Forestry and Land Scotland
Coilltearachd agus Fearann Alba

Wauchope West

Land Management Plan 2024 – 2034

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:	Wauchope West including Shankend, Whitrope and Wauchope Burn Forests
Grid Reference (main forest entrance):	Centre of plan area: NT 5391 0161 Main forest entrances: Shankend (N): NT 5369 0350 Shankend (S): NT 5264 0032 Whitrope (W): NT 5319 0131 Whitrope (S): NY 5320 9383 Wauchope Burn (Hell's Hole): NT 5898 0713 Wauchope Burn (Cheviot Viewpoint): NT 5901 0343
Nearest town or locality:	Bonchester Bridge and Newcastleton
Local Authority:	Scottish Borders Council

Applicant's details	
Title / Forename:	John
Surname:	Ogilvie
Position:	Planning Forester
Contact number:	07887 822525
Email:	John.ogilvie@forestryandland.gov.scot
Address:	Forestry and Land Scotland, Weavers 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 Scottish Forestry 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		**Date of Approval**	
		Date Approval Ends	

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1.0 Objectives and Summary

1.1 Plan overview and objectives

Plan name	Wauchope West
Forest blocks included	Shankend, Whitrope and Wauchope Burn
Size of plan area (ha)	4193
Location	See Location map (**Map 1**)

Long Term Vision
Shankend, Whitrope and Wauchope Burn will be resilient, healthy and productive forests, providing a sustainable and significant contribution to South Region's softwood timber production and income.
Management Objectives
1. Ensure a sustainable supply of high-quality softwood timber, supplying local and national timber markets, securing timber income and providing secure employment in the forestry industry. 2. Plan and design a resilient and healthy forest, mitigating the risks posed by climate change and a growing number of pests and diseases. Alongside this, ensure the forest makes a positive contribution to mitigating the broader climate emergency by locking up carbon in trees and soils. 3. Continue 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. 4. Maintain good water quality throughout the forest, protecting private water supplies. 5. Enhance the forest landscape, in particular in the area around Hell's Hole where public access is promoted through the provision of waymarked walking trails. Focus species diversity and alternative to clearfell management techniques in this area.
Critical Success Factors
• Achieve clearfell and thinning programme to contribute to South Region's sustainable timber production targets. • Achieve timely and successful restock through planting and regeneration. • Protect young trees from deer damage, in particular 'soft' conifers and broadleaves. • Timely thinning of all thinable stands, ensuring first thinning windows are not missed.

1.2 Summary of planned operations

Table 1

Summary of Operations over the Plan Period	
Clear felling (gross)	595 ha
Thinning (potential area)	1409 ha
Restocking (gross)	717 ha
Afforestation	0 ha
Deforestation	0 ha
Forest roads	2650 m
Forestry quarries	0.4 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**.

The objectives for the site are listed below and how the key features present opportunities or constraints. The Analysis of these form the concept for this Land Management Plan.

Objective 1: Ensure a sustainable supply of high-quality softwood timber, supplying local and national timber markets, securing timber income and providing secure employment in the forestry industry.

- Opportunities:
  - A mature forest, well-through re-structuring of the first rotation, with the potential to continue growing a sustainable supply of softwood for sawlogs and other timber products.
  - Close to major timber markets with good roads networks.
  - A well-established forest road network, with few areas requiring further roading.
- Constraints:
  - Much of the forest is on poorer soils (in terms of soil nutrient regime), which might limit yield class on some sites in the second rotation. (fertiliser is highly unlikely to be applied).

- Exposed sites (DAMS > 16) combined with shallow, wet soils limit opportunities for thinning and thus better-quality timber.
- Recent felling of windblow and larch have resulted in more extensive felling over the previous plan period than originally planned, so timber production over this plan may have to be slowed down.
- High current dependence on Sitka spruce leaves the forest vulnerable to potential pests and diseases.
- Deer browsing is a major threat to successful establishment, of alternative species.
- Younger first rotation in the north-east part of Wauchope Burn Forest currently has poor forest road access.

- Concept:
  - Prioritise felling of remaining older unstable and partially windblown coupes.
  - Identify potentially thinable stands, ensuring first thinning is programmed early to promote stand stability. Similarly, ensure subsequent thinning is carried out as early and frequently as practicable, to develop stability and better-quality timber.
  - Where soils and other site conditions allow, seek opportunities to diversify choice of conifer species, without compromising productivity. Sitka spruce is likely to continue to be the dominant species.
  - Assist deer management by creating and maintaining more open 'deer glades', clearing Sitka and other excessive natural regeneration where necessary. Plant alternative 'softer' species where they can be adequately protected.
  - Adjust future felling years of management coupes to 'smooth' the forest age structure and develop a more sustainable long-term supply of timber.

6. Objective 2: Plan and design a resilient and healthy forest, mitigating the risks posed by climate change and a growing number of pests and diseases. Alongside this, ensure the forest makes a positive contribution to mitigating the broader climate emergency by locking up in trees and soils.

- Opportunities:
  - Some areas have been previously thinned, and some second rotation coupes will be ready for thinning during this plan period. Where it is possible, timely thinning will help develop forest stability.
  - First rotation forest restructuring (felling and restocking) is well-advanced, giving the opportunity to develop coupes with more windfirm green edges, rather than have unstable brown edges associated with restructuring large areas of even-aged plantation.
  - With better soils and a history of thinning, there is scope to develop a more structurally and species diverse forest around Hell's Hole, at the northern end of Wauchope Burn.

    - An extensive forest with the potential to lock up large amounts of carbon in productive trees and soils.
- Constraints:
    - Increasing threat of pests and diseases, as illustrated by the rapid spread of *Phytophthora ramorum* and subsequent felling of larch in South Region, including parts of Wauchope.
    - Increasing number, intensity and unpredictability of extreme weather events, as illustrated by the extensive blown areas following Storm Arwen in late 2021.
    - Current dominance of a single species (Sitka spruce), and limited opportunities to bring in a wider range of productive conifer species that can match Sitka for timber yield.
    - The risk of forest management practices disturbing soils to the extent that there may be a negative carbon balance on some sites.
- Concept:
    - Carry out timely first and subsequent thinning to help develop stand stability and keep future silvicultural options open in areas such as Hell's Hole.
    - Using Ecological Site Classification (ESC) and local site knowledge, diversify conifer restock species where possible without significant loss in productivity yield class. There may be limited opportunities where alternative conifers are 'very suitable' and close to the potential yield of Sitka. Less productive alternative conifers should be targeted where they also offer landscape, biodiversity and general amenity benefits.
    - Manage sites to ensure a positive carbon balance, using the most appropriate harvesting and ground preparation machinery and techniques.

Objective 3: Continue 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 riparian corridors with native broadleaves and open habitat, and connectivity with Catlee Burn by Hell's Hole.
    - Forest edge habitat work already underway with restocking at Leap Hill (Shankend).
    - Exisiting areas of Natural Reserve (NR), Minimum Intervention (MI) and Long-Term Retention provide a good starting point for this plan.
    - Important areas of open habitat previously identified, with some proactive management already underway to maintain or improve habitat quality.
- Constraints:
    - Browsing by deer and sheep.
    - Impacts of tree diseases and pests, for example the impact in recent years of *Hymenoscyphus fraxineus* (ash dieback) on native ash.

    - Invasive non-native species are present on some sites, notably Japanese knotweed near Palmer's Cutting SSSI, and will take prolonged effort to eradicate.
    - Sitka spruce natural regeneration frequently establishes itself in riparian corridors.
    - Open habitat (former industrial land) near Riccarton Junction is likely to revert to broadleaf scrub woodland unless continually cleared.
    - Similarly, some proposed open peat habitat quickly regenerates with Sitka spruce.
- Concept:
    - Continue to develop the riparian habitat network, as opportunities arise through felling and restocking.
    - Target broadleaf planting where maximum benefit can be gained, and trees are easier to protect from deer browsing.
    - Monitor and remove unwanted conifer regeneration from riparian habitat as necessary.
    - Optimise use of more prolific and easier to establish species such as birch and willow in less accessible areas.
    - Continue to manage forest boundary with open hill to provide suitable edge habitat for black grouse and other wildlife.
    - As opportunities arise through felling and restocking, develop better connectivity between core habitat network, other areas of natural reserve and minimum intervention and neighbouring ancient semi natural woodland.
    - Focus open habitat management on most valuable areas (in biodiversity terms) where sustainable long-term management is viable, e.g. a core area of former industrial land at Riccarton.

Objective 4: Maintain good water quality throughout the forest, protecting private water supplies.

- Opportunities:
    - Many riparian corridors already provide good buffering for watercourses, with scope to expand this throughout, as forest restructuring is progressed through felling and restocking.
    - Similarly, when felling and restocking, more expansive permanent buffer areas can be established in the vicinity of PWS.
    - Riparian habitat network and other open buffer areas will enhance the overall biodiversity value of the forest.
- Constraints:
    - There will continue to be forest operations in catchments throughout the plan area, so it will not be possible to remove all potential associated risks.
    - Planned new roads in the Langburnshiels area Wauchope Burn forest block may require numerous burn crossings (not proposed in this plan period).

    - Catchments for water supplies can be extensive and include large areas of plantation forest. They can also extend beyond the forest boundary, and therefore beyond FLS control.
- Concept:
    - Review existing riparian zones with native broadleaves and open habitat, and identify opportunities to expand and improve these, within PWS catchments.
    - Continue to create or expand riparian buffer zones as further coupes are felled and restocked.
    - Ensure watercourses are adequately protected during all forest operations, including civil engineering works, strengthening existing measures where necessary.
    - Review the felling coupe design and planned forest roads with view to minimising the length of new road required to service forest operations and therefore potential impacts on watercourses and catchments.
    - Ensure good communication with neighbours and householders dependent on PWS, when carrying out detailed site planning for forest operations.

Objective 5: Enhance the forest landscape, in particular in the area around Hell's Hole where public access is promoted through the provision of waymarked walking trails. Focus species diversity and alternative to clearfell management techniques in this area.

- Opportunities:
    - Existing waymarked trails at Hell's Hole a more diverse and interesting part of the forest, with conifers and broadleaves of a wide age and species ranges.
    - Historic thinning of older trees keeps options open for future lower impact (non-clearfell) silvicultural management.
- Constraints:
    - Recent windblow and less stable conifer stands on more exposed, poorer sites may limit options in these areas.
    - Some younger mixed stands have missed a first thinning window, limiting future options.
- Concept:
    - Retain diverse broadleaf/conifers as minimum intervention or long-term retention, monitoring the area for excessive natural regeneration of Sitka spruce and any invasive non-native species which should be removed if necessary.
    - Continue to thin Sitka spruce in the Hell's Hole area where there is still an opportunity to convert the plantation to continuous cover forestry management to bring about greater structural and species diversity.

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.

Designations and significant features		
Feature type	**Present**	**Note**
Site of Special Scientific Interest (SSSI)	Yes	Palmer's Cutting
National Nature Reserve (NNR)	No	
Special Protection Area (SPA)	No	
Special Area of Conservation (SAC)	Yes	River Tweed
World Heritage Site (WHS)	No	
Scheduled Monument (SM)	Yes	The Catrail linear earthworks; Ninestane Rig stone circle; Riccarton Tower
National Scenic Area (NSA)	No	
National Park (NP)	No	
Deep peat soil (>50 cm thickness)	No	
Tree Preservation Order (TPO)	No	
Biosphere reserve	No	
Local Landscape Area	No	
Ancient woodland	No	Neighbouring ASNW at Cragbank
Acid sensitive catchment	No	
Drinking Water Protected Area (Surface)	No	

Table 2

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)
1	51002	2026/27	26.4
1	51015	2024/25	6.0
1	51024	2028/29	27.0
1	51032	2025/26	23.1
1	51036	2028/29	19.1
1	51047	2024/25	21.6
1	51050	2026/27	16.4
1	52032	2028/29	31.8
1	52041	2028/29	13.2
1	52052	2027/28	6.5
1	52057	2024/25	5.7
1	52068	2024/25	1.9
1	52069	2024/25	7.2
1	52070	2024/25	8.3
1	53041	2025/26	57.3
1	53102	2025/26	15.8
	Total Phase 1		287.3
2	51009	2031/32	21.3
2	51018	2029/30	16.1
2	51028	2032/33	28.7
2	51045	2031/32	18.8
2	52006	2030/31	22.0
2	52013	2032/33	38.9
2	52029	2030/31	26.4
2	52037	2029/30	23.0
2	52059	2032/33	30.7
2	53002	2032/33	19.6
2	53028	2032/33	27.2
2	53030	2031/32	20.5
2	53101	2032/33	12.5
	Total Phase 2		305.7
		Plan Total	593.0

Table 4

Clearfell by Species													
		Net Area (ha) by Main Species >20% (or MC, MB)											
Coupe Number	Fell Year	DF	EL	HL	JL	LP	NS	SP	SS	GF	MC	MB	Coupe Total
51002	2027	7.6		1.9					20.7				30.2
51015	2025			0.8	0.4				3.2				4.4
51024	2029								25.1				25.1
51032	2026								23.9				23.9
51036	2029								19.3				19.3
51047	2025								21.2				21.2
51050	2027								13.7				13.7
52032	2029								31.6				31.6
52041	2029								12.1				12.1
52052	2028								6.5				6.5
52057	2025								4.1	0.5			4.6
52068	2025			1.9									1.9
52069	2025			1.8				0.5	4.2				6.5
52070	2025								7.7				7.7
53041	2026								50.9				50.9
53102	2026								14.8		0.3		15.1
51009	2030								21.4				21.4
51018	2030								12.8				12.8
51028	2033								12.0				12.0
51045	2032								15.4				15.4
52006	2031								19.2				19.2
52013	2033					1.9			31.9				33.8
52029	2031								23.7				23.7
52037	2030								17.6				17.6
52059	2034								30.1				30.1
53002	2033								14.8				14.8
53028	2034								26.5				26.5
53030	2032								18.8				18.8
53101	2033				0.1				12.4				12.5
Plan Area Total		7.6	0	6.4	0.5	1.9	0	0.5	515.6	0.5	0.3	0	533.3

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			4193 ha							
Felling	Phase 1	%	Phase 2	%	Phase 3	%	Phase 4	%	Long Term Retention	%
Net Area (ha)	287.3	6.9	305.7	7.3	209.4	5.0	153.1	3.7	0	0

3.3 Thinning

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

This covers an area of 1409 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 MAI, or YC, per year). Higher intensities (no more than 140 % of maximum MAI, or YC, per year) may be applied where thinning has been delayed, larger tree sizes are being sought or as part of a LISS prescription. In all cases work plans will define the detailed thinning prescription before work is carried out and operations will be monitored by checking pre and post thinning basal areas for the key crop components.

3.4 Other tree felling in exceptional circumstances

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

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

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

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

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

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

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

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

3.5 Restocking

Proposed restocking is shown on the Future Habitats and Species map (Map 6).

Table 6

Restocking							
Phase †	Coupe Number	Gross Area (ha)	Proposed Restock Year	Species	Method *	Minimum stocking Density (s/ha)	Note
F	51016	9.0	2025/26	SP/BI	R	2500	70:30
				NMB/open	R	1600	50:50
F	51035	8.0	2025/26	SS	R	2500	
				MB/open	R	1600	50:50
F	51039	25.0	2025/26	SS	R	2500	
				NMB/SP/open	R	1600	
F	52039	9.6	2024/25	NS/NF	R	2500	60:40
F	53019	9.4	2025/26	NS/NF	R	2500	60:40
F	53020	1.7	2025/26	NS/NF	R	2500	60:40
F	53055	11.4	2025/26	SS/DF	R	2500	60:40
				NMB/open	R	1600	50:50
F	53072	10.6	2025/26	NS/NF	R	2500	60:40
F	53073	12.3	2025/26	SS/NF	R	2500	60:40
F	53079	2.1	2025/26	SP/SBI	R	2500	70:30
F	53091	14.2	2026/27	SS/NF	R	2500	60:40
				SS	R	2500	

Restocking							
				NMB/open	R	1600	50:50
F	53092	6.3	2026/27	SP/BI	R	2500	70:30
F	53094	4.9	2025/26	NS/NF	R	2500	
Recently Felled Total		124.5					
1	51002	26.4	2028/29	SS/DF	R	2500	60:40
				SP/BI	R	2500	70:30
1	51015	6.0	2026/27	SP/BI	R	2500	70:30
				NMB/open	R	1600	50:50
1	51024	27.0	2030/31	NF	R	2500	
				SS/NF	R	2500	60:40
				NMB/open	R	1600	
1	51032	23.1	2027/28	SS	R	2500	
1	51036	19.1	2030/31	NS	R	2500	
				SS	R	2500	
1	51047	21.6	2026/27	SS	R	2500	
1	51050	16.4	2028/29	SS	R	2500	
				NMB/SP/open	R	1600	40:20:40
				SP	R	2500	
				NMB/open	R	1600	50:50
1	52032	31.8	2030/31	SS	R	2500	
				NMB/open	R	1600	50:50
1	52041	13.2	2030/31	SS	R	2500	
				NMB/open	R	1600	50:50
1	52052	6.5	2029/30	NS/NF	R	2500	60:40
				NMB/open	R	1600	50:50
1	52057	5.7	2026/27	SP/BI	R	2500	70:30
				NMB/open	R	1600	50:50
1	52068	1.9	2026/27	SP/BI	R	2500	
1	52069	7.2	2026/27	NF	R	2500	
				SS	R	2500	
1	52070	8.3	2026/27	SS/NF	R	2500	
				NMB/open	R	1600	50:50
1	53041	57.3	2027/28	SS	R	2500	
				SS/NF	R	2500	60:40
1	53102	15.8	2027/28	SP/SBI	R	2500	70:30
Phase 1 Total		287.3					
2	51009	21.3	2033/34	SS/NF	R	2500	60:40
				NMB/open	R	1600	50:50
2	51018	16.1	2031/32	SS/NS	R	2500	60:40
				NMB/open	R	1600	50:50

Restocking							
2	51028	28.7	3034/35	SS	R	2500	
				NMB/open	R	1600	50:50
2	51045	18.8	2033/34	SS	R	2500	
2	52006	22.0	2032/33	SS/NF	R	2500	60:40
				NMB/open	R	1600	50:50
2	52013	38.9	2034/35	SS	R	2500	
				NMB/open	R	1600	50:50
2	52029	26.4	2032/33	SS	R	2500	
				NS	R	2500	
				NMB/open	R	1600	50:50
2	52037	23.0	2031/32	SS	R	2500	
				SP	R	2500	
				NMB/open	R	1600	50:50
2	52059	30.7	2035/36	SS	R	2500	
2	53002	19.6	2034/35	SS	R	2500	
				NMB/open	R	1600	50:50
2	53028	27.2	2035/36	SS	R	2500	
				SS/NF	R	2500	60:40
				NMB/open	R	1600	50:50
2	53030	20.5	2033/34	SS/NF	R	2500	60:40
2	53101	12.5	2034/35	SS/BI	R	2500	70:30
Phase 2 Total		305.7					

Total	717.15

† recently felled awaiting restock (F) / Phase 1 (1) / Phase 2 (2)
* replant (R) / natural regeneration (NR) / plant alternative area (ALT) / no restocking (None)

If the Restock or natural regeneration should fail to reach 1600 per hectare (Native Broadleaves) or 2500 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	2593	62	2423	58	2343	56
Other conifers	328	8	464	11	529	13
Native broadleaves	200	5	252	6	278	7
Other broadleaves	13	0	11	0	9	0
Fallow	166	4	154	4	138	3
Open land	894	21	890	21	897	21
Total	**4194**	**100**	**4194**	**100**	**4194**	**100**

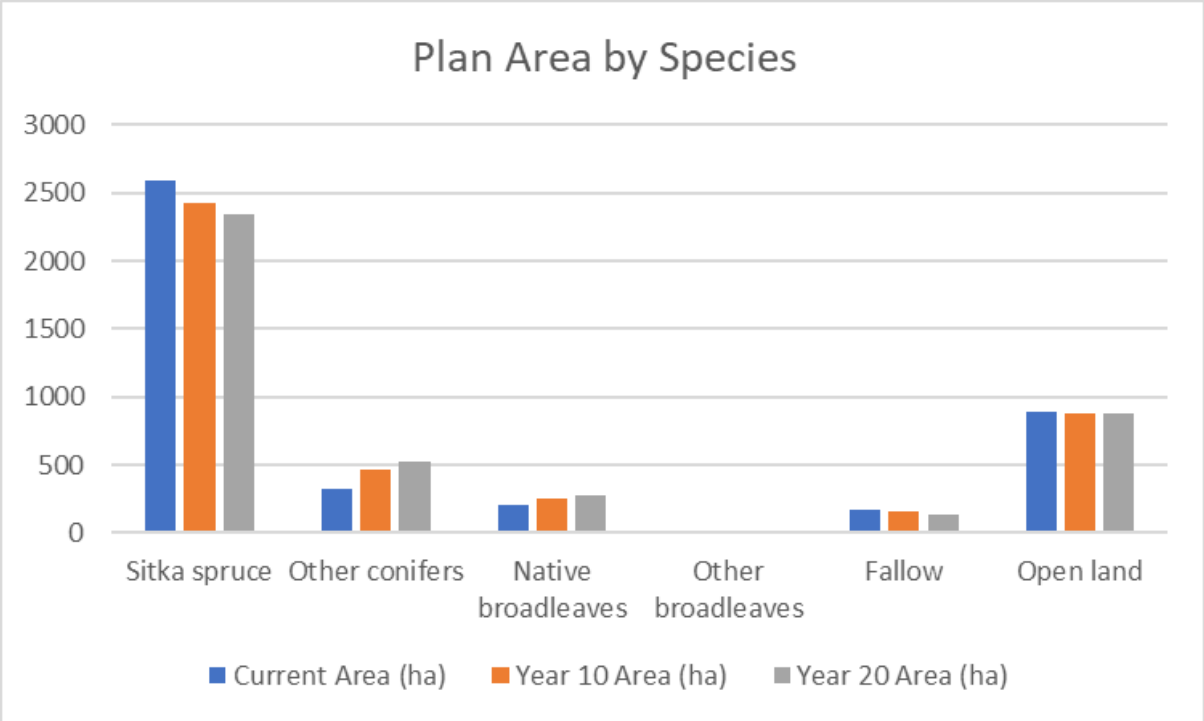

Figure 1: Plan area by species

Table 8

Plan area by Age						
Age Class (years)	Current Area (ha)	%	Year 10 Area (ha)	%	Year 20 Area (ha)	%
0 – 10	533	13	638	15	419	10
11 – 20	730	17	487	12	585	14
21 – 40	1124	27	1107	26	1203	29
41 – 60	691	16	819	20	812	19
60+	55	1	101	2	143	3
Open/fallow	1061	25	1042	25	1032	25
Total	**4194**	**100**	**4194**	**100**	**4194**	**100**

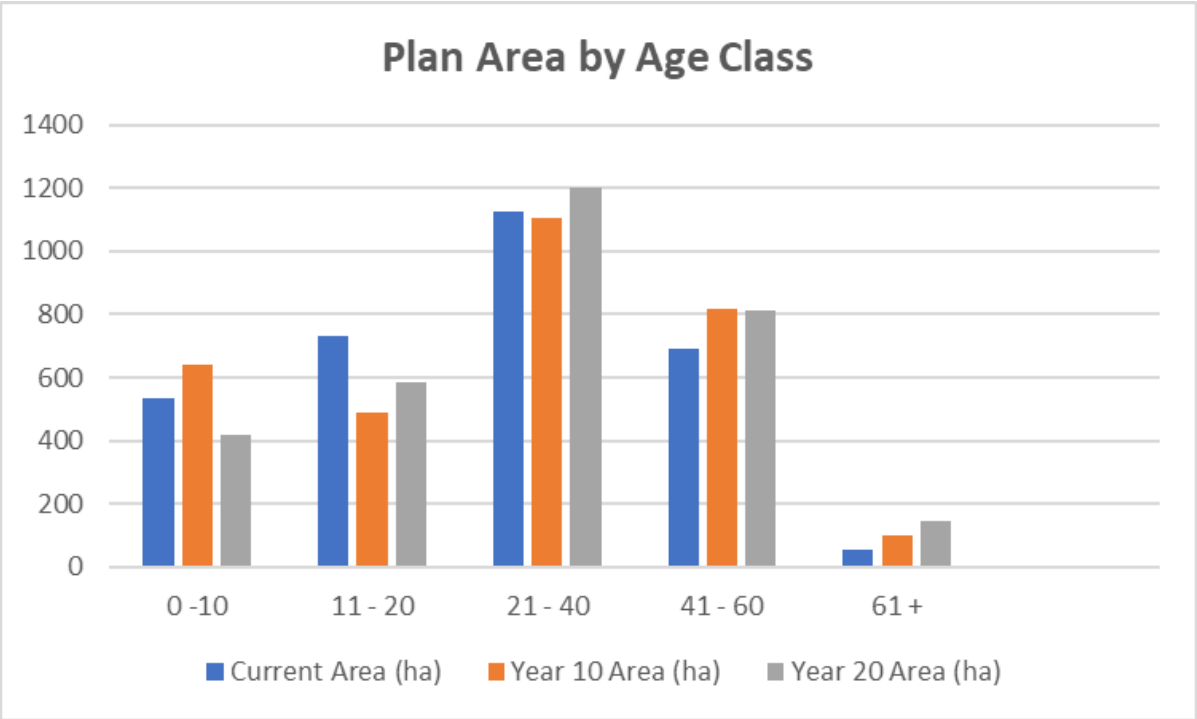

Figure 2: Plan area by age class

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
Forest Roads				
1	Sundhope Burn W52 extension	200	2025/26	New forest road/forwarder track
1	Ninestane Rig W51 extension	200	2028/29	New forest road/forwarder track
1	Leap Burn W22A	700	2028/29	New forest road
1	W17	590	2026/27	Upgrade forest road
1	W17	220	2026/27	New forest road
2	W51A	150	2029/30	New forest road
2	Blackwood Hill W77A	1000	2032/33	New forest road
Total new and upgraded roads		3060		
Quarries				
1	Riccarton Quarry	0.4 ha	2026/27	Quarry expansion

3.8 Environmental Impact Assessment (EIA)

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

Table 10

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

3.9 Tolerance table

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

4.0 Management Proposals – guidance and context

4.1 Silviculture

4.1.1 Clear felling

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

Phase 1:

51002 (2026/27) Shankend Hill
Clearfell to start restructuring Shankend Hill, planted in the early 1990s. Predominantly Sitka spruce but Hybrid larch in the northern part of the coupe was 'felled to recycle' early 2024 as part of a SPHN (STH22_1020_1021_1022), following infection with *Phytophthora ramorum*. There is a small proportion of larch in the southern half of the coupe. This is a steep site, and steep ground harvesting may be required. Other constraints include an extensive network of badger setts on the lower slope, along the northwestern coupe boundary.

51015 (2024/25) Shankendshiel
Clearfell of younger P2006 Hybrid larch and P2009 Japanese larch in mixture with P2006/P2009 Sitka spruce. This is a SPHN (STH_0531_0532_0534) felling, following infection by *Phytophthora ramorum*. Constraints include the catchment for a private water supply (PWS), the collecting tank lying just north of the coupe.

51024 (2028/29) Leap Hill (North)
A heavily windblown coupe (~50%) of P1974 Sitka spruce. Adjacent coupes have either just been restocked (2023) or have yet to be restocked, but it is proposed to proceed with this clearfell in Phase 1 due to the extent of windblow.

51032 (2025/26) Whitrope Tunnel (East)
A heavily windblown coupe (~50%) of P1973 Sitka spruce. Whitrope Tunnel is just to the south-west of the coupe. A PWS catchment just clips the southern coupe boundary.

51036 (2028/29) Whitrope Tunnel (West)

A heavily windblown coupe (~50%) of P1974 Sitka spruce. Whitrope Tunnel is just to the north-east of the coupe.

51047 (2024/25) Larriston Knowe
P1974/75 Sitka spruce, heavily windblown (~20%) along the southern coupe boundary.

51050 (2026/27) Sundhope
P1974 Sitka spruce with large patches of windblow (~20%). The rough road through the southern part of the coupe is not suitable for operational access and is also the access road for Sundhope Farm and a mast site. A short forest road extension, or possibly forwarder access track, will be required to access the coupe from the northeast. A 11kV overhead power line runs through the southern part of the coupe.

52032 (2028/29) Whitropefoot
P1975 Sitka spruce with large areas of windblow (~25%). The southwestern corner of the coupe is within a private water supply catchment.

52041 (2028/29) Roughley Burn
A heavily windblown coupe (~30%) of P1975 Sitka spruce.

52052 (2027/28) Cats Cleuch
A heavily windblown coupe (~40%) of P1979 Sitka spruce. Palmers Cutting SSSI is situated on the southern side of the coupe, on the former Kielder and North Tyne Branch Railway. It is proposed to upgrade the track for harvester and forwarder access from the end of forest road W17. A temporary bridge or culvert will be required to cross Cats Cleuch. Access cannot be taken through Palmers Cutting SSSI.

52057 (2024/25) Riccarton Burn
A largely windblown coupe (~90%) of P1978 Sitka spruce/grand fir, on the eastern side of the former Borders Union Railway which provides forest road access.

52068 (2024/25) South Pit
A small coupe of P1978 Japanese larch on the western side of the North Tyne Branch Railway which provides forest road access. With SPHNs close by to fell larch infected with *Phytophthora ramorum,* it is proposed to pre-emptively fell this stand of larch.

52069 (2024/25) Bell Hill
The P1978 hybrid larch in this coupe is subject to a SPHN due to infection with Phytophthora ramorum. The northwestern edge of P1978 Sitka spruce and Scots pine is also extensively windblown.

52070 (2024/25) Riccarton Burn Footbridge
A largely windblown coupe (~70%) of P1978 Sitka spruce, on the western side of the former Borders Union Railway which provides forest road access.

53041 (2025/26) Harwood Moss
1st rotation P1990 Sitka spruce with a large amount of windblow in the southern half of the coupe (~25%). Larch was felled in 2021 following infection with *Phytophthora ramorum* and subsequent issue of a SPHN (STH21_0132-0134).

53102 (2025/26) Wauchope Rig
P1982 Sitka spruce (with a small proportion of Japanese larch and mixed conifers), with a large patch of windblow in the northern part of the coupe (~15%). The coupe has a heritage feature (enclosure) within it, and two private water supply catchments reach into the coupe. The forest road is part of a waymarked forest trail, and farm track passes through the coupe.

Phase 2:

51009 (2031/32) Hillend
Clearfell P1993 Sitka spruce as part of restructuring Shankend Hill. Larch was felled in 2024 following infection with Phytophthora ramorum and subsequent issue of a SPHN (STH22_0531_0532_0534). Constraints include several badger setts.

51018 (2029/30) Leap Burn
Clearfell P1973 Sitka spruce with several pockets of windblow (~15%). The southern coupe boundary is within the Catrail linear earthwork Scheduled Monument, so consultation with Historic Environment Scotland will be required before it is felled. A new forest road is proposed (and has been surveyed) to access the coupe from the north, avoiding crossing Leap Burn.

51028 (2032/33) Catrail
Clearfell P1973 Sitka spruce with several pockets of windblow (~20%). The northern coupe boundary is within the Catrail linear earthwork Scheduled Monument, so consultation with Historic Environment Scotland will be required before it is felled. The coupe also includes part of a PWS catchment.

51045 (2032/32) Whitrope Viaduct
Clearfell P1975 Sitka spruce, the southern edge of which is heavily windblow (~15%).

52006 (2030/31) Laidlehope Burn
A heavily windblown coupe (~30%) of P1970 Sitka spruce.

52013 (2032/33) Leys Burn
Clearfell P1967 Sitka spruce, with a small proportion of Lodgepole pine. There are several patches of windblow along the western coupe edge (~10%).

52029 (2030/31) Whitrope Burn
Clearfell P1975 Sitka spruce with pockets of windblow, notably along the southern coupe boundary (~15%). A short new forest road spur or forwarder track is proposed to service the coupe, coming off forest road W51.

52037 (2029/30) Roughley Burn
Clearfell P1975 Sitka spruce, extensively windblown on the western coupe boundary (~20%). There is heritage interest in the north-west corner of the coupe, associated with Ninestone Rig Scheduled Monument which lies just outside the coupe. A short new forest road extension or forwarder track is proposed to service the coupe, extending from the end of forest road W51.

52059 (2032/33) Blackwood Hill
Clearfell P1978 Sitka spruce, with large patches of windblow on the northwestern and southern coupe boundaries (~20%). A new forest road is proposed to access thie coupe, coming off forest road W77.

53002 (2032/33) Kiln Sike
Clearfell P1971 and P1992 Sitka spruce, the inclusion of the younger stand improving the coupe design.

53028 (2032/33) Blackrig Sike
P1970 Sitka spruce with some large patches of windblow (~10%).

53030 (2032/32) Fanna Hill
Clearfell P1971 and P1982 Sitka spruce, extensively windblown along the northwestern boundary, above the forest road (~10%). This is a steep coupe but should be workable with conventional harvester and forwarder.

53101 (2032/33) Kinshel Haugh
Mainly P1985/82/77 Sitka spruce with a small proportion of P1982 Japanese larch. The forest road provides informal public access, and there is a farm track on the western coupe boundary.

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 and 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.

This plan does however include several heavily windblown felling coupes, and it is proposed to fell some of these before the adjacent trees are likely to have reached 2 m in height. Given the age of the windblow, to delay felling would significantly reduce the value of the timber. In these cases, separation will be achieved through delayed restocking. These are coupes 51024, 51036, 52041, 52057, 52069 and 52070.

4.1.2 Thinning

Refer to Map 5.

In total this LMP is aspiring to have 1409 ha approved for thinning operations.

The priority coupe for subsequent thinning is CCF coupe 53103. It may be too late to continue thinning other previously thinned coupes due to the increased risk of windblow, but these will be assessed on a site-by-site basis.

The overall priority is to capture younger coupes for first thinning. Those identified on Map 5 will be assessed on a coupe-by-coupe basis to determine the optimal time for first thinning. Some coupes may have missed the 'thinning window' due to the risk of instability on exposed sites with poor soils.

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

Refer to Map 4.

A significant area in the north of the plan area was identified for CCF management in the previous plan. Further thinning was carried out, but not as extensively as originally planned, and there has also been extensive windblow in this area. It is hoped that CCF management can be developed in younger stands where appropriate, but converting extensive areas of older plantation to CCF is no longer considered viable.

It is proposed to continue converting a limited area of older conifers to CCF management in the Hell's Hole area. Further thinning will be carried out in coupe 53103 with a view to developing a simple shelterwood system. As the canopy is opened, Sitka spruce regeneration will be supplemented by underplanting with other suitable shade tolerant conifer species.

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

Refer to Map 4.

Long Term Retention
16 coupes (120 ha) of varying age, species and size have been retained as LTR, some of these tying in with areas of MI and NR (see below). Some of these may in due course become MI. The majority of the older first rotation plantation has either been felled or has become increasingly unstable, with significant areas of windblow throughout, so will be clearfelled during this plan period. Providing timely thinning is achieved, there will be opportunities to develop future more stable LTRs in due course.

Minimum Intervention
Areas of MI are primarily based on the main riparian corridors where native broadleaves are already established in varying proportions alongside open habitat, or where further natural regeneration is expected with minimal management input. The already considerable area of 501 ha will increase as further areas are added through the process of clearfell and restocking. This will include area of woodland edge habitat being developed with a mixture of native broadleaves, Scots pine and open space, notably south of Leap Hill and near Sundhope.

Natural Reserve
Areas of Natural Reserve have previously been designated at two sites, close to Wauchope Burn and Wigg Burn, incorporating some of the older plantation (P1949 Norway spruce) together with younger native broadleaves and open habitat, totalling 27.1 ha.

4.1.5 Tree species choice / Restocking

Refer to Map 6.

Species choice is guided by desk-based Ecological Site Classification (ESC) and aims to meet the plan objectives. Diversifying conifer species while maintaining softwood productivity is challenging, with Sitka spruce remaining the only very suitable or suitable option over much of the plan area. Despite that, there will be a modest decrease in the proportion of Sitka during the 10-year plan period, with a continuing decrease over time. In the absence of larch, Noble fir is the most suitable alternative conifer, and there will be a modest increase in the proportion of this, either as pure Noble or in mixture with Sitka or Norway spruce. There will also be modest increases in the proportion of Norway spruce and Scots pine, which will have added benefits for biodiversity and landscape. Where local landscape and amenity are important, birch is included in mixture with Scots pine.

Native broadleaves will continue to be targeted in the main riparian corridors. Birch and willows will be the main species choice, either through natural regeneration or planting, because they offer the best chance of successful establishment in less accessible areas where deer browsing is a major threat. Other suitable native broadleaf species such as oak, aspen and rowan will be planted where they can be adequately protected from browsing.
In areas such as Leap Hill, where the aim is to establish more open edge habitat for black grouse and other wildlife, an open mixture of native broadleaves and Scots pine will be planted.

All broadleaf planting will be native to the area and should complement and/or enrich existing naturally growing scrub and woodland to give the most ecological value.

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

4.1.6 Natural regeneration

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

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

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

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

4.1.7 New planting

No new planting is proposed.

4.1.8 Protection

Deer

Wauchope West falls within Wauchope Deer Management Unit, and deer management is carried out by a Wildlife Contractor. Roe are the predominant deer species in this area with sporadic sightings of Sika and Red deer being reported in the recent past.

Management of deer is an underpinning activity essential for the delivery of benefits from Scotland's National Forest Estate. The aim is to manage healthy wild deer populations and manage deer impacts across the Estate consistent with the carrying capacity of the land and successful delivery of FLS land management objectives. Deer Management Plans direct the priorities for management and are available on request.

Tree Pests and Diseases

The main tree pests and diseases are outlined in Appendix 1.

Larch now occupies a very small (and diminishing) proportion of the forest so while *Phytophthora ramorum* remains a threat, it will have a limited impact across the plan area as a whole. Most remaining larch is of younger age and in mixture with Sitka spruce, so where possible it will be removed through thinning. Felling required for current SPHNs (issues 2023-24) are included in felling or thinning proposals.

Fire

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

4.1.9 Road operations, Timber haulage and other infrastructure

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

4.2 Biodiversity

4.2.1 Designated sites

Refer to Appendix 1.
Palmers Hill Railway Cutting SSSI

The site, important for its geological interest, will be monitored for woody trees and shrubs. These will be removed without disturbing the rock or sediment.

4.2.2 Native woodland

There is no semi-natural woodland in the plan area, but the core riparian habitat network, based on the main burns and other watercourses, has a matrix of open habitat and native broadleaves. As further forest re-structuring is carried out, through clearfelling and restocking, the area of native broadleaves will gradually expand.

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

There are no ancient woodlands or PAWS in the plan area.

4.2.4 Protected and priority habitats and species

All forest management operations involve a planning process before work commences which includes checks for wildlife and important habitats. Work plans will be adjusted if necessary to avoid disturbance, and opportunities to further protect species or enhance habitats will be identified.

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

As mature and increasingly unstable coupes are felled, areas of long-term retention, minimum intervention and natural reserve will continue to provide suitable habitat. Timely thinning of younger trees will help provide suitable, more stable future habitat.

Schedule 1 Raptors
There are several known raptor nesting sites in the forest, notably goshawk. Through the FLS work plan process, environmental checks are carried out prior to forest operations being carried out. Where necessary, mitigation will be put in place including timings, buffers and phased working.
As outlined above for red squirrels, suitable habitat will be retained and protected as far as possible, and future habitat developed.

Black grouse
Restocking the southern side of Leap Hill has already started developing more suitable woodland edge habitat, with a mixture of Scots pine, native broadleaves and open space. This

will be further enhanced when felled coupe 51039 is similarly restocked, and in due course 51040.

Badgers
Through the FLS work plan process, environmental checks are carried out prior to forest operations being carried out. Where necessary, mitigation will be put in place including timings, buffers and phased working.

4.2.5 Open ground

Currently open ground accounts for 21% of the total plan area, split largely between open hill and open habitat in riparian corridors. This will remain much the same by Year 10 and Year 20. Existing open habitats will continue to be 'managed open' and monitored for unwanted natural tree regeneration and other invasive plant species.

The open habitat at Shankend Hill that include purple moor grass rush pasture will continue to be managed with conservation grazing by cattle.

A more pragmatic approach will be taken at the open mosaic habitats on previously developed land in the Riccarton Junction area. A core area will be kept largely clear of trees and shrubs, but the surrounding area will be allowed to develop as an open broadleaved/scrub woodland.

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

4.2.7 Invasive species

Grey squirrels

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

Japanese Knotweed
Japanese knotweed in the Riccarton area, including near Palmers Cutting SSSI, will continue to be monitored, and controlled by chemical spraying as necessary.

4.3 Historic Environment

Refer to Appendix V and Map 12.

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

The Regional Historic Asset Management Plan includes conservation management intentions for designated historic assets on the National Forest Estate. Details of all known historic environment features are held within the Forester Web Heritage Data and included within work plans for specific operations to ensure damage is avoided. Significant historic environment features will be depicted on all relevant operational maps.

Areas of historic environment interest should be checked both on FLS's internal historic environment records and with the Council's HER prior to the commencement of forestry activities. Any upstanding features should be clearly marked, both on the ground and on operational maps. Care should be taken to avoid any damage to surviving structural elements.

4.3.1 Designated sites

Details of designated sites can be found within Appendix V.

4.3.2 Other features

No other features are noted.

4.4 Landscape

4.4.1 Designated areas

There are no landscape designations in or adjacent to the plan area.

4.4.2 Other landscape considerations

Felling during this plan period is largely of older first rotation coupes within the forest, many of which are significantly windblown, and is unlikely to have any significant landscape impact. With the exception of coupe 53041 which is significantly windblown, no felling and restocking in the younger plantation on the west-facing slopes of Wyndburgh Hill is proposed in this plan period. Consideration will need to be given to the felling design this area when the plan is next reviewed.

4.5 People

4.5.1 Neighbours and local community

Neighbours and local community councils have taken an active interest in the development of the plan and their aspirations have been incorporated where they do not conflict with the objectives of the plan and are consistent with FLS' approach to land management. Refer to Appendix III Consultation Record for comments and feedback received during the plan development.

4.5.2 Public access

Refer to Appendix 1 and Map 2.

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

Formal access in the form of public parking and waymarked walking trails will continue to be provided at Hell's Hole. The core recreation area is already an attractive mix of (mainly) broadleaves and conifers and will be managed intervention. It is proposed to continue thinning coupe 53101 with a view to developing continuous cover silvicultural management, in due course introducing alternative (to Sitka spruce) conifers. Clearfelling the windblown coupe 53102 provides the opportunity to restock with a more attractive mixture of Scots pine and birch, and birch will added to Sitka spruce in Phase 2 coupe 53101.

Woodland Management in Visitor Zones

Visitor Zones have been identified in areas where FLS encourage and manage access or where the woodland managed by FLS interacts with popular visitor sites or access routes.

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

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

4.5.3 Renewables, utilities and other developments

EDF are currently in the early stages of project development for the proposed Liddesdale Windfarm which includes part of this plan area. Details can be found on the EDF website at: www.edf-re.uk/our-sites/liddesdale. If the windfarm is approved, this plan will be reviewed and revised as necessary.

4.5.4 Support for the rural economy

Wauchope Forest is part of the local landscape that attracts visitors to the Scottish Borders area, who take advantage of local businesses and services. Careful forest design with these factors in mind, along with responsible delivery of forestry operations will provide a positive visitor experience and encourage return visits to the area.

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

4.6 Soils

4.6.1 Protection and Fertility

There will be minimal soil disturbance and machine movement on sites with clayey soils to reduce the risk of compaction or damage to the soil structure. Brash mats (or alternative measures) will be used to protect sensitive soils. Felling residue will usually be left on site to allow nutrient recycling, with consideration for the practicalities of restocking.

4.6.2 Cultivation

Where required, the 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 significant areas of deep peat.

4.7 Water

4.7.1 Drinking water

All private drinking water supply points (and pipes) are recorded as a layer in our Forester Web GIS (included in Appendix VI and Map 13). This is consulted during the work plan process for all forest operations to ensure their protection. Affected neighbours will be consulted prior to any works commencing. Features will be clearly marked on all contract maps, as well as on the ground. The design of the future forest has incorporated an open space or broadleaf buffer of at least 50m around these supply points to minimise future disturbance.

4.7.2 Watercourse condition

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

4.7.3 Flooding

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

For enquiries about this plan please contact:

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Appendix I: Description of Woodlands

Description of woodlands
Topography and Landscape
Wauchope West, part of Wauchope Forest, sits at the southwestern end of the Cheviot Hills, in the Southern Uplands. The topography is a series of ridges and valleys running mainly northeast – southwest, the valleys rising gradually to a central plateau. Elevation ranges from 170 metres above sea-level near Riccarton Junction, in the south, to 507 metres above sea level at Wyndburgh Hill, towards the north. A brief description of SNH Landscape Character Types (LCT) relevant to Wauchope West is given below; for a full description refer to NatureScot's Landscape Character Assessment in Scotland website. Southern Uplands – Southern Uplands with Forest - Borders The majority of the forest falls into this category. Key characteristics most relevant to FLS land are: • Large-scale rolling landform with higher dome or cone-shaped summits; • Dominant coniferous forest cover characterised by Sitka spruce plantations with occasional areas of pine and larch; • Simple uniform character; • Strong sense of enclosure, quietness and tranquillity. Southern Uplands with Scattered Forest - Borders The western edge of Wauchope Burn and Shankend Hill fall into this category. Key characteristics most relevant to FLS land are: • Large-scale rolling landform with higher dome or cone-shaped summits; • Significant areas of peatland and heather moorland; • Mosaic of grassland, bracken and rushes on lower ground; • Locally-prominent scattered large areas of forestry; • Degree of remoteness, wild character and grandeur of scale unique within the region. Woodland Upland Fringe Valley Bonchester Nursery falls into this category. Key characteristics more relevant to the nursery are: • Small scale, intimate, enclosed character; • Strong visual containment; • Heavily wooded valley floors and lower valley sides; Generally tranquil, unspoilt character.

Description of woodlands

Geology and Soils

Underlying geology is varied but dominated by sedimentary greywackes and sandstones, with a band of igneous basaltic lava running North-East to South-West through the middle of the plan area.

Soil types within the forest block are shown on Map 9. The map shows a complex mosaic of soils with most types represented.
Surface water gleys and peaty surface water gleys between them account for more than half the plan area (32% and 25% respectively). Flushed and unflushed blanket bogs account for a further fifth of the plan area (12% and 7% respectively). There are limited areas of deep peat where peatland restoration is likely to be a significant consideration, although past habitat survey has identified some potential sites.

Ironpans make up a further 12%, brown earths 9%, and small areas of man-made soils, rankers and skeletal soils, alluvial deposits and juncus basin bog making up the rest.

Climate

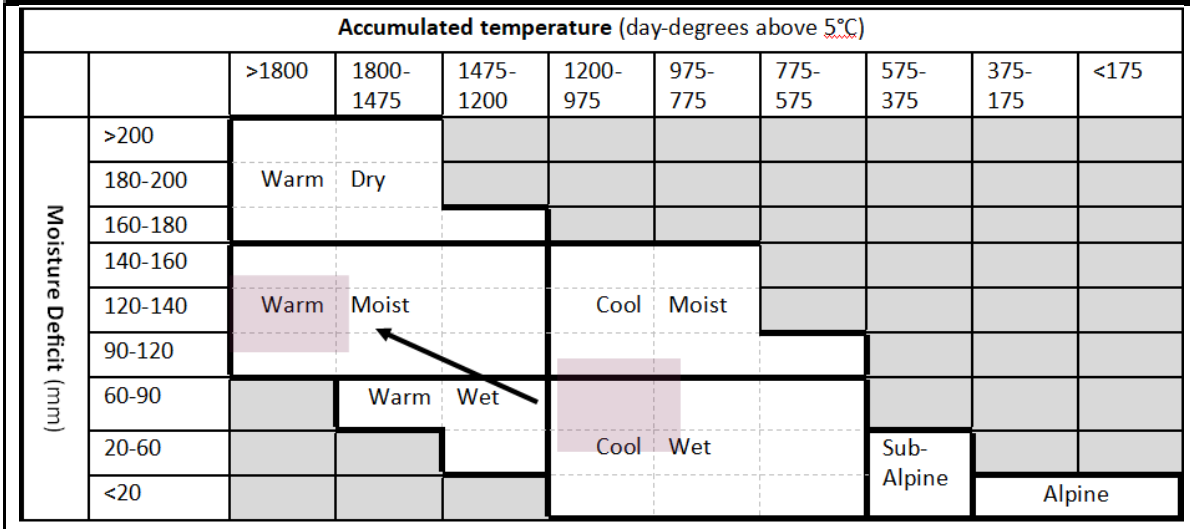
Wauchope west has a wide range of climate types from warm, moist, sheltered to cool, wet, severely exposed. However, most of the plan area is cool, wet and moderately or highly exposed. The following values are taken from Forest Research's Ecological Site Classification (ESC) decision support tool.

Accumulated temperature (day-degrees above 5°C)
Baseline 1960-1990 values range from 819 on the most exposed sites such as Wyndburgh Hill to 1173 at sheltered sites such as Hell's Hole.
A medium-high 2050 climate scenario increases these values to 1514 and 1921 respectively, while a medium-high 2080 scenario takes it to 1754 and 2148.

Moisture Deficit (mm)
Baseline values range from 39 on Wyndburgh Hill to 102 at Hell's Hole.
A medium-high 2050 climate scenario increases these values to 78 and 120 respectively, while a medium-high 2080 scenario takes it to 108 and 149.

In broad terms the climate is expected to become warmer and drier with a longer growing season, as illustrated below. There is predicted to be a seasonal aspect to this, with warmer, wetter winters and potentially drier summers. ESC will be used to explore options for a wider range of conifer and broadleaf species.

Description of woodlands



Hydrology

Map 2 shows all watercourses in the plan area.

The plan area is within the Solway Tweed River Basin District, and falls into two River Catchment Areas:
Teviot, within the Tweed Catchment;
Liddel, within the Solway Catchment.

Water quality

Bodies of surface waters in the plan area are listed below. Data is taken from SEPA's 2021 update to the Water Environment Hub, following the link for Solway Tweed River Basin District: RBMP3 (sepa.org.uk)

Name: Hyndlee Burn **Overall Condition:** Good
Impacted condition / Responsible pressures (Responsible activity): None

Name: Rule Water/Wauchope Burn **Overall Condition:** Moderate
Impacted condition / Responsible pressures (Responsible activity):
Ecological condition (fish ecology) – diffuse source currently being investigated (not linked directly to FLS)

Name: Lurgies Burn **Overall Condition:** Poor
Impacted condition / Responsible pressures (Responsible activity):
Access for fish migration (not on FLS land)

Name: Flosh Burn **Overall Condition:** Good
Impacted condition / Responsible pressures (Responsible activity): None

Description of woodlands

Name: Langside Burn **Overall Condition:** Good
Impacted condition / Responsible pressures (Responsible activity): None

Name: Roughley Burn/Laidlenhope Burn **Overall Condition:** Good
Impacted condition / Responsible pressures (Responsible activity): None

Name: Whitrope Burn/Black Cleuch **Overall Condition:** High
Impacted condition / Responsible pressures (Responsible activity): None

Flooding

Several communities downstream of the plan area are at risk from flooding and have been identified by SEPA as Potentially Vulnerable Areas (PVAs). The following information is taken from SEPA's Flood Risk Management Plans: Flood Risk Management Plans | SEPA

Tweed Local Plan District Catchment

Hawick (PVA 02/13/08 & Target Area 290)

The main source of flooding is the River Teviot and its tributaries. A relatively small part of the plan area, in the northern end of Shankend forest block and western side of Wauchope Burn forest block, is within the catchment, water draining to the River Teviot via Leap Burn and Flosh Burn to Lang Burn and Slitrig Water.

Bonchester Bridge (PVA 02/13/10 & Target Area 276)

The main source of flooding is the Rule Water and its tributaries. In the plan area, most of Wauchope Burn forest block is within the catchment, water draining to Rule Water via Wauchope Burn, Lurgies Burn and Catlee Burn.

Solway Local Plan District

Newcastleton (PVA 02/14/04)

The main source of flooding is the Liddel Water and its tributaries. In the plan area, Whitrope forest block and the southern part of Shankend forest block are within the catchment, water draining to Liddel Water from Whitrope Burn, Laidlenhope Burn and Roughley Burn via Hermitage Water.

Water supplies

There are several private water supplies associated with the plan area. Refer to

Windthrow

Map 10 illustrates the Detailed Aspect Method of Scoring (DAMS) measurements for the plan area. These range from less than 10 in sheltered valley bottoms to over 22 on exposed hill tops. Theoretically over 60% of the forest is thinable, with DAMS scores of 16 or less, but other constraints such as access, soils and slope will reduce this significantly.
Prevailing winds are from the southwest, but as illustrated by Storm Arwen in November 2021 future extreme weather events are likely to become less predictable.

Description of woodlands

Adjacent land use

There are significant areas of private forestry immediately west of the northern half of Shankend/Shankend Hill, on the northwestern and eastern boundaries of Wauchope Burn, and on the south eastern boundary of Whitrope forest block (see map 2 – Key Features). Otherwise, most of the neighbouring land is rough hill grazing.

Public access and Community

Map 2 (Key Features) shows the location of promoted trails and other public access. Waymarked trails and car parking are provided at Hell's Hole, at the northern end of the plan area, and are popular with local walkers and visitors. There is also a viewpoint and picnic site with parking at Cheviot Viewpoint. Public access is otherwise encouraged through the Scottish Outdoor Access Code (SOAC). The former forest Nursery near Bonchester Bridge is popular with local walkers and horse riders. The forest is regularly used for the Border Counties Motor Rally and Roger Albert Clark Rally. The Waverley Route Heritage Association leases land from FLS just off the B6399, at Whitrope Siding, where it runs the Whitrope Heritage Centre Railway Heritage Centre.

Local communities have a keen interest in the forest, being represented by three active community councils:

- Hobkirk
- Southdean
- Upper Liddesdale and Hermitage

Historic environment

Historic environment records for the forest are shown in Appendix V and on Map 12 Heritage.

Biodiversity

Designated Sites

Palmers Hill Railway Cutting Site of Special Scientific Interest (SSSI)

This is part of a disused railway line and includes rocks exposed along a section of the railway cutting. The site is important for reconstructions of the palaeogeography, sedimentary environments and climate of the Scottish Borders in the Late Devonian to Early Carboniferous. More information is available from FLS South Region.

Cragbank and Wolfehopelee SSSI

This area of Ancient (of semi-natural origin) Woodland is immediately opposite Hell's Hole at the northern end of the plan area. It is not on FLS land but is noted here for context.

River Tweed Special Area of Conservation (SAC)

The SAC is designated for Atlantic salmon, sea lamprey, river lamprey, brook lamprey, otters and freshwater habitats. A small section of the Catlee Bur, running through Hell's

Description of woodlands

Hole, is part of the SAC. Other tributaries of the River Tweed that fall within the SAC stop just short of the LMP area (Slitrig Burn, just north of Shankend Hill, and the Harwood and Wauchope Burns just north of Wauchope Burn forest block. All watercourses that are part of the Tweed Catchment ultimately flow into the SAC.

Priority Habitats

There are two small areas that include UK Biodiversity Action Plan (UKBAP) priority habitats.

- Much of the open mosaic habitats on previously developed land in the Riccarton Junction area has regenerated with scrub woodland and grassy vegetation. Although this has been cleared, it is challenging to retain the whole site as open.
- Fields at Shankend Hill that include purple moor grass rush pasture are being managed with conservation grazing by cattle.

Area previously identified at Outer Knowe Head for restoration to blanket bog has been subject to prolific Sitka spruce regeneration, and future management is under review.

Much attention has previously been focused on riparian habitat, a mosaic of open habitat and native broadleaves along the main burns and other watercourses. These are vitally important in protecting and enhancing aquatic wildlife, where there is salmon and trout spawning.

Other open ground includes hilltops at Leap Hill, Wyndburgh Hill and Wigg Knowe.

Priority Species

The forest supports several protected species including:

- Red squirrel are present throughout the plan area, which falls within the Teviot and Rule Priority Area for Red Squirrel Conservation (PARC). This is a non-statutory designation created by Saving Scotland's Red Squirrels to help prioritise conservation action, including grey squirrel control.
- Schedule 1 raptors, notably goshawk, are found in the forest, with several know nesting sites.
- Black grouse are know to lek within a few kilometres of the forest.
- Badgers are found throughout the plan area with several large setts identified.
- Bats – there are known hibernacula as well as FLS installed bat box schemes within the forest

Ancient Woodland / PAWS

There is no ancient woodland recorded in the plan area, but there are fragments close to the forest, notably at Cragbank, opposite Hell's Hole.

Description of woodlands
Invasive species
Japanese knotweed is present at Riccarton Junction and Palmers Cutting and proving challenging to eradicate. Monitoring and control is carried out by the Environment Team. Grey squirrels are present in the plan area.
Woodland composition
Refer to Map 8, 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 health in Wauchope West but the following are considered the main threats. *Phythophthora ramorum* The plan area is split between the Priority Action Zone (PAZ) and the Risk Reduction Zone (RRZ) (FLS Larch Strategy 2022). Several SPHNs within the PAZ have been felled, with some in RRZ on-going. *Dendroctonus micans* (Great spruce bark beetle) *D. micans* 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.
Infrastructure
Refer to Map 7, Roads and Haulage.

Appendix II: EIA screening opinion request form

Overleaf if required

Appendix III: Consultation record

Consultee	Date contacted	Date of response	Issues raised	FLS response
Community Scoping A community drop-in session was held at the William Laidlaw Memorial Hall, Bonchester Bridge on 5th October 2023 and an on-line questionnaire was provided on the FLS LMP website. The on-line questionnaire was also available at the drop-in session to complete manually. Three questions were asked: 1. What is your connection to Wauchope West Forest? 2. Why is this place important to you? 3. Are there any significant features or issues we should be aware of? 16 questionnaires were completed on-line or at the drop-in. The following is a summary of responses received. 1. All respondents lived close to the forest or have a close connection with it through visiting family and friends or visiting it regularly. 2. The forest is clearly cherished as an attractive, quiet and safe place for walking, dog walking, running, cycling horse riding, and general health and well-being. The importance of the forest as part of the local landscape and as a home for a variety of wildlife were also highlighted. 3. Main issues or comments are summarised below.				
			Windfarm proposal within LMP area – mixed feelings towards the proposal.	Given the early stage of windfarm planning and associated uncertainty, the windfarm is outside the LMP scope. Refer to section 4.5.3 Renewables, utilities and other developments.
			There are still areas effected by windblown trees as a result of Storm Arwen in November 2021.	The scale of windblow across the region was such that it has taken time to plan and programme harvesting of these areas. Areas not already harvested will be included in

Consultee	Date contacted	Date of response	Issues raised	FLS response
				Phase 1 of the Felling Plan. Refer to Map 4 and section 4.1.1 Clearfelling.
			Importance of the forest for visitors and wildlife, and a perception that the forest is not being managed particularly well managed.	This plan aims to ensure that a balanced approach is taken to meet the different objectives. All operations are managed in accordance with UK Forest Standard and UK Woodland Assurance Standard.
			There appears to very little re-planting taking place.	All felled areas are restocked in accordance with the LMP. There may be a delay of three years or more between felling and restocking.
			Paths are not being cleared and re-opened following wind damage, and paths could be maintained better.	Clearing forest roads and paths following major storm events has been challenging, but FLS will endeavour open all routes as soon as practicably possible.
			A wish for extra pathways.	FLS will maintain the existing waymarked trails at Hell's Hole, but there are currently no plans to provide additional 'formal' paths. The whole forest road network is accessible under SOAC, operational (public safety) restrictions allowing.
			A request to replace the bridge back to cross the stream at Hyndlee (Hell's Hole)	The bridge has been replaced with a culvert and the path re-opened.
			Motor bikes using the forest.	FLS and Police Scotland are aware of the problem, which is difficult to address without Police Scotland having adequate resources to

Consultee	Date contacted	Date of response	Issues raised	FLS response
				commit. Locals and visitors are encouraged to report illegal motorbike activity to Police Scotland, ensuring they get an incident number, to help build up a case for action to be taken.
			A wish for maps of the woods and paths through the forest.	A map of the trails at Hell's Hole is available online https://forestryandland.gov.scot/visit/wauchope) and at the FLS car park there. This can also be requested via South Region Enquiries (enquiries.south@forestryandland.gov.scot), along with a map leaflet for Forests of the Southern Uplands.
			New forest road ditches create a barrier for horse riding and are not easy for walkers either.	Road ditches are a necessary part of new and existing roads for managing water. However, if there are specific locations where a more accessible ditch crossing is required for a well-used route, it may be possible to facilitate this. Any enquiries should go via South Region Enquiries (see above).
Stakeholder Consultation A LMP consultation email was sent to stakeholders 12th September 2023 and the following responses received.				
Upper Liddesdale & Hermitage		09/09/2023	Requested a LMP presentation at a community council meeting.	Presentation and Q&A session held at Hermitage Hall 11/01/2024.

Consultee	Date contacted	Date of response	Issues raised	FLS response
Community Council			Suggested that the proposed Liddesdale Windfarm development should be within the scope of the LMP.	Given the early stage of windfarm planning and associated uncertainty, the windfarm is outside the LMP scope.
Campaign for a Scottish Borders National Park		14/09/2023	Several suggestions put forward to tie in with the objectives of a new national park including: 1. Sitka spruce should be ruled out; 2. Peat previously planted should be restored after felling; 3. Survey for previously unidentified archaeological sites; 4. Riparian broadleaf planting to provide better protection of streams; 5. A substantial area identified for nature restoration and biodiversity enhancement; 6. Demonstrator project for productive broadleaf production; 7. Training opportunities and development of ecotourism; 8. Improved visitor services including consideration of ranger provision.	1. Softwood timber production is an important objective, and Sitka spruce remains the most suitable species over much of the plan area. Where other species are considered suitable, notably Noble fir, these have been proposed as restock species. 2. This plan area is not a priority for peatland restoration – refer to section 4.6.3 Deep peats. 3. Archaeological sites are well documented. Where further sites of potential interest are found in the process of operational site planning these will investigated and, if necessary, further archaeological survey carried out - refer to section 4.3 Historic Environment. 4. Riparian broadleaf planting is included in restock plans – refer also to section 4.2.2 Native woodland. 5. A significant proportion of the plan area, some 770 ha or 18%, is Natural Reserve,

Consultee	Date contacted	Date of response	Issues raised	FLS response
				Minimum Intervention, Long Term Retention or open habitat, where conservation of biodiversity is a prime objective. Refer to sections 4.1.4 Long term retention (LTR) / Minimum intervention (MI) / Natural reserve (NR) and 4.2 Biodiversity. 6. Productive broadleaf production is being developed on other sites in South Region. 7. There are no plans to develop training opportunities specifically in Wauchope West. FLS provides opportunities within the Region as a whole through the Forestry Apprenticeship Scheme. The forest provides a great setting for other parties to develop ecotourism opportunities. Refer to section 4.5.4 Support for the rural economy. 8. There are no plans to develop visitor services beyond what is currently provided in Wauchope West.
Hobkirk Community Council		05/10/2023	Effect of forest on water run-off and flooding in the Hobkirk and Bonchester area.	Refer to section 4.7.3 Flooding.
Scottish Water (protectdwsources)	12/09/2023	12/09/2023	**Drinking Water Protected Areas** A review of our records indicates that there are no Scottish Water drinking water	

Consultee	Date contacted	Date of response	Issues raised	FLS response
			catchments or water abstraction sources, which are designated as Drinking Water Protected Areas under the Water Framework Directive, in the area that may be affected by the proposed activity. Scottish Water Assets A review of our records indicates that there are no Scottish Water assets (including water supply and sewer pipes, water and wastewater treatment works, reservoirs, etc.) in the area. This should be confirmed however through obtaining plans from our Asset Plan Providers, listed in the SW list of precautions for assets, which can be found on the activities within our catchments page of our website at www.scottishwater.co.uk/slm. In the event that asset conflicts are identified then early contact should be made with the HAUC Diversions Team via the Development Services portal - www.scottishwater.co.uk/portal	Noted.
NatureScot	12/09/2023	25/10/2023	River Tweed Special Area of Conservation	

Consultee	Date contacted	Date of response	Issues raised	FLS response
			Only two short stretches of the SAC are adjacent to the LMP area but, as you note, a lot of watercourses flow into the SAC. We would seek appropriate buffers, where these do not currently exist. A typical buffer in a commercial forest plantation is often only 20 m wide across its whole length. We do not consider that this is adequate, since the UKFS describes 20 m as the *minimum* width, but that parallel sided buffers should be avoided. Landform and environmental sensitivities, such as spawning salmonids, may also require a larger buffer. Summer water temperatures are now reaching levels that are unsafe for salmon and it is predicted that this will become worse over the next 50 years. The problem is particularly acute in smaller upland watercourses. Creation of the correct type of shading is considered essential to maintain appropriate habitat conditions. Creation of native / riparian woodland is a significant part of this process. Conifer plantations will shade a river, but native riparian woodland offers the dappled shade that rivers require, and will provide appropriate water chemistry,	

Consultee	Date contacted	Date of response	Issues raised	FLS response
			leaf fall and invertebrate food sources to sustain river life. Although there is no standard approach for designing buffers, we would encourage buffers that fit the following basic model: • a minimum of 20 m wide • at least some areas extending to at least 50 m wide to accommodate neighbouring habitats or areas that could develop into semi-natural habitats, especially if they are wet or contain interesting features such as rock outcrops etc. • a minimum average width of 30 m (or covering an area equivalent to a 30 m buffer). • Encourage native/riparian woodland along at least half of this buffer where this does not compromise existing key habitats. Natural regeneration is acceptable where this is likely to be successful.	The existing riparian habitat network has variable buffers, with main watercourses having buffers of at least 20m, often much more. The major watercourses through the forest, Leap Burn, Whitrope Burn, Laidlehope Burn, Riccarton Burn, Roughhope Burn and Wauchope Burn, all have much greater buffer zones in places well more than 100m. Further felling and restocking will enhance the riparian habitat network. The long-term aim is to achieve 50% native broadleaves in the main riparian corridors, including on the banks of watercourses. Areas of the forest designated as Natural Reserve, Minimum Intervention and Long-Term Retention link in with the riparian habitat network. The woodland around Hell's Hole is predominantly of native broadleaves, to be

Consultee	Date contacted	Date of response	Issues raised	FLS response
			<u>Cragbank &Wolfehopelee SSSI / Borders Woods SAC</u> This native woodland site is immediately opposite Hell's Hole. Hell's Hole appears to be a broadleaved woodland already, and so contributes to the ecology of the SSSI/SAC. If it is does not already have a native structure, it would be helpful if Hell's Hole could be managed progressively in that direction. For info, the commercial forestry immediately to the east of Cragbank is due to be felled and restocked with a substantial buffer of native woodland, which should have a significant and positive impact on the native woodland habitat in the area. <u>Black Grouse</u> A black grouse lek has been recorded about 2 km to the northeast of Shankend Hill, at Berryfell Hill, with a second lek recorded about 3.5 km to the north west, at Penchrise. Black grouse favour transitional habitats, rather than the stark contrast between open ground and conifer plantation. It would be helpful to black grouse if a boundary of low-density broadleaved shrubs cold be planted at	managed as minimum intervention. The mixture does include some larch which will be felled/thinned if it becomes infected with Phytophthora ramorum, but otherwise will be retained for red squirrel habitat and visual amenity. The previous plan focused on woodland edge habitat improvement on Leap Hill. This mosaic of native broadleaves, Scots pine and open habitat is developing well, and will be further enhanced in this plan. There is scope to expand native scrub woodland on the northern boundary of Shankend Hill, as well as at the southern end of the main Shankend block.

Consultee	Date contacted	Date of response	Issues raised	FLS response
			Shankend, to provide accessible woody habitat, winter shelter and feeding. <u>Aspen</u> Aspen would have been more common in the Borders than it currently is, and NatureScot is keen to encourage its presence in the area. Aspen has an alkaline bark, which is like that of ash and elm. It provides the same habitat niches for lichens and bryophytes that are currently in decline due to ash die back and Dutch elm disease. I would be grateful if you could include aspen in any native or broadleaved planting mixes for the area. <u>Palmer's Hill Railway Cutting SSSI</u> This is a geological site, and although may have biological interest, geological sites generally need to be maintained free of woody plants so that the geology is visible. I have not visited the site, however if woody trees or shrubs have colonised the SSSI I would be grateful if these could be cut and removed in a manner that does not disturb the rock/sediment. Any stumps should be	Aspen will be included in native broadleaf mixtures when it is available, and when it can be adequately protected from browsing. The SSSI is monitored, and appropriate vegetation control carried out as necessary.

Consultee	Date contacted	Date of response	Issues raised	FLS response
			treated with an appropriate herbicide to prevent regrowth. Non-woody plants are acceptable, since they can be removed by geologists at the time of a viewing. Although not notified for their wildflowers, geological SSSIs often support a diverse and unusual population of herbaceous species.	
Historic Environment Scotland	12/09/2023	17/09/2023	General guidance provided on management of Designated Assets: • SM1688, Nine Stones, stone circle Ninestone rig • SM3466, The Catrail, linear earthwork, Robert's Linn Bridge to Leap Burn • SM3468, The Catrail, linear earthwork, W of Leap burn to Langside Burn • SM4007, Riccarton Tower (not on FLS land) The detailed response is available from FLS.	Points noted – FLS will continue to monitor sites for scrub regen and remove as necessary. Refer to section 4.3 Historic Environment.

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 ****
SF 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 required	Y	• Felling delayed into second or later 5-year period. • Advance felling (phase 3 or beyond) into current or 2nd 5 year period.	• More than 15% of coupe area.	• More than 5 planting seasons after felling, subject to the wider forest and habitat structure not being significantly compromised.	• Change from specified native species. • Change Between species group.	• As above, depending on sensitivity.	• In excess of 10% of coupe area. • Colonisation of open space agreed as critical.	• More than 5ha.

NOTES:

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

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

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

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

Larch Tolerance Table

	Adjustment to Felling period	Timing of Restocking and species component	Felling of larch within a mixed coupe	Changes to Road Lines
SF Approval normally not 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, eg Sitka and Norway Spruce. Up to 3 planting seasons after felling		
Approval normally by exchange of letters and map	Felling moved between phases 1 and 2 where larch comprises less than 50% of the coupe species component	Changes to restocking proposals that include larch or closely related species in the same genus, eg Sitka and Norway Spruce. Between 3 and 5 planting seasons after felling	Areas of pure larch up to 20% of coupe area within phase 1 and 2 can be felled to remove the sporulating host, with restocking deferred until the rest of the crop is felled. Where the Larch constitutes more than 20% of the coupe component, then the whole coupe must be felled and restocked together.	New road lines (subject to EIA screening opinion) or tracks within existing approved plans necessary to allow the extraction of Larch material. Where necessary Prior Approval should be dealt with directly with the relevant Regional Council
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

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

Appendix V: Historic Environment Records

Refer to **Map 12**

Historic Environment Records					
Designation	**Name**	**Feature Description**	**Grid Reference**	**Importance**	**Area (ha)**
Scheduled Monument SM3466 SM3468	The Catrail	Length of linear earthwork comprising a bank and ditch up to 10ft wide and 2ft deep and a bank up to 13ft wide 4ft high. Note: Two sections scheduled separately.	NT 5117 0277 NT 5310 0257 (centre points)	National	14.35
Scheduled Monument SM1688	Nine Stone Rig	A scheduled stone circle, measuring 23ft from ENE to WSW and 21ft from NW to SE, eight stone in situ and a fallen ninth stone. Six broken stone now appears as stumps. The remaining 2 measure between 4ft 4ins to 6ft 4ins.	NY 5174 9730	National	0.07
Scheduled Monument SM4007	Riccarton Tower	A small tower or 'pele house' measures 12.7m from E to W by 9.2m over turf-covered walls of rubble up to 2m high. A sheepfold overlying an earlier enclosure buts onto the rubble and clay bonded S wall. To the N are 2 platforms with footings of buildings. Note: this sites immediately adjacent to the plan area but not within it.	NY 5440 9581	National	1.42

Historic Environment Records					
Designation	Name	Feature Description	Grid Reference	Importance	Area (ha)
Listed Building	Whitrope Tunnel	The Border Union (North British) railway tunnel 1104m long with approach rock cuttings and stone portals. Five spoil heaps from the excavations survive on the surface along with the associated shafts.	NT 5245 0118 (Centre point)	Local	2.15
Listed Building	Whitrope Viaduct	A bridge of a road on the line of the Border Union (North British) Railway.	NT 5247 9998	Local	0.02
Listed Building	Whitrope Culvert	A culvert under the line of the Border Union (North British) Railway.	NT 5249 9997	Local	0.10
Unscheduled	Catlee Burn	A group of cultivation terraces. The N most measures 200 yds long from N to S, contains at least nine well-marked terraces, up to 40 ft broad by 4 1/2 ft high. To the S 4 less distinctly marked terraces extend for a further 130 yds.	NT 5880 0720	Regional	2.11
Unscheduled	Wauchope Rig	An enclosure, probably a settlement, damaged by ploughing and forestry. It measured about 76.0m N-S by 50.0m with the E side visible as a bank 0.4m high and traces of the W side can be seen in a forest ride. Roman coins were reported found here in 1858.	NT 5850 0710	Regional	0.50
Unscheduled	Freestone Cleuch	At least 9 buildings or structures measure about 18m by 9m with turf-covered banks spread to 1.5m to 2.5m and up to 0.5m high. The westernmost structure	NT 5510 0570	Regional	0.42

Historic Environment Records					
Designation	Name	Feature Description	Grid Reference	Importance	Area (ha)
		appears to be a stock enclosure. A later sheepfold lies to the NE.			
Unscheduled	Templehall Hill	This cairn has been extensively robbed but appears originally to have been a mound of stones measuring about 60' in diameter. It now stands 4' above ground level.	NT 5590 0570	Regional	0.01
Unscheduled	Rough Hope Rig	A linear earthwork, measuring 440 yards long, although may have extended further to the NE. Appears to be a head-dyke, but of some age as peat almost covered as it crossed a mossy area.	NT 5850 0450	Local	0.38
Unscheduled	Wyndburgh Hill	Two cairns, each a low spread of boulders, measuring up to 8.0m in diameter lying immediately to the N of a modern cairn. The slight remains of the enclosure are as described but are not dateable.	NT 5520 0380	Regional	0.01
Unscheduled	Black Rig	A cross recorded in 1859.	NT 5570 0280	Uncategorised	
Unscheduled	Dawston Burn – Robert's	Line of road.	NT 5450 0222	Local	
Unscheduled	Long Sike	A possible enclosure or settlement probable damaged or destroyed by forestry. It measured 110 m in	NT 5210 0270	Uncategorised	

Historic Environment Records					
Designation	Name	Feature Description	Grid Reference	Importance	Area (ha)
		diameter, surrounded by a turf bank 3m wide and about 0.3m high and a ditch. Possible hut platforms in N of the enclosure.			
Unscheduled	Lang Sike	Remains of footbridge over former railway line.	NT 5230 0260	Local	0.01
Unscheduled	Slitrig Water to Hermitage Water	Early map by Stobie shows a road as descending to NY 507 954. the only trace in Castleton is a break in the linear earthwork at NY 507 956.	NT 5260 0140	Uncategorised	
Unscheduled	Leap Hill	A linear earthwork some 56 yards long although it may have extended towards the head of the Harwood Burn, some 300 yards.	NT 5120 0130	Local	0.07
Unscheduled	Nine Stone Rig	A number of pits were recorded but may be natural subsidence in the mossy ground.	NY 5180 9730	Uncategorised	
Unscheduled	Border Union Railway	Line of Border Union Railway		Local	
Unscheduled	Whitrope Summit Sidings	Location of signal box and railway siding.	NT 5250 0010	Local	0.25

Historic Environment Records					
Designation	Name	Feature Description	Grid Reference	Importance	Area (ha)
Unscheduled	Laidlehope Culvert	Culvert under railway.	NY 5300 9880	Local	0.16
Unscheduled	Stitchel Hill	A footbridge over the former railway line.	NY 5300 9790	Local	0.01
Unscheduled	Leysburn	A bridge over the former railway.	NY 5350 9780	Local	0.01
Unscheduled	Riccarton Junction	Site of footbridge over former railway line.	NY 5370 9700	Local	0.01
Unscheduled	Riccarton Junction Village	Railway village, built to service the Riccarton Junction. Two rows of railway cottages, the station master's house and a school. Also said to have been a pub.	NY 5380 9780	Local	1.13
Unscheduled	Riccarton Junction Engine shed and turntable	A turntable and engine shed. The engine shed stood to the W of the station with 3 tracks, later expanded to 5 tracks. The turntable was to the E of the station.	NY 5400 9750	Regional	0.10
Unscheduled	Riccarton Junction South Signal Box	The south signal box was two storeys, was roughcast, slated and had an external wooden staircase at the E gable end, to access the first floor. The wooden staircase had a small wooden porch at the top. Now demolished.	NY 5400 9740	Local	0.02

Historic Environment Records					
Designation	Name	Feature Description	Grid Reference	Importance	Area (ha)
Unscheduled	Fawhope Knowe	Possible tower.	NY 5360 9760	Uncategorised	
Unscheduled	Riccarton Junction North Signal Box	A culvert under the former railway line and a signal box for the North of Riccarton Junction. The building was built in brick and stone, two storeys with a slated roof. The windows were at first floor level. It has now been demolished.	NY 5360 9780	Local	0.02
Unscheduled	Riccarton Junction Station	Former Riccarton Junction station. Platform and footbridge connecting station to the railway village to N. Part of the platform is still extent.	NY 5390 9770	Local	0.26
Unscheduled	Riccarton Burn	Site of footbridge over former railway line.	NY 5390 9650	Local	0.02
Unscheduled	Riccarton Junction	Various areas around Riccarton Junction identified as historic agricultural land in Scotland's Historic Land-use Assessment (HLA)	Various	Unclassified	