1 Description of Woods, Appendix VII Recreation Zones, and Map 11 Recreation.

Work on the Glentress Masterplan started in 2022 and is likely to be completed late 2023/early 2024. This is a major project involving the creation of new mountain bike trails and routes, a new Skills Park, mountain biking taster trails and a new trailhead. A new multi-user path will also be built, giving improved access from Glentress Peel visitor hub into the forest, and car parking facilities upgraded. As part of the Masterplan, the Buzzard's Nest Car Park and Trailhead in Glentress Forest will be closed, to make way for the new Forest Holidays Cabin Site development, due to be started early 2023. Mountain bike events of the UCI World Cycling Championships will be held at Glentress in August 2023, and based largely around Glentress Peel, and making use of the new trails.

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 have to manage their land and water responsibly in relation to access rights and FLS will only restrict public access where it is absolutely necessary and will keep disruption to a minimum.

4.5.3 Renewables, utilities and other developments

There are no renewables developments in the plan area.
There are various minor electricity power lines and gas pipelines in the plan area, serving a small number of properties, office and visitor facilities in the Plan area.
There two telecommunication masts in the plan area, one at the northern end of Cademuir, and one at Dunslair Heights in Glentress. These are recorded in FLS GIS data sets and will be taken into consideration when developing site plans for work in the forest.
Implementation of the Glentress Master Plan is currently underway (2022-23), closely linked to a new Forest Holidays cabin site development (see map 11 – Recreation). Master Plan work also ties in with additional recreation infrastructure being constructed for the UCI Cycling World Championships – mountain bike cross-country events are being held at Glentress.

4.5.4 Support for the rural economy

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.

Tweed Valley Forest Park, especially Glentress, is hugely important for the local rural economy, directly and indirectly supporting a great number of local businesses that rely heavily on tourism. Sympathetic forest design and careful planning and delivery of forest operations are therefore extremely important in ensuring a positive visitor experience and minimising any negative impacts of forest operations. Timber production is itself very important, with the provision of quality wood products to Scottish wood processing industries, direct and indirect rural employment, and income to FLS to enable it to deliver many public benefits.

4.6 Soils

4.6.1 Protection and Fertility

There will be minimal soil disturbance and machine movement on sites with clay 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. However where soil health, in terms of nutrient recycling, will not be negatively impacted and there is a market value, brash recovery will be explored.

4.6.2 Cultivation

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.

4.6.3 Deep peats

There are no deep peats of any significance within the plan area.

4.7 Water

4.7.1 Drinking water

Appendix IX Water Supplies and accompanying Map 13 – Water Supplies provide detailed information of private water supplies (PWS) in and close to the plan area. Where forest operations may interact with PWS during the plan period, information is provided on mitigation that will be adopted to protect the PWS.

4.7.2 Watercourse condition

Refer to the Hydrology Section in Appendix 1 for details of relevant watercourses.

Riparian woodland that acts as a buffer for water courses will be enhanced through further planting and natural regeneration of site suitable native broadleaves (see section on native woodland above). This will help protect water quality as well as aiding sediment removal and erosion control, moderation of shade and water temperature, maintenance of habitat structural diversity and ecological integrity, and enhancement of landscape quality.
Where any old drains drain directly into watercourses, the opportunity will be taken, where possible, to intercept these drains during ground preparation work for restocking.
All management operations will be carried out in accordance with Forests and Water requirements of the UK Forest Standard.

4.7.3 Flooding

There are no specific flood prevention considerations within the plan area at this time (Refer to the Hydrology Section in Appendix 1).

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Appendix I: Description of Woodlands

Description of woodlands
Topography and Landscape
Refer to **Map 2 Key Features** and **Appendix VI Landscape** The forests of this LMP are a dominant feature of Tweed Valley Forest Park (TVFP). TVFP Summary provides the landscape context for the LMP, identifies landscape designations and landscape character and highlights key landscape challenges. Key aspects relating to this LMP area include the following: National Scenic Areas (NSA) • Cademuir Forest is on the boundary of Upper Tweeddale NSA Special Landscape Areas (SLA) • All three forests are completely or partly within Tweed Valley SLA • The southern half of Cardrona and southeast edge of Cademuir are within Tweedsmuir Uplands SLA
Geology and Soils
Refer to **Map 9 Soils** The underlying geology consists of bed rock comprising mainly wacke sandstone, with some siltstone along the eastern edge of Cardrona. These are from the Silurian Period so over 400,000 years old. The only notable superficial deposits are till (boulder clay) in the Soonhope Glen in the eastern side of Glentress. Soils are varied with brown earths dominating the steeper lower and middle slopes, some podzols on the upper middle slopes, and ironpans dominating the higher slopes and plateau. Surface water gleys are found in the valley bottoms, mainly in Glentress. The higher ground near the eastern boundary of Glentress has a more complex mosaic of soils including ericaceous brown earth, podzols, ironpan, podzolic ranker and ericaceous peaty surface water gley.
Climate
Data from Galashiels climate station: Summer average temperature 10.3 °C Winter average temperature 5.8 °C

Description of woodlands

Summer average precipitation 59.5 mm
Winter average precipitation 75.2 mm

In terms of climatic conditions, the LMP area ranges from warm, moist and sheltered close to the valley bottom to sub-alpine, wet and too exposed for forestry at Dunslair Heights at the northern end of Glentress. Most of the LMP area is however classified as cool and wet, with varying degrees of exposure.

ESC gives accumulated temperature (day degrees above 5 °C) ranging from 1052 - 1596 (sub-alpine – warm) and a moisture deficit range of 53 - 102 (wet - moist).

Based on data from the UK climate projections (2009) this area is likely to have warmer drier summers with warmer wetter winters exhibiting a 2-3 °C increase in summer and winter temperatures and 20% reduction of precipitation in the summer and 20-30% increase in winter precipitation.

Hydrology

TVFP sits within the Tweed Catchment, part of the Solway-Tweed River Basin District.

All watercourses drain into the River Tweed and form part of the Tweed Special SSSI and SAC (see below under 'Biodiversity).

The LMP area sits within four sub-catchments (condition is taken from SEPA's Water Environment Hub):

- River Tweed (Scotsmill to Ettrick Water confluence) – southern half of Glentress and all of Cardrona. Overall good condition.
- River Tweed (Talla Water confluence to Scotsmill) – northern half of Glentress. Overall moderate condition due to water flows and levels being moderate, as a result of pressures from public water supplies.
- Glensax Burn – most of Cademuir. Overall good condition.
- Manor Water – small part of west Cademuir. Overall good condition.

According to the Scottish Border Council's Tweed Local Flood Risk Management Plan (LFRMP), the Eddleston, Peebles, Innerleithen, Selkirk, Stow and Galashiels area is a Potentially Vulnerable Area (PVA 13/04). This area has a risk of river and surface water flooding. There are no specific actions in the LFRMP directly relating to management of FLS land.

There are several private water supplies within the LMP area. Detailed information is provided in Appendix IX Water Supplies and accompanying Map 13 – Water Supplies.

Description of woodlands
Windthrow
Refer to **Map 10 – Windiness (DAMS)** Average DAMS ranges from 8 in the most sheltered sites near the valley bottom to 22 on the most exposed summits.
Adjacent land use
Glentress and Venlaw On the north and west sides of Glentress, private conifer plantation; to the southwest and south, agricultural grazing land; to the east, open hill (heather) used for rough sheep grazing; to the south, Nether Horsburgh new woodland creation. Venlaw is bounded by community mixed woodland to the west and north, housing on the edge of Peebles to the south, and agricultural fields to the east. Cardrona Most of Cardrona is bounded by open hill rough grazing, with some private plantation woodland/shelterbelts and some broadleaved woodland. Cademuir Most of Cademuir is bounded by improved agricultural land, with some open hill to the northwest.
Public access
Refer to **Map 12 Recreation and Public Access** Forming the largest and central part of Tweed Valley Forest Park TVFP), this LMP area is highly important for public access, recreation and tourism. Mountain biking: Glentress is a 7 Stanes mountain bike (MTB) venue and one of the country's top MTB destinations, with waymarked trails to suit beginners through to experts, and a skills area next to the Buzzard's Nest car park in the forest. There are also many unofficial MTB trails throughout Glentress and in part of Cademuir. Glentress and TVFP play host to many MTB and other cycling events throughout the year. There is a bike hire shop at Glentress Peel, and a bike wash, showering and changing facilities next to the car park. Walking: informal access is popular throughout, for locals and visitors alike, with waymarked trails and car parking in all three forests. The Cross Borders Drove Road long distance route passes through the southern end of Cardrona, and the John Buchan Way passes close to Cademuir.

Description of woodlands
The Paths Around Innerleithen and Walkerburn booklet includes several routes through the forest, listed below. The booklet is available locally or via Scottish Borders Council. Route 1 Venlaw and Soonhope Route 5 Haystoun, The Cut and Cademuir Route 7 Around Cademuir – Forest and Forts Route 8 Janet's Brae, Eshiels CW and Glentress Route 12 Cardrona Forest Horse riding: while there are no formal waymarked routes in the forest, horse riding is popular in all forests, in particular in Cardrona where there is less pressure from mountain biking. The British Horse Society (BHS) South of Scotland Trails maps include routes in Cardrona (connecting with the Cross Borders Drove Road) and Cademuir, and just into the western side of Glentress. Other facilities and activities At Glentress Peel, there is a wildlife viewing centre showing camera footage from the Tweed Valley Osprey project. There is also a café on site, managed via lease to a local business. In the forest, by the Red Squirrel car park and toilets, Go Ape lease an area for a high ropes adventure course with zip wires. Plans are under development for a Forest Holidays cabin site by the Buzzard's Nest car park. Ahead of this development, the Glentress Masterplan project will enable redevelopment of MTB trails and the skills area close to the main facilities at Glentress Peel.
Historic environment
Refer to **Map 11 Heritage** and **Appendix V Historic Environment Records.**
Biodiversity
Ancient & Semi Natural Woodland (ASNW) The Tweed Valley has few remnants of ASNW, and this LMP area is particularly lacking. There is however an area of long-established woodland of plantation origin (LEPO) at Janet's Brae, shown on the Key Features Map x. This is currently dominated by P1930 sycamore and P1830 beech, with some P1830 oak, ash and birch, and has previously been thinned. **Plantation on Ancient Woodland Sites (PAWS)** There are no PAWS sites in the LMP area.

Description of woodlands
Open habitats There are several areas of Upland Heathland on the higher ground at the northern end of Glentress near Shieldgreen Kipps and Dunslair Heights, and on the eastern boundary of Glentress, near Black Law. In Cardrona there is a strip of open moorland running south along the ridge from Kirkhope Law, at the southern end of the forest. **Riparian habitats** Much attention has previously been focused on riparian habitat, along the main burns and other watercourses, as well as creation of some ponds. These are vitally important in protecting and enhancing aquatic wildlife, in particular where there is salmon and trout spawning. In Glentress there is an extensive network of watercourses that feed into Soonhope Burn, Glentress Burn and Hope Burn, which flow more or less south to the River Tweed. In Cardrona most watercourses feed into Kirk Burn which flows north into the River Tweed. Watercourses on the east side flow directly to the Tweed. In Cademuir there is only one significant watercourse that flows east into Crookston Burn. **Species** The forests are home to a wide variety of species including various raptors, bats, red squirrel, badgers, pine marten and butterflies.
Invasive species
There are grey squirrel throughout the Tweed Valley. *Rhododendron ponticum* is present near Old Howford in Cardrona Forest. Monitoring and control is carried out by the Environment Team.
Woodland composition
Refer to **Map 7 Current Species** and Section 3.6 Species diversity and age structure.
Plant health
Many pests and diseases pose a potential threat to tree and other plant health in TVFP, but the following are considered the main threats. TVFP falls within *Phytophthora ramorum* (PR) Priority Action Zone (PAZ) (FLS Larch Strategy 2022). PR was confirmed on larch at Nether Horsburgh in 2016 and Glentress

Description of woodlands
Peel in 2017, and two sites in Traquair Forest in 2018. PR has subsequently been confirmed on sites in Yair, Caberston and Traquair Forests in 2021 and 2022. Suspect sites in Glentress and Cardrona in 2022 proved negative, and PR remains a significant threat in the Tweed Valley. Infected trees and all larch in a 250m buffer zone have been felled following issue of Special Plant Health Notices (SPHN) by Scottish Forestry. *Dendroctonus micans* (great spruce bark beetle) has been confirmed on several mature spruce trees in recent years, and *Rhizophagus grandis*, a host-specific predatory beetle, has been released to control the spread of this pest. However, *D. micans* is being found with greater frequency and continues to spread north and east. *Dothistroma septosporum* (red band needle blight, referred to as Dothistroma needle blight) has been found on some pine in TVFP, but is not currently a significant issue. Monitoring is on-going with individual sites being monitored every three years. Ash dieback (caused by the fungus *Hymenoscyphus fraxinus,* previously called *Chalara frainea*) has had a huge impact on ash trees across the country and is evident throughout TVFP.
Infrastructure
Refer to Map 7 - Road Operations and Timber Haulage

Appendix II: EIA screening opinion request form

Refer to separate attached document.

Appendix III: Consultation record

Consultee	Date contacted	Date of response	Issues raised	FLS response
Community Scoping 6 x TVFP LMP community drop-in sessions held in August and September 2017, in liaison with local community councils. Each event ran from 3 – 7pm, with a variety of FLS staff present. 12th August Peebles Agricultural Show (Nether Horsburgh) 16th August Cardrona Village Hall 29th August Innerleithen Memorial Hall 31st August Peebles Burgh Hall 5th September Walkerburn Public Hall 11th September Caddonfoot Hall (Clovenfords) There were three main objectives to the consultation events: 1. Gather general comments on the forests, how they are managed and what changes might be desirable. 2. Find out where people visit and how they use the forests, to inform visitor zoning in TVFP. 3. Invite people to come forward with ideas for how TVFP could be used for sustainable recreation, and possibly work with FLS to develop their ideas. Questionnaires were distributed locally and available at each event to complete there or return later. Comments were also taken on post-it notes at each event and written down by staff following discussion with members of the public. Comments were taken for all TVFP LMPs at all events, although the events at the Peebles Agricultural Show and in Peebles and Cardrona were most relevant for this LMP. Many of the public who commented visit forests throughout TVFP, and not just their local forest, so all comments relating to this LMP or TVFP in general are included here. Comments relating specifically to other LMP areas are excluded. Main topics or issues are summarised below.				

Consultee	Date contacted	Date of response	Issues raised	FLS response
			Recreation facilities and user conflict	
			Request for more horse-friendly parking; horse riding areas publicised as much as bike areas	Referred to Visitor Services (VS) Team to feed into TVFP Visitor Experience Strategy, and to liaise with local horse-riding representatives.
			Request for a multi-user Tweed Valley link trail	Referred to VS to liaise with other organisations who are looking into options for a Tweed trail.
			Locals have created some amazing (MTB) trails and would like standard of MTB trails to be improved	VS maintain official FLS managed trails to a high standard and are working in partnership with Tweed Valley Trails Association (TVTA) to improve standards of some less formal MTB trails. The National Access Forum (NAF) Scotland has produced guidance on Unauthorised Mountain Bike Trails – A guide for land managers and riders.
			Request for separation of walkers from cyclists	Single track mountain bike trails are already separate from walking trails, but many walking and cycling/mountain biking routes will continue to share sections of forest road. Safe interaction between users is a top priority for FLS, through appropriate infrastructure such as crossing points, clear signage and encouraging good practice by mountain bikers.

Consultee	Date contacted	Date of response	Issues raised	FLS response
			Water issues on paths	Referred to VS to deal with. All recreation infrastructure and facilities are regularly inspected, and essential maintenance carried out.
			Request for more maps along trails, with 'you are here'	Referred to Visitor Services (VS) Team to feed into TVFP Visitor Experience Strategy
			Request for greater variety of/more official bike trails, trail refreshment, support for hand-built trails, increase in natural trails, etc.	VS maintain official FLS managed trails to a high standard and are working in partnership with Tweed Valley Trails Association to improve standards of some less formal MTB trails. Through the Glentress Masterplan, there will be significant improvements to the facilities at Glentress, including new skills areas. In line with the Tweed Valley Recreation Zones, unauthorised trails in Glentress and part of Cademuir will be managed using FLS and NAF guidance. VS will continue to organise trail maintenance/refreshing work with the volunteer 'Trail Fairies' group. In Cardrona and part of Cademuir, unauthorised mountain bike trail development will not be permitted.
			Requests for several improvements for horse riding access in TVFP, including	Referred to VS who have had subsequent discussion with local horse-riding

Consultee	Date contacted	Date of response	Issues raised	FLS response
			better links from long distance paths into Cardrona Forest.	representatives regarding potential improvements.
			Request for more links from long distance paths into the forest	Referred to VS to review, along with horse riding requests.
			Many concerns regarding conflict between user groups (walkers, horse riders and mountain bikers), and requests to make the forest safer for walkers in particular.	FLS will promote Tweed Valley Recreation Zones and encourage responsible use by all users. See also above re. separation of walkers and cyclists. In terms of forest management, maintaining visibility on roadsides, trails and crossing points will also help with safe interaction of users.
			Horse riding in Cardrona and Cademuir – five local livery yards - consider car park sizes, softer tracks, etc.	Referred to VS to liaise with local horse-riding representatives regarding any potential improvements to horse riding access.
			Request to link archaeological features in Cardrona with a path.	Referred to VS, but no plans currently to further develop paths in Cardrona. The main archaeological features are connected by formal and informal trails.
			Suggestion to have a forest drive or blue badge holder parking to allow less-abled people to enjoy views, and access Buzzard's Nest car park.	Referred to VS to consider options, in consultation with Forest Holidays. There are no plans to re-instate the old forest drive or an alternative. The Buzzard's Nest car park will be closed as part of the Master Plan and Forest Holidays developments, but there may

Consultee	Date contacted	Date of response	Issues raised	FLS response
				be options to provide limited access in conjunction with Forest Holidays.
			It would be good to access Pike's Knowe (Grid NT 2980 3755) on any new walks.	These is now a Pikes Knowe forest walk.
			Consider a joggers' loop at Plummer's Knowe, Cardrona.	Referred to VS, but there are currently no plans for further path development.
			Requests for more walking trails generally.	Trails in Cardrona and Cademuir were added to/upgraded in 2018. The Glentress Master Plan will deliver improved access around the main visitor hub and better connectivity into the forest.
			Improved horse-riding access in Glentress and Cardrona – a range of issues and suggestions for improvement were highlighted by horse riding representatives.	These related to access management rather than LMP design, and points were discussed directly with the Visitor Services Manager at the consultation event.
			A "Friends of Tweed Valley Forest Park" group was suggested – volunteers to help maintain recreation sites. The same person also suggested more pro-active signage to encourage responsible access.	Referred to VS. There are currently no plans for a "Friends of…" group. The VS Team is focused on managing public access and recreation, and there are currently no staff dedicated to community engagement. This suggestion can be reviewed once the Master Plan has been completed, and the VS Team has more time to consider options.

Consultee	Date contacted	Date of response	Issues raised	FLS response
			Environment	
			Improvements to red squirrel habitat and grey squirrel control	The plan includes areas to be managed as natural reserve (NR), minimum intervention (MI) and conifer long term retention (LTR), all of which will contribute to suitable red squirrel habitat, along with an increase in the proportion of alternative conifers (to Sitka spruce). NR and LTR coupes will lead to more mature/semi-mature woodland, with some stands developing 'old growth' characteristics. CCF management will also provide favourable habitat over a wide area in all three forests. FLS will continue to support efforts by Saving Scotland's Red Squirrels to reduce grey squirrel numbers in TVFP. Trapping of grey squirrels will be carried out in Upper Tweed Valley Priority Area for Red Squirrel Conservation (PARC), focusing on forest edges around Peebles and Innerleithen that are considered to be hot spots and sources of spread by grey squirrels.
			Can we encourage pine martins, which are becoming more common in the Tweed Valley?	The population appears to be expanding with the forests being managed as they are. Measures to improve habitat for other species such as red squirrels will also improve it for pine martins. Pine martins also appear

Consultee	Date contacted	Date of response	Issues raised	FLS response
				to be having a positive impact on red squirrels by predating grey squirrels. Red squirrels are more adept at keeping out of reach.
			Interest from residents at Kirkburn in forming a small volunteer group to carry out mainly environmental work in Cardrona, in particular around the entrance area at Kirkburn.	Referred to VS and Environment Teams. Currently there are limited staff resources to facilitate this.
			Forest Planning	
			Would like to see more native broadleaves, which can be productive. Monoculture forestry is bad – need broadleaves. Several comments received suggesting more species diversity generally.	Native broadleaf woodland will expand in riparian zones as part of a broadleaf/open habitat. and on the slopes above Plora Wood SSSI. The total proportion of native broadleaves is planned to increase from 3% to 7% of LMP area by Year 10 and 11% by Year 20, mainly for biodiversity and amenity. Broadleaf woodland, a mixture of native and non-native species, at Janet's Brae in Glentress and Plummers' Knowe in Cardrona will continue to be managed as productive areas. There will be a proportion of productive broadleaves in the CCF areas in all three forests, and options will be explored to manage these more productively.

Consultee	Date contacted	Date of response	Issues raised	FLS response
				The proportion of alternative conifers (non-Sitka spruce) will increase over the plan period – see plan text.
			Would like more advance notice of when and where forest operations are happening, and so when timber traffic is likely to increase. This would also help public decided where to visit and where to avoid.	FLS staff will explore ways of improving information on upcoming forest operations, including use of FLS website and social media.
			Consideration of long-term mineral depletion of soils from repeated logging, and I would particularly like to see some consideration of the erosion impact of clear-fell policies on steep slopes.	Long term mineral depletion is an important factor when considering future management of the forests, especially where we are practicing a clearfell and restock system. TVFP forests do have some very steep areas with shallow and skeletal soils, and we will consider carefully the management options for these sites. Choice of ground preparation techniques (or avoiding it altogether) and what to do with harvesting residue will be considered during the work planning process.
			Private water supply (PWS) in Cardrona is prone to trees blowing across it (including at time of consultation).	Referred to the Forest Management and Stewardship Team to deal with the more immediate issue. See Para 4.7 in main text regarding water supplies.

Consultee	Date contacted	Date of response	Issues raised	FLS response
			Would like to see less massive clearfells!	Landscape analysis was carried out as part of the LMP development (see Appendix VI), and the shape and size of clearfell coupes reviewed. Larger clearfell coupes are seen as appropriate in the larger scale landscape
			Clearance of windblow	Previous windblown areas, where economically accessible, were being picked up in the harvesting programme. However, In November 2021 Storm Arwen caused significant crop damage, causing temporary closure of many trails. Most trails have been re-opened, but it will take 2-3 years to work through the major areas of windblow in the harvesting programme.
			Tidy up sites once harvesting has been completed.	Woody material or 'brash' is a feature of most sites, the brash being required to reduce impact by heavy machinery, and to provide some nutrient return to the soil. Sites generally green up fairly quickly, and it is intended to restock sites more quickly than has happened in the past, where possible. Brash can also provide a rough surface to help reduce possible water runoff. Brash is removed from some sites, for processing as biofuel, where this is possible without a negative impact on soil nutrient. This clearly leaves a tidier site and can help with

Consultee	Date contacted	Date of response	Issues raised	FLS response
				restocking. Decisions are made on a site-by-site basis.
Tweed Valley Forest Park (TVFP) LMP Scoping Meeting & Forestry Panel Meeting – 21st June 2018 Indoor presentation and discussion focusing on initial draft TVFP Analysis and Concept, followed by a site visit to Cardrona Forest. The following organisations were represented at the meeting: Walkerburn and District Community Council Innerleithen and District Community Council Forestry Commission Scotland (now Scottish Forestry), South Scotland Conservancy Scottish Borders Council – Natural Heritage, Planning and Implementation Scottish Borders Council – Landscape Architect SEPA SNH (now NatureScot) Historic Environment Scotland Southern Upland Partnership Tweeddale Ramblers Mountain Bike Centre of Scotland As this was a very broad scoping meeting for TVFP LMP there were few specific comments to be noted.				
			Retain old trees as features in the forest	LMP includes areas of NR and MI where mature and veteran trees will be safeguarded. Several coupes have been identified as LTRs, and future LTRs will be identified so that there are always mature or semi-mature stands of trees in the forest. During the work planning

Consultee	Date contacted	Date of response	Issues raised	FLS response
				process, environment staff will identify individual trees at site level.
			Concern over too much emphasis on mountain biking	Mountain biking is undoubtedly extremely popular in the Tweed Valley and very important for the local economy. However, all visitors should feel welcome in TVFP. By developing Tweed Valley Recreation Zones, FLS will aim to safeguard some forest areas for quieter recreation and public access, where unofficial MTB trails will not be tolerated.
			Interest in expansion of native woodlands, possibly 're-wilding' a few larger areas of broadleaf woodland – these could be close to the valley and not necessarily in remote areas. Connectivity would be important.	The main focus of native broadleaf expansion will be in the riparian zones and a gradual expansion of Plora Wood SSSI, pushing broadleaves up the lower slopes. 'Re-wilding' as such is probably not appropriate due to the concentration of mountain bike and other trails, but it is intended that much of this broadleaf expansion on steeper slopes will be managed in the future as minimum intervention.
			Interest in connectivity between forests and longer distance routes.	Other organisations in the Tweed Valley are actively looking at options to develop a longer distance trail, connecting with communities and other access infrastructure along the way. VS staff will liaise accordingly as plans are developed.

Consultee	Date contacted	Date of response	Issues raised	FLS response
			Would like to see forests contributing to water catchment improvements, in particular regarding water quality. Also interested in possible contribution to natural flood management measures.	Riparian woodland that acts as a buffer for water courses will be enhanced through further planting and natural regeneration of native broadleaves. This will help protect water quality as well as aiding sediment removal and erosion control, moderation of shade and water temperature, maintenance of habitat structural diversity and ecological integrity, and enhancement of landscape quality. All management operations will be carried out in accordance with Forests and Water requirements of the UK Forest Standard. Ground preparation techniques will be carefully chosen to minimise the risk of negative impact on soils and water. FLS will work with SBC and other organisations to look at opportunities for NFM if proposals are brought forward. Other than the measures outlined above for riparian zones, most of this LMP area is unlikely to be suitable for NFM measures.
			Interested in information on use by more deprived communities. Also interested in potential for community projects such as 'You Can Grow' (scope for growing fruit	Unaware of research specifically in the Tweed Valley, but Forest Research have been carrying out research at a national level and are best people to contact.

Consultee	Date contacted	Date of response	Issues raised	FLS response
			trees?) and Branching Out, and potential CATS (Community Asset Transfer Scheme) opportunities.	With regard to community projects, local staff have supported branching out projects, but are not leading on these. Environment staff also lead volunteers on conservation projects in TVFP. Local community groups have engaged with the Region and there have been two successful CATS schemes near Peebles (none relating to this LMP).

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 ****
FC Approval normally not required	N	Fell date can be moved within 5-year period where separation or other constraints are met.	Up to 10% of coupe area.	Up to 3 planting seasons after felling.	Change within species group e.g., evergreen conifers or broadleaves.		Increase by up to 5% of coupe area	
Approval by exchange of letters and map	Y	Advance felling of Phase 2 coupe into Phase 1	Up to 15% of coupe area	Between 3 and 5 planting seasons after felling, subject to the wider forest and habitat structure not being significantly compromised.		Additional felling of trees not agreed in plan. Departures of > 60m in either direction from centre line of road	Increase by up to 10% of coupe area Any reduction in open space of coupe area by planting.	Up to 5ha
Approval by formal plan amendment may be	Y	Felling delayed into second or later 5-year period.	More than 15% of coupe area.	More than 5 planting seasons after felling, subject to the wider forest	Change from specified native species.	As above, depending on sensitivity.	In excess of 10% of coupe area.	More than 5ha.

required		Advance felling (phase 3 or beyond) into current or 2nd 5-year period.		and habitat structure not being significantly compromised.	Change Between species group.		Colonisation of open space agreed as critical.	

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

Table of Working Tolerances Specific to Larch

	Adjustment to felling period	Timing of Restocking and species component	Felling of larch within a mixed coupe	Changes to Road Lines
FC Approval not normally required	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, e.g., Sitka and Norway Spruce. Up to 3 planting seasons after felling		
Approval normally by exchange of letters and map.		Changes to restocking proposals that include larch or closely related species in the same genus, e.g., 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
Approval by formal plan amendment is required	Advance felling into current or 2nd 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

Note: 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 and HES Reference	**Name**	**Feature Description**	**Grid Reference**	**Importance**	**Area (ha)**
Scheduled Monument SM8674	Shieldgreen Tower	Shieldgreen Tower survives as a grass-covered mound on the shoulder of Tower Rig. The site has fine views to the S and must have been an imposing structure in its day. The mound is defined around its N arc by a large rock-cut ditch and several large pieces of masonry survive on its summit. The RCAHMS Peeblesshire Inventory suggests that the "large masses of masonry, still bound in lime mortar, that lie scattered upon the knoll, suggest that the building was destroyed by explosives" (RCAHMS 1967: p. 269). The rectangular tower measures about 8m from NW to SE by 7m transversely overall.	NT 273 432	National	0.24

Historic Environment Records					
Designation and HES Reference	**Name**	**Feature Description**	**Grid Reference**	**Importance**	**Area (ha)**
Scheduled Monument SM3040	Glenbield Fort	This unusual fort or large scooped settlement is set high on a spur descending between the Kittlegairy Burn on the S and the Common Burn on the N. The whole spur is sloping, falling away particularly steeply along either flank, and the fort occupies a point where the contours open out a little before the ground plunges on down to the Soonhope Burn on the W. Oval on plan, its defences comprise two ramparts forming inner and outer enclosures, and the outer rampart is accompanied by an external ditch across the most vulnerable line of approach from the higher ground to the SE. The inner enclosure measures internally 47m from NNE to SSW by 41m transversely, and its rampart displays a long run of large outer facing-stone on the ENE. Apart from a scarp dug into the slope behind the inner rampart on the SE, its interior is featureless, and the entrance, which has been heavily disturbed, is on the S, approached obliquely from the entrance through the outer rampart to expose the visitor's right side. The outer enclosure is considerably larger than the inner, with its rampart swinging on a wider arc across the spur on the SE to take in a roughly triangular area measuring about 70m from NE to SW by 60m transversely (0.3ha). The relationship	NT 274 420	National	0.69

Historic Environment Records					
Designation and HES Reference	**Name**	**Feature Description**	**Grid Reference**	**Importance**	**Area (ha)**
		between the inner and outer enclosures is unknown, and they may as easily represent successive enclosure as a unitary scheme, but at some stage the inner and outer ramparts have been linked to the W of the entrance. Information from *An Atlas of Hillforts of Great Britain and Ireland (2016)*.			
Scheduled Monument SM3131	Green Hill	The settlement of Green Hill is oval on plan and measures 39m by 33m enclosed by banks spread up to 2m wide and 0.5m high, with entrances on the NW and SE sides. The remains at least three circular stone buildings have been recorded within the settlement, measuring between 7.5m and 10m in diameter within walls 1m thick.	NT 297 417	National	0.28
Scheduled Monument SM3029	Janet's Brae Fort (lower)	The fort lies between 250m and 275m OD, on a low knoll on a hillslope overlooking the Tweed valley. The location of the fort is notably non-defensive, but its triple ramparts and ditches were substantial, accentuated by the underlying topography. These defences survive best on upslope sides to the N and E. An entrance in the WNW leads to the sloping,	NT 265 403	National	1.21

Historic Environment Records					
Designation and HES Reference	**Name**	**Feature Description**	**Grid Reference**	**Importance**	**Area (ha)**
		subcircular interior, which measures approximately 70m by 55m. The interior of the fort gives the impression of being terraced but no building platforms or other internal features have been positively identified.			
Scheduled Monument SM3028	Janet's Brae Fort (upper)	The fort lies at around 330m OD on a ridge overlooking the Tweed valley. The remains of the fort show varying degrees of survival, but it appears to originally have been defended by a double rampart and ditch with an entrance in the W side. The ramparts enclosed a roughly oval interior, sloping towards the SW, and measure about 80m by 65m internally. The interior of the fort is uneven, and no building platforms have been positively identified. On the NE side a small outer rampart runs for approximately 60m. A road cuts through site.	NT 393 361	National	0.96
Scheduled Monument SM3667	Eshiels Roman Fort	The remains of two Roman camps dating probably from between AD 75 and AD 220. The camps survive as buried archaeological features that are visible as cropmarks captured on oblique aerial photographs. The camps lie on a level terrace on the N bank of the River Tweed, at about 160m above sea level.	NT 281 395	National	15.05

Historic Environment Records					
Designation and HES Reference	**Name**	**Feature Description**	**Grid Reference**	**Importance**	**Area (ha)**
Scheduled Monument SM2784	Cardrona Tower	Cardrona Tower is L-shaped on plan with a small stair tower projecting at its western angle with the entrance doorway at its base. The turnpike stair survives to the first floor and many architectural features are visible, including the majority of a steeply-pitched gable on the SE side. The walls are relatively thin and are built of roughly coursed rubble, with only minimal ashlar dressings. Any worked stonework around the doorway has been robbed and its place taken by modem masonry. There is a framed recess above the doorway, which was presumably intended to house an armorial panel. The ground floor of the tower is occupied by a low barrel vaulted chamber that has been lit by narrow slit openings in the two gable walls. There are a further two floors above, each with a single rectangular chamber on each; and there was presumably a garret within the roof space. There are the remains of fireplaces in the SE gable wall of the two levels of chambers. An archaeological measured survey by laser scanning was undertaken in 2010 (AOC Archaeology) and a report on conservation options was commissioned in 2021 (Simpson & Brown).	NT 300 378	National	0.73

Historic Environment Records					
Designation and HES Reference	**Name**	**Feature Description**	**Grid Reference**	**Importance**	**Area (ha)**
Scheduled Monument SM2954	Castle Knowe	A scheduled fort measures around 70m N-S by 125m E-W, with an inner enclosure of c.35m N-S by 55m E-W. There are no indications of buildings in the fort. Walls have been robbed for a large sheepfold within the fort. An archaeological measured survey by drone-generated photogrammetry was undertaken in 2019 (Skyscape Survey).	NT 302 372	National	1.13
	Tower Well	Site of Tower well, which supplied water to Shieldgreen Tower. No trace other than an area of wet ground was recorded in 1962.	NT 278 438	Regional	0.01
	Stotfield Knowe	Two sheepfolds on either side of a stream.	NT 277 431	Local	0.02
	Kittlegairy Burn	A cup and ring marked stone; a sandstone slab, c.3' square with 2 cup-and-one-ring up to 4" diameter, and a ring mark. No trace of stone between 1960 and 1974.	NT 270 419	Other	1.0
	Smithfield	A fort defended by triple ramparts which enclose an area measuring 175' by about 110'. The ramparts are severely reduced to 2'6" in height. Traces of a ditch on the NNE, but no entrance or interior features. Inner rampart no longer visible.	NT 269 409	Regional	0.4

Historic Environment Records					
Designation and HES Reference	**Name**	**Feature Description**	**Grid Reference**	**Importance**	**Area (ha)**
	Cardie Hill	A fort with at least two, and possibly three lines of defence, which enclose a circular area measuring about 105' in diameter. Stone wall spread to 20' and up to 3' high. Site damaged by stone robbing, cultivation and forestry.	NT 278 410	Regional	0.45
	Kirn Law	A single hut platform, 30ft in width. Before being planted with trees, other platforms may have been obliterated by former cultivation.	NT 300 408	Other	1.0
	Middle Hope Rig (1)	Two scooped settlements. The SE one is 70' by 50' internally with 4' high walls. The interior is divided into two, each with an entrance. The second settlement is 60' by 50' internally, entrance in WSW and a scooped house platform in the higher NE end.	NT 303 410	Regional	0.09
	Middle Hope Rig (2)	An unenclosed platform settlement comprising six hut platforms; one is 30' wide, two 35', one 40', and two 55'. A 7th platform was noted by the OS and that around the largest one was a possible stone bank.	NT 303 409	Regional	0.33
	Eshiels Burn	Two burnt mounds. The one to the W is 2.7m diameter, 30cm high and cut by the burn. The E one is oval in shape and measures 8 x 5.5m, 90cm high (these	NT 291 404	Regional	0.01

Historic Environment Records					
Designation and HES Reference	**Name**	**Feature Description**	**Grid Reference**	**Importance**	**Area (ha)**
		features are outside the forest block boundary, but their impact zones do clip the boundary)			
	Venlaw Icehouse	A well-preserved stone-build structure with an arched roof and square entrance about 1.5m high. On south-facing slope in open larch stand overlooking Peebles	NT 258 407	Regional	0.01
	Kirkburn, Our Lady's Church and Graveyard	Remains of a church probably built as a parish church in 1614 and may have replaced an earlier 12th century chapel. Probably adapted as a burial enclosure in 1724. An enclosed burial ground surrounds the church.	NT 291 382	Regional	0.31
	Castle Knowe	A farmstead comprising one building aligned N/S, a triangular enclosure is attached to the N end of the building.	NT 304 370	Regional	0.05
	Wallace's Hill	A possible enclosed cremation cemetery measures 35ft in diameter within a stony bank 5ft thick and 1ft in height. A cairn, possible modern, measuring 12ft in diameter and 5ft 6ins high, lies within. The cemetery may be a sheepfold.	NT 304 361	Regional	0.01
	Highland Shiel	A settlement measuring 160ft by 130ft within a stony bank 3ft in height and 12ft in thickness. An annex to the S measures 110ft by 60ft internally. The entrances are	NT 289 365	Regional	0.32

Historic Environment Records					
Designation and HES Reference	**Name**	**Feature Description**	**Grid Reference**	**Importance**	**Area (ha)**
		situated on the SE and are 6 ft in width. Hut circles seen in 1961, not visible in 1974.			
	Cademuir Plantation	A possible oval enclosure lying E-W, 70m long ; at the E end are three circular chambers included in the bank and opening to the outside. Nothing visible in later visit in 1974.	NT 247 388	Other	1.0
	Crookston	An enclosure measures 130' by 110' within a ruined wall some 6' to 8' in thickness. The entrance is on the ESE. Two depressions, 6.0m and 8.0m in diameter, against the E side may indicate house sites. Damaged by a later sheepfold.	NT 241 372	Regional	0.18

Appendix VI: Landscape Assessment and 3D Visualisations

Refer to separate attached document.