Forestry and Land Scotland
Coilltearachd agus Fearann Alba

Garrogill

Land Management Plan

2021 - 2031

V1.3

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:	Garrogill		
Grid Reference (main forest entrance):	NT 121 043	Nearest town or locality:	Moffat
Local Authority:		Dumfries and Galloway	

Applicant's Details			
Title:	Mr	Forename:	Robin
Surname:	Fuller		
Position:	Planning Forester		
Contact Number:	0131 370 5820		
Email:	robin.fuller@forestryandland.gov.scot		
Address:	Forestry and Land Scotland, Ae Office, Ae Village, Parkgate, Dumfries		
Postcode:	DG1 1QB		

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

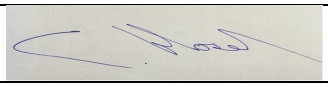
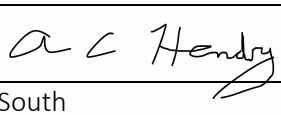
1. I apply for Land Management Plan approval for the property described above and in the enclosed Land Management Plan.

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	8/1/21	**Date of Approval**	9/03/2021
		Date Approval Ends	8/03/2031

Contents

1.0 Objectives and Summary

1.1 Plan overview and objectives

Plan name	Garrogill
Forest blocks included	Garrogill
Size of plan area (ha)	1007
Location	See Location map (**Map 1**)

Long Term Vision
Garrogill forest contributes a range of timber products to the market, with timely thinning operations helping to increase their value. Open hill tops, native woodland and clean watercourses support healthy populations of priority species along with a wealth of other flora and fauna. Visitors witness a changing landscape as they pass through the forest and open ground, creating a welcoming and enjoyable experience, and the forest makes a positive contribution to the wider local landscape.
Management Objectives
1. Timber production 2. Sustainability – especially resilience to wind damage 3. Establishment of alternative species to replace larch 4. Positive visitor experience along the Southern Upland Way 5. Protection and enhancement of important habitats for biodiversity
Critical Success Factors
• Soft conifers and broadleaves must be protected from damage to ensure successful establishment • Restocking must be undertaken when planned to avoid heather encroachment of fallow sites (hot planting in most cases) • Thinning interventions must by timely • Non-native trees must not be allowed to establish on the open hill tops • Engineering and forestry works must be carefully planned and delivered to avoid diffuse pollution into watercourses

1.2 Summary of planned operations

Table 1

Summary of Operations over the Plan Period	
Clear felling (gross)	300 ha
Thinning (potential area)	657 ha
Restocking (gross)	340 ha
Afforestation	0 ha
Deforestation	0 ha
Forest roads	1680 m
Forestry quarries	0 ha

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

2.0 Analysis and Concept

The planning process was informed by collecting information about the woodland, which is presented in Appendix I and on the Features, Issues and Challenges 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.

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

3.0 Management Proposals - regulatory requirements

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

3.1 Designations

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

Table 2

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

Map 2 shows the location of all designated areas and significant features. Deep peat soil types 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	20047	2020/21	22.5
1	20044	2022/23	19.5
1	20018	2022/23	26.8
1	20004	2023/24	14.7
1	20011	2024/25	32.6
2	20028	2025/26	30.6
2	20010	2026/27	21.5
2	20012	2028/29	7.6
2	20048	2028/29	49.1
2	20007	2029/30	49.2
2	20046	2029/30	26.7
		Total	300.8

Table 4

Clearfell by Species									
		Net Area (ha) by Main Species >20% (or MC, MB)							
Coupe Number	Fell Year	NF	HL	JL	LP	NS	SP	SS	Coupe Total
20047	2020/21	0	0	3.0	5.1	0	0	13.3	21.4
20044	2022/23	0.4	0	0	2.2	0	0.2	15.2	18
20018	2022/23	0	0	0	10.2	0	0.5	14.0	24.7
20004	2023/24	0	0	0	1.9	0	0	10.5	12.4
20011	2024/25	0	0	0.1	2.9	1.8	0	25.8	30.6
20028	2025/26	0.1	0	0	3.2	0	0	23.4	26.7
20010	2026/27	0	0	0	1.2	0.4	0	18.7	20.3
20012	2028/29	0	0	0	0	0	0	6.8	6.8
20048	2028/29	0	0	0	4.7	0	0	41.2	45.9
20007	2029/30	0	0	0	8.4	0	0	38.1	46.5
20046	2029/30	0.5	1.1	0	0	1.0	0.3	22.8	25.7
Plan Area Total		1	1.1	3.1	39.8	3.2	1	229.8	279

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			1007	ha						
Felling	Phase 1	%	Phase 2	%	Phase 3	%	Phase 4	%	Long Term Retention	%
Net Area (ha)	107.1	11	171.9	17	127.8	13	75.2	7	0.8	<0.1

3.3 Thinning

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

This covers an area of 657 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 40 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).

Mixed broadleaf planting will consist of native species.

Table 6

Restocking							
Phase †	Coupe Number	Gross Area (ha)	Proposed Restock Year	Species	Method *	Minimum stocking Density (s/ha)	Note
F	20002	4.5	2020/21	SS	R	2500	
F	20003	1.6	2020/21	MB	R	1600	Expansion of ancient woodland
F	20016	8.5	2020/21	NF, SP	R	2500	
F	20019	1.1	2020/21	SS	R	2500	
F	20024	2.5	2020/21	DF, SS	R	2500	
F	20030	5.1	2020/21	SP, MB	R	2500 (SP) 1600 (MB)	
F	20036	11.4	2020/21	SS, SP	R	2500	
F	20041	0.5	2020/21	Birch sp	R	1600	
F	20042	3.9	2020/21	MB	R	1600	
1	20047	22.5	2021/22	SS, SS/LP	R	2500	SS 50% / LP 50%
1	20044	19.5	2023/24	SS, DF, MB	R	2500 (SS, DF) 1600 (MB)	
1	20018	26.8	2023/24	SS, SP, MB/SP	R	2500 (SS, SP) 1600 (MB/SP)	Deep peats present MB 70% / SP 30%
1	20004	14.7	2024/25	SS	NR	440-1200	Woodland fringe developing through low density natural regeneration
1	20011	32.6	2025/26	SS, SS/LP, NS, MB	R NR (SS nat regen)	2500	Predominantly restocked but with woodland fringe on upper edge

						440-1200 (SS nat regen)	SS 50% / LP 50%
2	20028	30.6	2026/27	SS/WH, SS, SS/LP	R NR (SS nat regen)	2500 440-1200 (SS nat regen)	Predominantly restocked but with woodland fringe on upper edge. Deep peats present. SS 50% / LP 50% SS 50% / WH 50%
2	20010	21.5	2027/28	SS/LP, DF, SS	R NR (SS nat regen)	2500 440-1200 (SS nat regen)	Predominantly restocked but with woodland fringe on upper edge SS 50% / LP 50%
2	20012	7.6	2029/30	SS, NF, MB	R	2500 (SS, NF) 1600 (MB)	
2	20048	49.1	2029/30	SS, DF, SP, SP/SS	R	2500	SP 50% / SS 50%
2	20007	49.2	2030/31	SS/LP, SS, MB/SP, MB	R NR (SS nat regen)	2500 (SS/LP) 1600 (MB/SP) 440-1200 (SS nat regen)	Woodland fringe on upper edge. Broadleaves up cleuchs SS 50% / LP 50% MB 70% / SP 30%
2	20046	26.7	2030/31	SS, SP, MB, SP/SS	R	2500 (SS, SP) 1600 (MB)	Continuation of broadleaves in Breckonside up watercourse SP 50% / SS 50%

Total	339.9

† 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 by natural regeneration should fail to reach 1600 stems 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 felling with beat up by year 7 for broadleaves or year 4 for conifers at latest.

3.6 Species diversity and age structure

The following tables and charts 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**		**Year 10**		**Year 20**	
	Area (ha)	%	Area (ha)	%	Area (ha)	%
Sitka spruce	593.9	59	462.2	46	457.8	46
Other conifers	32.7	3	61.7	6	109.5	11
Native broadleaves	18.6	2	62.1	6	74.3	7
Fallow	34.4	3	62.9	6	0	0
Open ground	327.4	33	358.1	36	365.4	36
Total	**1007**	**100**	**1007**	**100**	**1007**	**100**

Chart 1

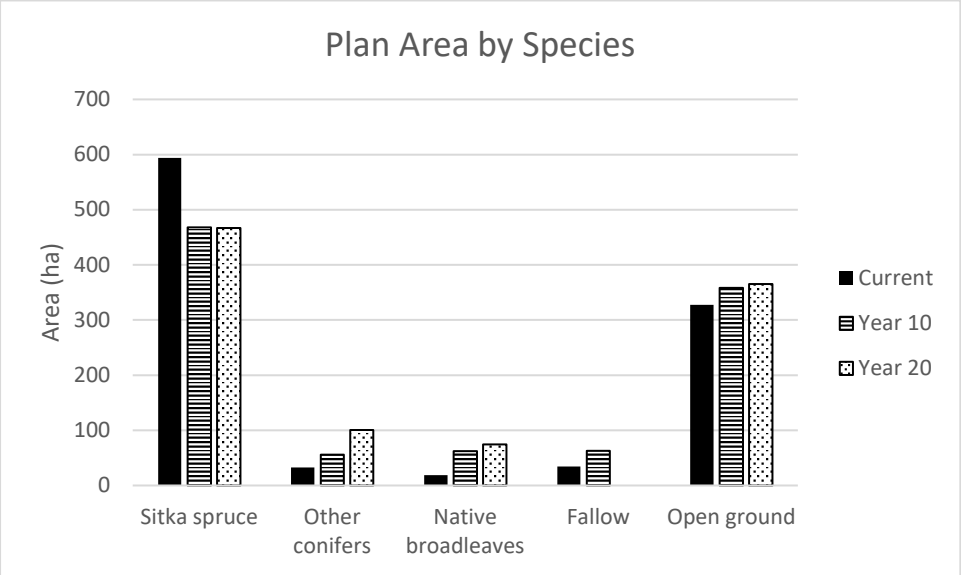
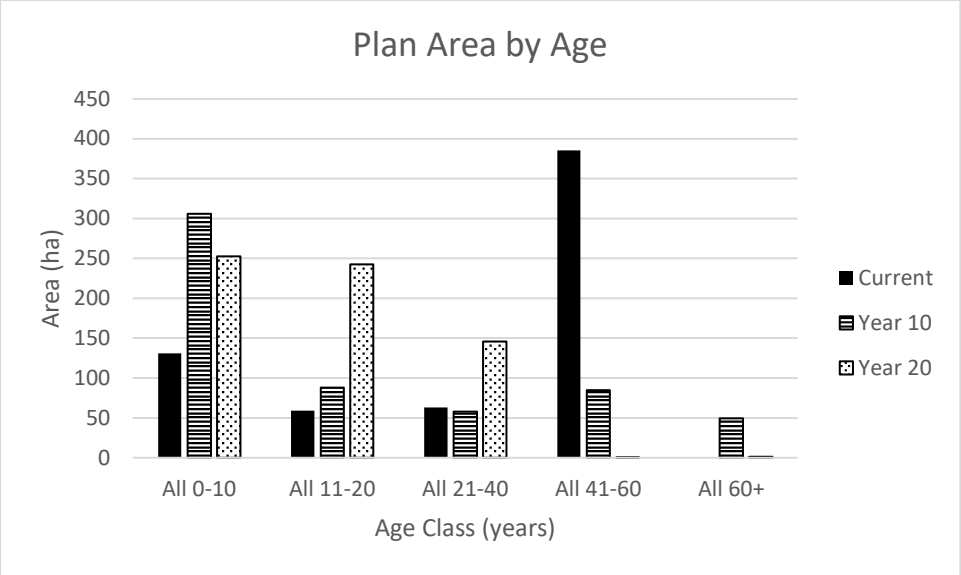


Table 8

Plan area by Age						
Age class (years)	Current		Year 10		Year 20	
	Area (ha)	%	Area (ha)	%	Area (ha)	%
0 – 10	130.9	13	305.9	30	252.7	25
11 – 20	59	6	87.9	9	242.5	24
21 – 40	63	6	57.8	6	145.7	14
41 – 60	385.5	38	84.8	8	0.1	0
60+	0	0	49.3	5	1.3	0
Total		**100**		**100**		**100**

Chart 2



3.7 Road Operations and Quarries

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

Table 9

Forest Road Upgrades, Realignments, New Roads and New Quarrying				
Phase	Name / Number	Length (m)	Year	Operation
1	Breckonside link	370	2021/22	New road
2	Wamphray Water	1310	2027/28	New road

3.8 Environmental Impact Assessment (EIA)

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

Table 10

EIA projects in the plan area		
Type of project	Yes / No	Note
Afforestation	No	
Deforestation	No	
Forest roads	Yes	
Forestry quarries	No	Extension to the quarry at NT 129 042 has already received EIA scoping approval under the previous plan

3.9 Tolerance table

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

4.0 Management Proposals – guidance and context

Silviculture
Clear felling
Coupes for clearfelling during the plan period (refer to Map 4): 20047 SS/LP(P86/74), JL(P73). Fell year 2020/21. Coupe already approved for felling as part of SPHN clearance work. New road and bridge has been constructed to access the coupe. 20044 SS(P73), SS/NF(P62), LP(P62). Fell year 2022/23. Good access from road below coupe. Steep ground. Felling will remove crop surrounding coupe 20002 that was felled in 2019/20 as part of SPHN. 20018 LP/SS(P65), SS/SP(P79). Fell year 2022/23. Access from road to south. Watercourses running along west and east edges. Eastern slopes very steep and will require winch extraction upslope. Wamphray Water is a sensitive watercourse and must be protected from diffuse pollution (sedimentation). Small area of windblow at northern tip. Southern Upland Way passes along Wamphray Water. Small and localised areas of peat are present in the coupe (see 'Soils' section for more details). 20004 SS/LP(P81). Fell year 2023/24. Access from road to west and through coupe. Road will require maintenance. Significant areas of windblow through coupe. This coupe will not be restocked, allowing natural regeneration to create a low-density woodland fringe. 20011 SS/LP/JL(P71), NS(P85). Fell year 2024/25. Access from road running through northern edge of coupe – road maintenance likely to be required. Steep slopes in places. Watercourse along eastern and northern edges. Private residence adjoins northern edge of coupe. 20028 SS/LP(P72). Fell year 2025/26. Access from road to south and west of coupe. The main part of the coupe should be relatively straightforward to access, however the area between the road and the watercourse will require careful planning and delivery to minimise ground disturbance and prevent diffuse pollution into Littlehope Burn (this area was previously identified for retention but is now significantly blown). The upper edge of the coupe will not be restocked, allowing natural regeneration to create a low-density woodland fringe. Small and localised areas of peat are present in the coupe (see 'Soils' section for more details).

20010
SS/LP(P73). Fell year 2026/27. Access from new road to east of coupe (potential access also from road to west of coupe at top of hill). Watercourse running through coupe. A narrow band along the upper edge will not be restocked, allowing natural regeneration to create a low-density woodland fringe.

20012
SS(P64). Fell year 2028/29. Access from road to north of coupe. Private residence adjoins western edge of coupe. Windblow weakening eastern edge. Adjacency height difference with coupe 20011 will be checked for compliance, and fell year delayed if necessary.

20048
SS(P73,P82), LP(P73). Fell year 2028/29. Large coupe (49 ha). Access from road to north.

20007
SS(P67). Fell year 2029/30. Large coupe (49 ha). New road planned along western edge of coupe running parallel with Wamphray Water – after considering various options it was decided that this road should run all the way up the valley to allow coupe 20007 to be harvested sensitively with a mix of harvester/forwarder and winch work, thus reducing the risk of diffuse pollution into the Wamphray Water which is a sensitive tributary of the River Annan. (The road will also allow access to the isolated northern tip of coupe 20006.) The upper edge of the coupe will not be restocked, allowing natural regeneration to create a low-density woodland fringe. The cleuchs will be restocked with native broadleaves set amongst patches of open ground. Southern Upland Way passes along Wamphray Water.

20046
SS(P62, P75), HL/NS/NF(P62). The small area of SP(P62) in the north east corner will be retained. Access from road to north. Watercourses along western and eastern edges. Restocking of broadleaves (including Aspen) up Brunt Cleuch will create linkage to the broadleaf woodland establishing in the adjoining ground in Breckonside.

Thinning

Refer to **Map 5**.

Although DAMS figures are high in many places, the presence of iron pans and brown earths on higher ground offer good rooting and so there is more potential than it would seem. This is supported by Forest GALES which shows that large areas of the block (particularly in the aforementioned locations) can accommodate standard rotations (with conventional thinning operations) without significant windblow. The thinning map shows all areas where there is potential to thin within the plan period, although any operations need to be carefully planned to ensure they are realistic, and above all delivered timeously to avoid missing intervention thresholds.

Low Impact Silviculture Systems (LISS) / Continuous Cover Forestry (CCF)
No CCF is planned for this block.
Long term retention (LTR) / Minimum intervention (MI) / Natural reserve (NR)
Refer to **Map 4**. There is only one small area (0.8 ha) of designated LTR, along Littlehope Burn. This is P2006 SS and will be retained until the adjoining coupe 20032 is felled in 2075/76. However, just under 80 ha (approximately 8% of the plan area) has been designated as minimum intervention (MI) where enhancement of biodiversity is the primary objective. This is mostly riparian corridors. A single large natural reserve has been identified on Mid Rig, incorporating 11 ha (1% of the plan area) of 50+ year old SS which has been identified as a potential roosting/nesting site for raptors. An area at the top of Littlehope Burn was previously considered as a natural reserve but has subsequently been discounted as unsuitable.
Tree species choice / Restocking
Refer to **Map 6**. The site offers a range of conditions from brown earths and surface water gleys in sheltered locations, to extensive iron pans in more exposed positions. Sitka spruce remains the primary species for timber, but where soils have a low soil nutrient regime it will be planted with Lodgepole pine as a nurse crop. Across the block, Sitka spruce has a predicted average YC of 14 in the next rotation. ESC has been used to identify where alternative conifers would be suitable and still offer good yields, thus helping to meet two of the plans main objectives. A significant increase in Douglas fir is proposed with expected values of YC18. Other alternative conifers include stands of Noble fir along the upper reaches of the Cornal Burn, as well as Norway Spruce and Western Hemlock, the latter being included in a mix with Sitka spruce in coupes 20028 and 20035. Scots pine has been chosen to deliver two benefits – firstly for landscaping (and environmental benefits) along the Southern Upland Way and core paths, and secondly over Big Hill where ESC expects it to be significantly more suitable than SS. With timely thinning interventions the higher yielding areas should produce quality saw logs, with the remaining crop offering small round wood, pulp and biomass. Historically, Garrogill has suffered from fallow sites becoming quickly covered in heather, with subsequent challenges for establishing trees. It is therefore proposed that all restocking will be carried out within one year of felling.

In several places, the upper planting line has already been lowered (in accordance with the previous plan) but these new 'open' areas now have scattered conifer natural regeneration on them. This has created a low-density woodland fringe, and this approach will be used to soften the upper edges around West Knowe, Cowan Fell, Coomb Cairn and Gateshaw Rig. Restocking at these locations will finish at a lower elevation but the woodland fringe will be allowed to develop. At West Knowe the current proportion of forest to open hill top is in keeping with the 2/3 to 1/3 guidance and so the fringe will retain this appearance. This approach also delivers on advice for managing conifer forest edges for black grouse conservation, which are present in the local area.

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. This is especially important along the Cornal Burn where the objective is to expand and enhance the ancient woodland.

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. It is accepted that some treated trees and top up spraying will be necessary in Garrogill to achieve early restocking – a requirement to address the risk of heather encroachment (as explained above).

Natural regeneration

There are some sites where Sitka spruce 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 respace or prematurely clear and restock. Where the natural regeneration is not the desired species or proposed land use (e.g. on managed open ground), it will be considered against the plan objectives and tolerance table and either accepted (with a plan amendment if necessary) or removed.

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.

New planting

Apart from several small clumps of SP proposed along the lower slopes of Ferny Brae (which will be future retentions) there is no new planting proposed in the plan. The opportunity for establishing mountain woodland on the acid grassland below the summit of West Knowe has been identified, but is currently not achievable – if this situation changes an amendment to the plan will be submitted to Scottish Forestry for consideration.

Protection

Deer

The plan sits within the Eskdalemuir Deer Management Unit (DMU). Roe deer are the prevalent species, but Fallow and Sika have also been recorded.

The main objectives within the DMU are:

- To enable re-stocking to take place without the need for deer fencing and to achieve the appropriate stocking density at year five.
- To maintain impact levels in accordance with FLS local policy of less than 10% on all commercial tree species.
- To maintain a sustainable deer population.
- To monitor the Sika population and limit their spread from the north east.
- To monitor the Fallow population and limit their spread from the west.

Currently the three year average browsing impacts across this DMU are within target objectives.

The population dynamics in this DMU have changed considerably between 2001 and 2017. Neighbouring forests have commenced significant restocking, which has had the effect of reducing immigration. The knock on effect of this, coupled with heavy culling has been that the standing population has been reduced. However, as crops grow on the surrounding land, re-stock sites on the FLS estate will again become more vulnerable.

The annual Roe deer cull target up to 2024/25 will be stable at 390. This figure has been chosen based on population modelling to ensure the objectives of the DMU are met.

Species selection for restocking has used ESC and local knowledge to ensure that species are suitable for the sites at which they are proposed. This will encourage vigorous growth and reduce the risks from deer browsing.

There are also areas within the forest where natural regeneration of broadleaves is desired. Although condition monitoring is primarily targeted at productive restock sites, these areas of broadleaves must also be checked, and any necessary action taken to ensure their establishment.

Pests and Diseases

As outlined in Appendix I, all the larch within the block is treated as infected and any remaining stands will be removed in Phase 1. Biosecurity considerations are important during the planning and delivery of all forest operations.

Although Dothistroma needle blight has not been officially recorded in the forest, it is likely to appear and surveys will continue to be undertaken to monitor the situation.

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.

Road operations, Timber haulage and other infrastructure

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

There are 2 new roads proposed for construction during the plan period.

Breckonside Link 370m
Access into Breckonside for woodland creation (not included in this plan).

Wamphray Water 1310m
Access for coupes 20007 and 20006. See information for coupe 20007 in 'Silviculture / Clearfelling' for rationale. This operation will require careful planning and ongoing supervision to ensure no diffuse pollution (sedimentation) into the Wamphray Water. The roadline passes over several ground water dependent terrestrial ecosystems (GWDTEs) and GWDTE engineering guidance must be followed to ensure that these are not compromised.

There is one existing quarry in the forest which has already had recent approval for an extension. Any further proposed quarrying will be submitted to Scottish Forestry for consideration.

Timber haulage will egress from the forest onto the C104A (via track over neighbour's land) and turn right to join the A708 (where a turning circle has been established by FLS to ease HGV manoeuvres and improve road safety). The C104A is a 'consultation route' as shown on the Timber Transport Forum's Agreed Routes Map.

Biodiversity

UKFS guidance is to manage a minimum of 15% of the forest management unit with conservation and the enhancement of biodiversity as a major objective. The figure for this plan is 29% and includes areas designated as natural reserve, long term retention, and minimum intervention, as well as managed open ground (priority habitats). These areas include native woodland, upland heathland, riparian corridors, and mature conifers.

Designated sites

There are no designated sites for conservation in the plan area.

Native woodland
The plan seeks to protect and enhance existing areas of native woodland. New planting is located where there will be maximum habitat connectivity, and where it will enhance the landscape. There are three main zones where efforts to extend/establish native woodland will be focussed: (1) Cornal Burn – including a large area above the forest entrance, the recorded ancient semi-natural woodland, the tributaries of Littlehope Burn and Dry Gutter, and along the valley to Craigbeck Hope. This will be a mosaic of native trees and open ground. (2) Wamphray Water – the 'Y' shaped valley will establish as a mosaic of native species. Scots pine will be a component, including clumps on the lower slopes of Ferny Brae which will be retained into the future. A similar mix of species will also be established along the Southern Upland Way as it passes along the Wamphray Water, with fast growing species including birch to be planted below the new road to create screening. Open ground and scrub will be the aim for the areas surrounding the cleuchs that head up into Lochfell Bosom. (3) Crookedside Sclenders – the steep slopes and scree here are to be developed as mountain woodland (with the new road providing easy access for planting and establishment). The species will change from Scots pine, rowan, birch, aspen on the lower ground merging to juniper, hawthorn and willow in suitable sites on the higher ground. This will contribute to the increasing areas of mountain woodland in the Moffat valley area (e.g. Carrifran). There is an aspiration to also establish this type of habitat onto the acid grassland below West Knowe but this is not being taken forward at the present time. Non-native natural regeneration (mostly Sitka spruce) is present in some areas of existing and establishing native woodland and this must be removed to ensure that the development of these woodlands is not compromised.
Ancient woodland / Plantation on Ancient Woodland sites (PAWs)
The 2020 survey of the PAWS site along Cornal Burn confirms that native woodland is now established (a mix of planting and natural regeneration). However, it also highlights the threat of non-native species, namely Sitka spruce regen, and so this must be removed at the earliest opportunity. Impacts from deer browsing are low. The plan proposes extending the native woodland up the Cornal Burn to create connectivity with native woodland in other cleuchs and watercourses, enhancing the ecological value.
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.

After felling operations, planting schemes will be designed around any priority habitats that are revealed. This includes species rich groundwater dependent terrestrial ecosystems (GWDTEs), which will also be protected during road building and any other forest operations using the current best practice.

Ancient woodland

See above.

Upland heathland (including a small patch of Montane heath)

FLS has a duty to protect this priority habitat and ensure the condition does not decrease. These areas will remain open, other than some small clumps of Scots pine that will be planted on the lower slopes of Ferny Brae as part of the native woodland expansion. Non-native natural regeneration will be removed from these areas.

Peatland

See Soils section.

Native freshwater fish (including migratory salmonids)

Atlantic salmon and sea trout both use the River Annan and its tributaries (including the Wamphray Water) throughout their lifecycles. These fish species require clean and well oxygenated waters and so it is vitally important that diffuse pollution (sedimentation) is avoided through careful planning and delivery of all civil engineering and forestry works, implementing whatever measures are necessary. Caution must also be given to any disturbance of the streambed which may lead to damage of potential spawning areas. Road construction, the installation of culverts and any other operations that may create a barrier to fish movement must be planned to avoid this.

Black grouse

Although there are no recent records of leks on FLS land within the plan area, RSPB have provided information of an important lek site on West Knowe (just to the east of the plan boundary).

Black grouse need a mosaic of habitats throughout the year. The upland heathland will offer tall vegetation (>40cm) for nesting, as well as heather and blaeberry on which adult birds can feed. A range of food types will increase as the plan is delivered. Larch will not be planted at the present time (due to larch die-back) and so this traditional forest food source will disappear. However, as native woodland is established within the plan area, alternatives such as birch buds and berries from rowan and hawthorn will become more available. Of particular value will be the establishment of mountain woodland at Crookedside Sclenders (inc. Scots pine, juniper, hawthorn, rowan), the native woodland / open ground up the

cleuchs around Lochfell Bosom on to West Knowe (inc. willow, aspen, birch), and the establishment of a 2.5 ha stand of birch and Scots pine (with open space) on the slopes of Cowan Fell. Deer management in the plan area will help regeneration of field layer food plants. The protection and enhancement of groundwater dependent terrestrial ecosystems (inc. flushes, springs) on the slopes of West Knowe will ensure these habitats develop as potential sources of invertebrates for feeding chicks. Establishment of low-density woodland fringe along the moorland edge (rather than a hard edge) will also improve overall conditions.

Golden eagle

As outlined in Appendix I, the South of Scotland Golden Eagle Project aims to reinforce the small, isolated and vulnerable population of Golden Eagles in the Scottish Borders and Dumfries & Galloway. In support of this venture, consideration for future roosting and/or nesting sites within the plan area identified a suitable location to be retained in perpetuity. The upland heathland also offers open hunting habitats.

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.

Open ground
Managed open ground contributes to around 17% of the plan area, and there is an expectation that resources will be allocated to maintaining it as open. This is primarily focussed on the upland heathland priority habitat. An additional 9% of the plan area is identified as successional open, where natural regeneration will be tolerated. Most of this is located along riparian zones. 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. By year 10 the plan area will consist of 36% open ground. The remaining 10% not covered by the above is internal open space where this is a component amongst planted areas. Fallow clearfell sites will contribute to transitional open space throughout the forest.
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 these offer excellent potential for a range of species.

Invasive species

There are no known invasive non-native species within the plan area.

Historic Environment

Refer to **Map 12**.

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

The 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 also 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.

Designated sites

There are no designated historic environment features within the plan area.

Other features
The Garrogill farmstead and field system is an undesignated feature of regional importance. The Dumfries and Galloway Council Archaeologist has provided information on 4 sheepfolds of local importance (not currently recorded on the FLS system) which have been added to Appendix V. All of these features will be protected during any operations.

Landscape

Designated areas
Part of the plan area sits within the Moffat Hills Regional Scenic Area. The most significant feature in the plan area is Big Hill, and the proposed forest design has been carefully chosen to reflect the landform and landscape scale, using appropriate coupe shapes and sizes. Big Hill is also part of the view from the A701 south over upper Annandale and so the design was considered from this viewpoint as well.

Other landscape considerations
The Southern Upland Way passes through the forest block with a choice of two routes – a lower route that follows the valley floor and a higher route above that follows Gateshaw Rig. One of the plan's objectives is to ensure that visitors have a positive experience, and the landscape through which they travel has a significant effect on this. The SUW routes were analysed and broken up into different sections where the experience varies due to changes in land cover. 'Nodes' were also identified between these sections where there is a change in visitor experience or a choice of direction. Map 13 highlights these, but there are several that merit further context: (1) The section of the lower route along the Wamphray Water. This already has a strong sense of place with the meandering stream set in a small-scale landscape defined by steep valley slopes and forest enclosure. The upper section of this valley is also visible from the high route. Any felling here will create a change, so the timing and coupe scale in this location has been chosen to minimise the overall impact. The planned road running along the valley will aid this process but in the short-term will be visible from both the low and high routes. However, fast growing broadleaf species (inc. birch) will be planted below the road which will gradually become screened. In time, the proposed mountain woodland on Crookedside Sclenders will also contribute to screening of the road. It is hoped that the proximity of this new habitat next to the SUW will enhance the visitor experience and may offer opportunities for interpretation. (2) Cornal Burn bridge 'node'. Close to where the forest road crosses the Cornal Burn (west of Craigbeck Hope) there is a view looking south west between Big Hill and Yadburgh Hill. Where possible, this will be kept open to maintain the view. (3) Birch Sike 'node'. As the forest road heads over into the Wamphray Water valley, the location at Birch Sike represents a change in woodland/land cover below and above the

road. This viewpoint will be kept open to preserve the internal views of the valley floor and beyond towards Cowan Fell.

(4) Central valley of the Cornal Burn. The objective here is to create different enclosure and land cover. This will be achieved in part by the establishment of several stands of Noble fir and Scots pine along the section with breaks of open space in between.

Consideration has also been given to enhancing the environs of other core paths running through the forest. For example, Scots pine and broadleaved woodland will be established along the Romans and Reivers Route/Countryside Trail, incorporating sections of open ground.

People

Neighbours and local community

An online community consultation generated some feedback from local users, which has been included in Appendix III.

Public access

The Southern Upland Way is a major feature of Garrogill, and FLS will continue to work with Dumfries and Galloway Council (and other partners) to maintain, enhance and promote the route. Refer to the Landscape section for more detail on how the plan has been developed to maximise the visitor experience.

FLS will also continue to support the promotion of other formal routes through the forest – especially core paths and the 'Romans and Reivers Route' which links through to Eskdalemuir.

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.

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.

Renewables, utilities and other developments
An overhead powerline crosses the HGV turning circle next to the A708. There is a water supply point for Craigbeck Hope to the north of the property.

Support for the rural economy
Garrogill is part of the local landscape that attracts visitors to the Moffat area, who take advantage of local businesses and services. It also provides a more intimate backdrop for those following the Southern Upland Way. Careful forest design with these factors in mind, along with responsible delivery of forestry operations will provide a positive visitor experience and encourage return visits to the area. FLS supports a sustainable rural economy by managing the national forests and land in a way that encourages sustainable business growth, development opportunities, jobs and investment.

Soils
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.
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.
Deep peats
FLS is preparing a Peatland Restoration Strategy which will be published in April 2022. (incorporating the 'FES Lowland Raised Bog and Intermediate Bog Strategy', 2013). In the interim, we will take a precautionary approach to restocking on deep peat soils, following

the principles laid out in the FCS practice guide 'Deciding future management options for afforested deep peatland', in particular where there is a 'presumption to restore'.

Sites for which there is a 'Presumption to restore' are defined as:

- Habitats designated as qualifying features in the UK Biodiversity Action Plan, or on Natura sites, Ramsar sites, Sites of Special Scientific Interest (SSSI) or National Nature Reserves (NNRs);
- Sites or parts of sites where restocking is likely to adversely affect the functional connectivity (hydrology) of an adjacent Annex 1 peatland habitat (as defined in the EU habitats Directive) or a habitat associated with one;
- Sites where deforestation would prevent the significant net release of greenhouse gases

Some peat types (8a, 8d, 9a, 10a, 10b, 14, 14h, 14w) are classed as 'Scenario A' soils: edaphically unsuited to woodland. Additionally, 10a and 10b peat types are associated with raised bog habitats. Lowland raised bog and blanket bog are UK BAP priority habitats and therefore a presumption to restore. In the LMP process, by default we will not commercially restock areas where Scenario A peat types dominate, and will include such areas for further assessment for either peatland restoration, or manage as native broadleaf or peatland edge woodland.

There are no Scenario A soils in the Garrogill plan area. However, there are some small and localised areas of other soil types which are associated with deep peats – namely 8c (Juncus effusus Bog) and 11b (Calluna, Eriophorum vaginatum Blanket Bog). The coupes to be felled/restocked during the plan period which contain these soil types are 20018 and 20028. An assessment of the mensuration data, site drainage and hydrological units will determine whether these sites are likely to achieve a growth rate that allows a positive greenhouse gas balance. A decision will then be made on the future options for the site in line with current guidance.

Water

Drinking water

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

Watercourse condition
All forestry operations will meet the requirements of the UKFS Guidelines on Forests and Water. The Wamphray Water is a particularly sensitive and vulnerable watercourse and care will be taken during the planning and delivery of all road engineering and forestry works to prevent diffuse pollution (sedimentation). Currently there are no water bodies within or adjacent to the plan area which are at "less than good" ecological status/potential as a result of forestry activities. It is important to maintain this status. Management on steep slopes – there is an increased risk of additional sediment entering the Moffat Water or the Wamphray Water. All forestry works will go through a 'work plan' process which will identify the best approach to working on steep ground.
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.

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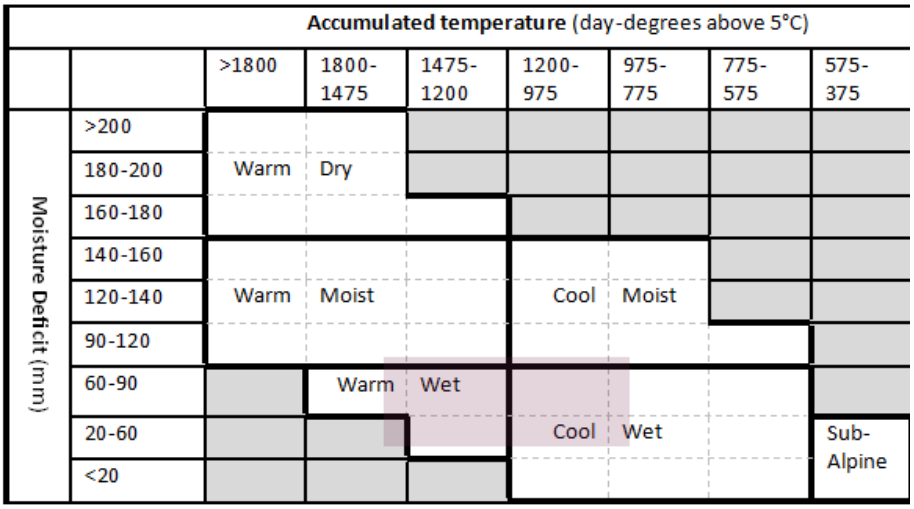
Appendix I: Description of Woodlands

Topography and Landscape	Elevation ranges from 200m where the forest drops towards Moffat Dale, to 672m on the summit of West Knowe. The landform is typical of the Southern Uplands, with simple large-scale rolling hills. The Cornal Burn and Wamphray Water dissect the hills, creating prominent valleys with steep sided slopes in places. Steep slopes (>25 degrees) occur in a number of locations, for example around Croft Head, Scaw'd Fell and Cowan Fell. Part of the plan area sits within the Moffat Hills Regional Scenic Area. See Map 11. The ridgeline and lower slopes between Loch Fell and Cowan Fell in the east of Garrogill are not included in the designation. The Moffat Hills RSA centres on Hart Fell to the north of Garrogill Forest blocks and includes the visual envelope of the Moffat glens. The Southern Upland Hills here are high with smooth steep sided rounded hills. Garrogill sits on the southern edge of the RSA and is included because the north facing slopes of Garrogill along the Moffat Water contribute to the setting for the Moffat Water valley, and the confluence of Moffat Water with the upper Annan Valley. The valley sides here are also important for the setting of Moffat itself. Conifer plantations of Craigieburn and Garrogill on the lower slopes combine with small scale valley woods to give a wooded character to the southern end of the Moffat Water. The forest cover on Big Hill within Garrogill makes an important contribution to this character. Views across the RSA from the A701 south over upper Annandale are mentioned as being important. Big Hill, in the north west of Garrogill is visible from the A701. Map 11 also shows the relevant NatureScot Landscape Character Types relevant to Garrogill: • Southern Uplands LCT 177 • Southern Uplands with Forest LCT 178 Southern Uplands LCT 177 The area of Garrogill covered by this LCT is almost all forest cover making it more akin to LCT 178 'Southern Uplands with Forests'. The exception being ridgeline between Gateshaw Rig and the summit of Croft Head in

	the NW of the block. This ridge fits with this LCT description, this ridge is the upper route of the SUW and has views across this LCT to the north west. The key characteristics relevant to this section of the SUW and forest block are: **Key Characteristics** • Large, smooth dome/conical shaped hills, predominantly grass-covered. • Open and exposed character except within incised valleys. • Dramatically sculpted landforms and awe-inspiring scale. • Distinctive dark brown/purple colour of heather on some of the higher areas. • Pockets of woodland in incised valleys. Southern Uplands with Forest 178 **Key characteristics relevant to Garrogill** • Large, smooth dome-shaped hills with large scale dark green forests on slopes and over lower summits. • Predominantly simple, gently rolling landform. • Some areas of more complex and smaller-scale landscapes, with steep slopes enclosing heads of valleys and/or where uplands remain open. • Changing landscapes with large scale forestry operations and wind farm development. • Forested areas dominated by Sitka Spruce, interspersed with mixed conifers and broadleaf planting, and undergoing felling and replanting in large coupes. • Expansive scale.
Geology and Soils	The bedrock lithology is sedimentary sandstones, mudstones and siltstones. Superficial deposits of till and alluvium are found along the valley bottoms. Soils are dominated by ironpans, especially over the hills. Brown earths and surface-water gleys occur through the valley bottoms. At higher

	elevations the soils thin to Rankers. There are only a few small areas of deep peat soil types. Soil types in the forest are shown on **Map 9**
Climate	<u>Accumulated temperature (day-degrees above 5°C)</u> Min: 904, Max: 1545, Mean: 1301 <u>Moisture Deficit (mm)</u> Min: 32,Max: 95, Mean: 72 The climate of the LMP area is highlighted pink on the table below  Climatic Zones in Great Britain (shading indicates combinations not present)
Hydrology	**Map 2** shows all watercourses, open water, and recorded water supplies. The forest sits in the Solway Tweed river basin district. <u>Water quality</u> Bodies of surface waters (as identified by SEPA) in the plan area: **Name:** Wamphray Water **Overall Condition:** Poor **Impacted condition / Responsible pressures (Responsible activity):** Access for fish migration / barrier to fish migration (Business water use) (Crossing of watercourse – SEPA action complete as of 2018) <u>Flooding</u>

	There are no Objective Target Areas, Potentially Vulnerable Areas, or known areas prone to significant flooding downstream from the plan area. Water supplies The plan area does not lie within a Drinking water Protected Area. There is one private drinking water extraction point (Craigbeck Hope) in the Plan area.
Windthrow	Map 10 illustrates the DAMS measurements for the Plan area. Sheltered areas occur in the lee of Big Hill, Yadburgh Hill and Scaw'd Fell. There are extensive areas where exposure is only moderate, but this increases on the hill tops with the severest exposure around West Knowe.
Adjacent land use	Plantation, Rough Grazing. FLS have recently acquired land at Breckonside, which adjoins the plan area – a separate land management plan is being developed for this site.
Public access	The Southern Upland Way, South of Scotland Countryside Trail, and Romans and Reivers Route all pass through the plan area (see Map 2). Core Paths run through all the main valleys. There are no FLS formal recreation facilities. There are no active leases or agreements granted by FLS to any third party within the plan area. Third party access rights are established between the main entrance and Craigbeck Hope. There is one residential neighbour within the forest, at Craigbeck Hope. There is no significant community interest in the forest.
Historic environment	Historic environment records for the forest are shown in Appendix V and on Map 12. There are no designated features within the plan area.
Biodiversity	Designations There are no designated conservation areas in the plan area.

	Priority Habitats Extensive areas of Upland Heathland over the higher tops. Small patches of Blanket Bog. Strips of Upland birchwood along the Cornal Burn. Large area of Fen/Marsh/Swamp on the western slopes of Scaw'd Fell. Small patch of Montane Heath near the summit of Loch Fell. None of these habitats have been flagged as 'important' by the surveyor. Priority Species Golden eagle - The South of Scotland Golden Eagle Project aims to reinforce the small, isolated and vulnerable population of Golden Eagles in the Scottish Borders and Dumfries & Galloway. A series of translocations into the Moffat Hills over a period of 5 years from 2018 aims to increase numbers and prevent the loss of this species. Red squirrel – evidence of this species is low in the forest block. Native freshwater fish (including migratory salmonids) – the Wamphray Water is a significant tributary of the River Annan which is used by Atlantic salmon and sea trout throughout their lifecycles. Other native fish species are also present. Ancient Woodland / PAWS One small site classed as Ancient of Semi-natural Origin, located near the main entrance along the Cornal Burn. Previously a PAWS site, the area was felled and restocked with Downy birch and Alder. Shown on Map 2. Natural Reserves Two sites are currently identified in the plan area: • Top of Littlehope Burn • Top of Knuckle Gill These are shown on Map 2. Deadwood ecological potential The greatest potential is within the Natural Reserves and along all riparian buffers. Open ground Significant sized areas of open ground occur over the hill tops. Some of the upland heath has a history of management to benefit black grouse. Patches of open ground combine with broadleaved woodland to create a mosaic along the valley bottoms.

Invasive species	None recorded or known
Woodland composition	The current woodland composition is shown on Map 8. 75% (512 ha) of High Forest is first rotation. 25% (171 ha) is second or subsequent rotation. Current woodland management (and % of plan area): Clearfell (74%) Long term retention (2%) CCF / LISS (0%) Minimum intervention (3.5%) Natural reserve (1.5%)
Plant health	Phytophthora ramorum The plan area is in the P. ramorum Risk Zone 1 (greatest risk). Virtually all of the remaining larch within the plan area is infected and currently under Statutory Plant Health Notices for removal (as at July 2020). Dothistroma needle blight (DNB) DNB has not been recorded in the plan area.
Infrastructure	The only vehicle access into the forest block is at NT 121 043 reached by a private track. This is also the main egress points for timber transport, which merges onto a 'consultation' timber transport route. There is a well-established road network through the plan area, providing adequate access to most sites. There are two vehicle bridges which cross the Cornal Burn and Wamphray Water. There is an active quarry at Damsel Shoulder (NT 129 041). An overhead powerline crosses the HGV turning circle next to the A708.

Appendix II: EIA screening opinion request form

Overleaf if required

Appendix III: Consultation record

Consultee	Date contacted	Date of response	Issues raised	FLS response
Scottish Forestry (initial request for any specific requirements / considerations)	2/7/20			
SEPA	8/10/20	6/11/20	Site specific comments: The plan should highlight the fact that currently there are no water bodies within or adjacent to the plan area which are at "less than good" ecological status/potential as a result of forestry activities, emphasising the importance of maintaining the good quality of the surrounding water. Provide mitigation measures to reduce the risk of phosphate leaching or sedimentation. Management on steep slopes - increased risk of additional sediment entering the Moffat Water – mitigation measures need to be set out in the final plan. New tracks – all proposed water crossings should be designed to good practice and	See 'Water' in section 4.

			sized to remain operational during flood events.	
NatureScot (SNH)	8/10/20	13/10/20	We are satisfied that there will be no impacts on the range of national and international designations for which we have responsibility. We have no further comments to make.	
Historic Environment Scotland	8/10/20	29/10/20	There is one scheduled monument immediately on the boundary of the land management plan which has the potential to be affected by the proposals. This is the two scooped settlements at Craiglynne, SM12620. We strongly recommend that this monument should be shown on land management plans so that care can be taken to avoid accidental damage to it. [Protection measures recommended].	This monument appears to be located on neighbouring private forestry land (a significant distance from the march boundary) and so is not considered a constraint for the Garrogill LMP.
Scottish Water	8/10/20	26/10/20	There are no Scottish Water drinking water 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. There are no Scottish Water assets (including water supply and sewer pipes,	

			water and waste water treatment works, reservoirs, etc.) in the area.	
D&G Council – Roads	8/10/20			
D&G Council – Archaeology	8/10/20	2/11/20	Regional significance – Garrogill farmstead Local interest – 4 sheepfolds. Protection measures.	See 'Historic Environment' in section 4
D&G Council – Outdoor Access	8/10/20	3/12/20 (meeting with Ross Gemmell and FLS staff)	There are two recognised SUW routes through Garrogill: low route (Cornal Burn-Wamphray Water) and high route (Dry Gutter-Gateshaw Rig-Croft Head). The high route is promoted as the 'official' route and visitor feedback suggests this is one of the most popular sections of the SUW (as well as being one of the highest points). The low route is a useful alternative during bad weather; as a diversion during forestry operations; and also more suitable for bikers. DGC are planning future investment on the SUW to make it more bike friendly (especially for gravel bikes). The two routes also offer a day walk loop from Moffat. This may well prove more popular in the future with plans to resurrect the Moffat Walking	See 'Landscape' and 'Public Access' in section 4

			Festival, and to reclaim the town's 'Walkers Welcome' status.	
D&G Council – Countryside Development	8/10/20	7/12/20	Information from SWSEIC confirms the historic records for black grouse and has also highlighted a small number of species listed on the Dumfriesshire rare plant register. No detailed information on locations of these is available, but most are likely to be associated with currently unplanted areas such as along cleuchs or on higher slopes. The continuing support for conservation actions for black grouse is welcomed but consideration is needed for rare plant species also – through the retention of unplanted areas and creation of open areas. The proposed action to create a welcome and attractive environment for visitors using the SUW is greatly welcomed, but consideration should also be given to the other core paths within, and affected by, the management at Garrogill. Also consider the views of Garrogill from the Craigieburn Wood walk / core path. Local community aspirations are very	See 'Road operations' 'Biodiversity' ' Landscape' 'Support for the rural economy' and 'Public access' in section 4

			important, and walking is actively promoted in the area with a well-developed catalogue of walks on the Visit Moffat website and a Walking Weekend planned for April 2021. The recognition of Garrogill's contribution to the local landscape is welcomed and the LMP offers opportunities in conserving and enhancing the landscape character. It is suggested that the objectives of the LMP should also reflect the landscape importance of Garrogill due to its location in the Moffat Hills Regional Scenic Area. Consideration should also be given to: Increasing open hill ground to further define the hill tops and ridges Heather management in unforested areas Introducing more broadleaf planting along watercourses /cleuchs and/or extending areas of 'alternative conifers'	

			to help maintain the legibility of topographic features within the landscape Avoiding damage to any flushes wherever possible when creating the new road to access the isolated coupe. These are likely to be the some of the richest areas for plants and bryophytes	
Moffat and District Community Council	8/10/20			
CONFOR	8/10/20			
South of Scotland Timber Transport Officer	8/10/20			
River Annan District Salmon Fishery Board	8/10/20			
RSPB	8/10/20	4/11/20	Black grouse - We welcome the inclusion of black grouse in the design brief, as the importance of this area cannot be underestimated. It currently holds a good	See 'Biodiversity' in section 4

			size lek for the region and is part of the core area of habitat that connects the western populations in Dumfries and Galloway to the eastern populations in the Borders. We hold a record of 3 lekking black grouse from 2019, just to the east of this plan, on West Knowe. Would welcome larger scale planting of low-density native broadleaves along slopes of West Knowe. Recommend Scots pine as alternative conifer to the west of Cowan Fell. Recommend conifer regeneration monitoring/removal on open ground and low-density planting around West Knowe and Cowan Fell.	
Saving Scotland's Red Squirrels	8/10/20			
Butterfly Conservation Scotland	8/10/20			
British Horse Society of Scotland	8/10/20			
Visit Scotland	8/10/20			

Local community / general public (online consultation publicised via social media and posters)	Open for responses from 19/10/20 to 15/11/20		It's a dull walk on the SUW – it might be good to have MTB tracks	Hopefully as the plan is delivered the route will become more varied and interesting for visitors. FLS have no plans to develop biking trails in Garrogill, however there is an aspiration from D&G Council to make the SUW more bike friendly.
			I am keen that, in common with several other parts of D&G, public amenity should be a feature of forestry development at all times. This is not only important for local people, but crucial to develop a thriving local economy which is closely linked to tourism. I would very much like to see a careful development of this site, which includes a number of circular walking routes, connected to both the Southern Upland Way, and a sensibly sized car park and public transport links. The Dalbeattie Town Wood is a perfect example of the type of public amenity that would undoubtedly benefit the local economy as well as meet the key requirements for development.	FLS are committed to working with D&G Council to protect, maintain, enhance and promote the SUW and other core paths in the forest. This plan recognises the importance of outdoor recreation in supporting the local economy and FLS actively encourages visitors to use its forests and land for walking, cycling and horse riding. At this time, we do not have any plans to develop formal visitor facilities at Garrogill.

Appendix IV: Tolerance table

	Maps Required (Y/N)	Adjustment to felling period *	Adjustment to felling coupe boundaries **	Timing of Restocking	Changes to Restocking species	Changes to road lines	Designed open ground ** ***	Windblow Clearance ****
FC Approval normally not required	N	• Fell date can be moved within 5 year period where separation or other constraints are met.	• Up to 10% of coupe area.	• Up to 3 planting seasons after felling.	• Change within species group e.g. evergreen conifers or broadleaves.		• Increase by up to 5% of coupe area	
Approval by exchange of letters and map	Y	• Advance felling of Phase 2 coupe into Phase 1	• Up to 15% of coupe area	• Between 3 and 5 planting seasons after felling, subject to the wider forest and habitat structure not being significantly compromised.		• Additional felling of trees not agreed in plan. • Departures of > 60m in either direction from centre line of road	• Increase by up to 10% of coupe area • Any reduction in open space of coupe area by planting.	• Up to 5ha
Approval by formal plan amendment may be 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*

Table of Working Tolerances Specific to Larch

	Adjustment to felling period	Adjustment to felling coupe boundaries	Timing of restocking	Changes to species	Changes to road lines
FC Approval not normally required	Fell date for all larch can be moved and also directly associated other species	Larch areas can be treated as approved coupes. Other conifers directly associated with larch being felled, may also be removed up to an equivalent of 20% of the area occupied by the larch or 5 ha, whichever is greater	To be undertaken within the overall plan approval period.	Replacement as per the agreed restock plan, but where this is not specified or is larch this may be replaced with either another diverse conifer (not SS) or Broadleaves.	
Approval normally by exchange of letters and map. **In some circumstances Approval by formal plan amendment may be required**		Removal of areas of other species in excess of the limits identified above.	Restocking proposals outwith the plan approval period.	Restocking proposals for other species which do not meet the tolerances identified above.	New road lines or tracks directly necessary to allow the extraction of larch material.

Appendix V: Historic Environment records

Refer to **Map 12**

Designation	Name	Feature Description	Grid Reference	Importance	Area (ha)
Undesignated	HLA Relict Area	RCAHMS HLA data; TYPE = Plantation; RELIC TYPES 18th Century-Present Rectilinear Fields and Farms / Not Applicable Not Applicable / Not Applicable Not Applicable	NT156028	Uncategorised	1.93
Undesignated	HLA Relict Area	RCAHMS HLA data; TYPE = Plantation; RELIC TYPES 18th Century-Present Rectilinear Fields and Farms / Not Applicable Not Applicable / Not Applicable Not Applicable	NT156030	Uncategorised	0.08
Undesignated	GARROGILL	FARMSTEAD, FIELD SYSTEM	NT157029	Regional Importance	3.08
Undesignated	HLA Relict Area	RCAHMS HLA data; TYPE = Rough Grazing; RELIC TYPES 18th Century-Present Rectilinear Fields and Farms / Not Applicable Not Applicable / Not Applicable Not Applicable	NT156030	Uncategorised	1.28
Undesignated	Sheepfolds	Sheepfold and enclosure at NT 1560 0421 Sheepfold at NT 1577 0434 Possible sheepfold at NT 1303 0353 Possible sheepfold at NT 1553 0366 (information provided by D&G Council Archaeologist)		Local interest	