Forestry and Land Scotland
Coilltearachd agus Fearann Alba

Ashiestiel

Land Management Plan 2021 - 2031 V1.1

Accessible version

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:	Ashiestiel
Grid Reference (main forest entrance):	NT 4042 3611 (Entrance) NT 4110 3517 (Site)
Nearest town or locality:	Galashiels
Local Authority:	Scottish Borders Council

Applicant's details	
Title / Forename:	Mr Tom
Surname:	Harvey
Position:	Planning Forester
Contact number:	07990627644
Email:	Tom.harvey@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 the FC agreed must be included. Where it has not been possible to resolve specific issues associated with the plan to the satisfaction of the consultees, this is highlighted in the Consultation Record.

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

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

Signed, Pp Regional Manager	A.Jarrott	Signed, Conservator	Ian Laidlaw
FLS Region	South	SF Conservancy	South
Date	11/08/2021	**Date of Approval**	12/01/2022
		Date Approval Ends	12/01/2032

Contents

1.0 Objectives and Summary

1.1 Plan overview and objectives

Plan name	Ashiestiel Land Management Plan
Forest blocks included	Ashiestiel
Size of plan area (ha)	186.4 ha
Location	See Location map (Map 1)

Long Term Vision
The long term vision for Ashiestiel is a rich integration of biodiversity value along with productive forestry extending the Elibank property. The land parcel, while not visually dominating in the local landscape is significant on a wider landscape scale. The site will provide biodiversity enhancement to the existing priority habitats whilst also using the best forestry soils to maximise soft conifer species production.
Management Objectives
1. Utilize high yielding softwood species to contribute to the surrounding FLS blocks productivity 2. Retain the connectivity of the varying biodiverse native habitats through the site and expand where appropriate. 3. Mitigate and adapt to the effects of climate change with fast growing conifer species sequestering carbon.
Critical Success Factors
• Ground preparation and planting carried out sustainably to the establishment plan specification meeting the stocking density requirements • Protection of soft conifers and broadleaves from browsing damage • Completion of road construction ready for establishment operations

1.2 Summary of planned operations

Table 1

Summary of Operations over the Plan Period	
Clear felling (gross)	0 ha
Thinning	0 ha
Restocking (gross)	0 ha
Afforestation	78.4 ha
Deforestation	0 ha
Forest roads	1350 m
Forestry quarries	0 ha

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

2.0 Analysis and Concept

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

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	Although not within the plan boundary Williamhope and Glenkinnon Burn SSSI's are within appx. 0.5km from the boundary. The River Tweed (SSSI) is also connected to the site through the Stiel Burn.
National Nature Reserve (NNR)	No	
Special Protection Area (SPA)	No	
Special Area of Conservation (SAC)	No	Although not within the plan boundary the River Tweed is connected to the site through the Stiel Burn.
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	An area at the source of the Stiel Burn of appx. 0.93 ha has been surveyed as 8b 'Juncus articulates or acutiflorus bog'. Depths of 45->100 cm
Tree Preservation Order (TPO)	No	
Local Nature Conservation site	No	
Biosphere reserve	No	
Local Landscape Area	Yes	Tweed, Ettrick and Yarrow confluences - SLA3
Ancient woodland	Yes	Stielburn Wood (Long Established of Plantation Origin [LEPO]) is adjacent to the northern boundary.
Acid sensitive catchment	No	
Drinking Water Protected Area (Surface)	Yes	A private water supply is located at NT 408 355
Priority Area for Red Squirrel	Yes	Upper Tweed Priority Area for Red Squirrel Conservation
Ground Water Dependent Ecosystems	Yes	Moderately rich - High dependency GWDTE is present to the south of the site. Sourced by springs off the Ashiestiel Hill

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

Within the lifespan of this Land Management Plan there is no clear felling.

3.3 Thinning

Within the lifespan of this Land Management Plan there is no anticipated thinning.

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 Afforestation

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

Table 3

Afforestation								
Phase	Coupe Number	Gross Area (ha)	Net Area (ha)	Proposed Restock Year	Species	Method *	Minimum stocking density (stems/ha)	Note
1	86003	20.5	3.5	2024	WL/XB/BI	P	1600	XB = Hawthorn
1	86004	23.7	6.6 17.1	2024	SP/BI (50:50) NS	P	2500	SP | BI: Planted in intimate groups NS: pure crop
1	86005	17.4	17.4	2024	SS	P	2500	
1	86006	13.8	13.8	2024	SS	P	2500	
1	86007	17.2	7.9	2024	WL/XB/OP OP	P	1600	XB = Hawthorn OP = 50%
1	86008	8.4	8.4	2024	SS/SP (50:50)	P	2500	Planted in

Afforestation								
								intimate groups
1	86010	25.9	3.7	2024	XB/RWN/SOK	P	1600	XB = Hawthorn

Total	126.92	78.4

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

A full list of species breakdown see section 4.1.5 Tree species choice.

If the Restock by 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 felling with beat up by year 5 at the latest.

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.

Table 4

Plan area by species						
Species	Current Area (ha)	%	Year 10 Area (ha)	%	Year 20 Area (ha)	%
Sitka spruce	10.3	6%	45.6	25%	45.6	25%
Other conifers	2	1%	26.6	14%	26.6	14%
Native broadleaves	0	0%	18.5	10%	18.5	10%
Fallow	0	0%	0	0%	0	0%
Open ground	174.1	93%	95.7	51%	95.7	51%
Total	**186.4**	**100**	**186.4**	**100**	**186.4**	**100**

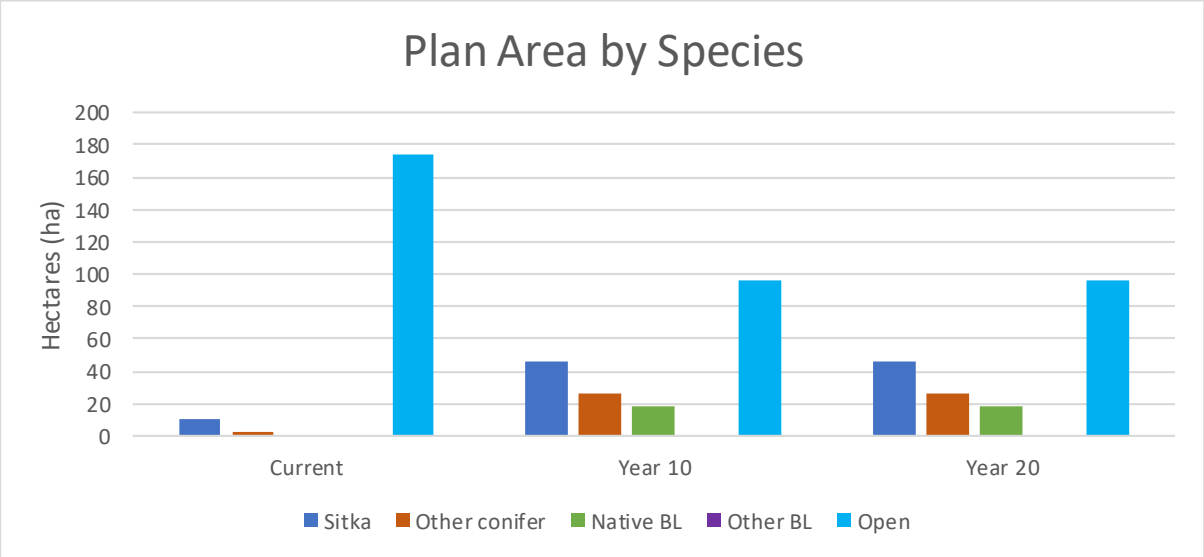

Figure 1, Bar chart of Plan area by species

Table 5

Plan area by Age						
Age Class (years)	Current Area (ha)	%	Year 10 Area (ha)	%	Year 20 Area (ha)	%
0 – 10	12.3	7%	78.4	42%	0	0%
11 – 20	0	0%	12.3	7%	78.4	42%
21 – 40	0	0%	0	0%	12.3	7%
41 – 60	0	0%	0	0%	0	0%
60+	0	0%	0	0%	0	0%
Open	174.1	93%	95.7	51%	95.7	51%
Total	**186.4**	**100**	**186.4**	**100**	**186.4**	**100**

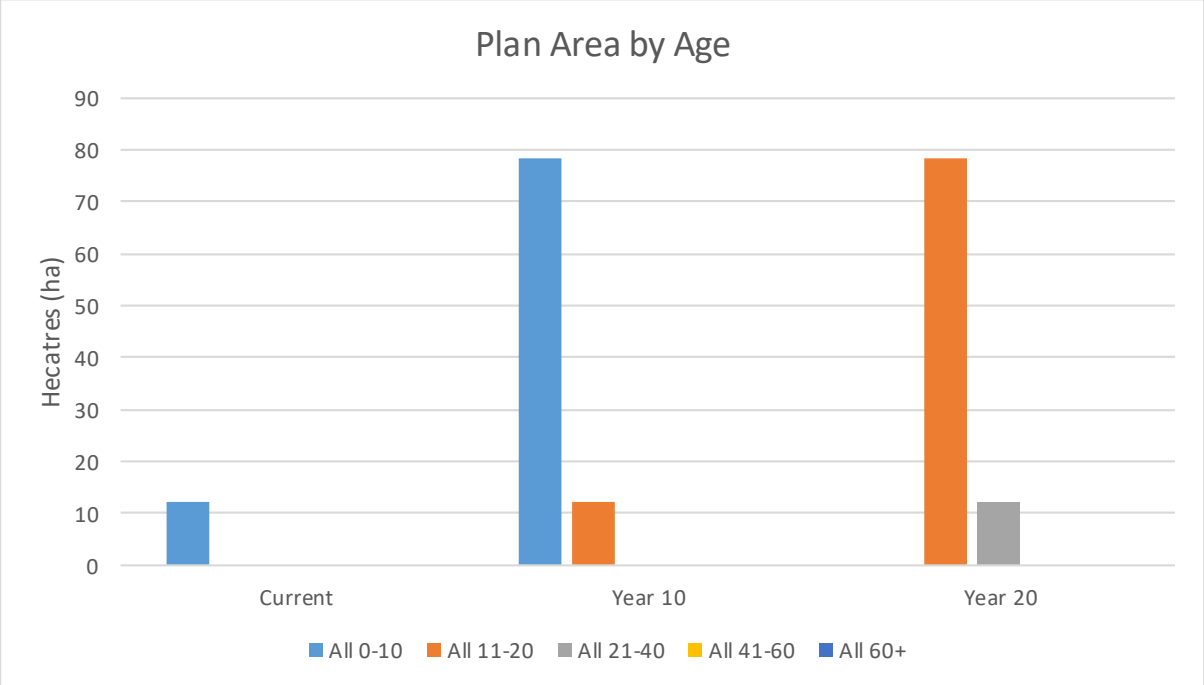

Figure 2, Bar chart of plan area by age

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 6**).

Table 6, Forest road upgrades, realignments, new roads and new quarrying

Forest Road Upgrades, Realignments, New Roads and New Quarrying				
Phase	Name / Number	Length (m)	Year	Operation
1	T59a	0.93km	2023	Formation and surfacing
4	T59b	0.42km	2041	Formation and surfacing

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 7

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

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

86001/02/05/06
The above will be managed as future clearfell coupes however, there is no clear felling within the lifetime of this plan.

86008
This coupe will be felled and restocked alongside the adjacent Elibank coupe. The long term vision for these areas are that they will be managed as one unit and aid with connectivity within the landscape.

4.1.2 Thinning

86001/02/04/05/06
The above will be managed as future thinning coupes however, there is no thinning within the lifetime of this plan.

4.1.3 Low Impact Silvicultural Systems | Continuous Cover Forestry

86004
It is anticipated that a uniform shelterwood Continuous Cover Forestry (CCF) system will be employed across the Norway spruce element, furthermore the productivity and site suitability of this species will likely produce a successful restocking of natural regeneration in the future reducing the requirement for ground preparation and full restock planting. Beyond the life of this LMP it is anticipated that seed trees will be selected from the best formed trees, thinnings would favour trees around these to promote crown development and seed production. Norway spruce produce seed around October- November and disperses seed through till April therefore the latter thinning interventions should if possible be timed around this.
A group shelterwood system will be utilised within the Scots pine and birch area given the light demanding requirements of the species and the favourable DAMS scores within that area. An initial matrix of group planting of birch within the pine will assist with the early

group structure. Thinnings and later group fellings will be worked alongside the above Norway spruce interventions.

Monitoring of regeneration and canopy cover will inform all future interventions.
See **map 4** for location of LISS areas.

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

86011
This area is to be left unplanted leaving the small patched of riparian willow woodland to expand with natural regeneration.

86003/06/10
These areas once planted will be managed as minimum intervention with the purpose of expanding the existing pockets of semi natural scrub woodland located throughout the site. The species mixture will be a of the existing scrub fragments with due consideration for likely successional species. Once established there may be natural regeneration of exotic conifer seed encroaching within the boundary of the native woodland, monitoring and review of this will be required beyond the life of this LMP.

The long term vision for the management coupe **86010** will be the re-introduction of a grazing regime once the area is established to create a natural complex mosaic of tree regeneration through light poaching and suppression of rank vegetation. This vision will need to be assessed further down the life cycle of this woodland for practical viability.
See **map 4** for location of minimum intervention areas.

4.1.5 Tree species choice

Refer to **Map 5.**

Table 8 – species detail

Common name	***Scientific name***	***Compartment***	***ESC Suitabillity****	***YC***	***Area***	***% of forest area***	***Comments***
Norway spruce	*Picea abies*	86004	S	18	17.1	21.81%	Pure crop
Scots pine	*Pinus sylvestris*	86004	S	8	3.3	4.21%	Blocky intimate mix 50:50
Silver birch	*Betula pendula*		S	6	3.3	4.21%	
Sitka spruce	*Picea sitchensis*	86005/6	S	20	31.3	39.92%	Pure crop
Sitka spruce	*Picea sitchensis*	86008	S	16	4.1	5.23%	Blocky intimate mix 50:50
Scots pine	*Pinus sylvestris*		VS	12	4.1	5.23%	
Native mixed broadleaf compositions:							
Hawthorn	*Crataegus monogyna*	86003	-	-	0.75	0.96%	Approximate NVC W21 scrub composition 50:50
Rowan	*Sorbus aucuparia*		-	-	0.75	0.96%	
Grey willow	*Salix cinerea*	86003	-	-	1	1.28%	Approximate NVC W2 composition 50:50
Downy birch	*Betula pubescens*		-	-	1	1.28%	
Grey willow	*Salix cinerea*	86007	-	-	4	5.1%	Approximate NVC W4 composition - In groups to match site conditions 30% | 20%
Hawthorn	*Crataegus monogyna*		-	-	4	5.1%	
Sessile oak	*Quercus robur*	86010	-	-	1.1	1.4%	Approximate NVC W11 composition - In groups to match site conditions 30% | 30% | 30% | 10%
Downy birch	*Betula pebescens*		-	-	1.1	1.4%	
Hazel	*Corylus avellana*		-	-	1.1	1.4%	
Rowan	*Sorbus aucuparia*		-	-	0.4	0.51%	
*Data from Forest Research Decision Support System							

All species have been chosen with due consideration to being site suited and climate adaptable table above details the species utilised and suitability level as recorded by the Ecological Site Classification decision support tool (2020)

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.

All species are Suitable (S) or Very Suitable (VS) to site under current climate scenarios according to Forest Research decision support system.

To calculate diversity *within* the species being planted a diversity scale was used; prior to the proposals within this LMP the site sits at a Shannon Index diversity scale of 0.5, post planting this rises to 1.4. Typical values are generally between 1.5 and 3.5 in most ecological studies, the index is rarely greater than 4. The Shannon index increases as both the richness and the evenness of the community increase.

Planting the species mixtures will take into account the sites micro-environment with micro-topography and aspect (mounds, frost hollows) along with soils being used to identify best location for each individual species.

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

It is anticipated that with predator control for the planted species this will also increase the likelihood of successful natural regeneration in semi-natural areas expanding the existing native scrub woodland. 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 is currently 51% open ground planned in the plan area so there is scope for increased woodland cover (likely through natural regeneration) without compromising UKFS requirements.

There should be a preference for natural regeneration within planted and existing 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.

Although outwith the lifespan of this plan, natural regeneration of the desired species in CCF areas will be recruited as the next rotation, and it will be important that thinning/CCF interventions avoid damage to young trees.

4.1.7 Protection

Deer

Herbivore browsing is a significant threat to the woodland creation scheme, deer control will be required in the long term however, for establishment, physical protection measures will be required which will likely require temporary fencing. Fencing would be utilised up until the entirety of the crop has been established. An indicative fencing map is available as **map 10** and shows where gates and stiles would be located to maintain operational and public access. Due consideration for environmental impacts such as **badgers** would be in place with badger gates being located at suitable intervals throughout the fence-line. To mitigate the possibility of bird strike particularly from **black grouse**, the southern edge of the deer fence will have markers sited along the fenceline.

If a fence-line is deemed necessary at the time of establishment but significantly varies from that shown in **map 10** a formal amendment will be made to Scottish Forestry.

4.1.8 Road operations, timber haulage and other infrastructure

One road will be required to access the Ashiestiel site for establishment and future operations. T59 (1350 m) will gain access from the Elibank block to the West. This will be divided up into two segments; the first segment, T59a (930 m) will be formed and surfaced early within phase 1. The second segment T59b (420 m) will be formed within phase 4 to allow for future operational access and stacking.

Forest and Water Guidelines will be followed during construction with use of environmental precautions to minimize erosion and sediment entering watercourses
Material sourced for these operations would be sourced from the Elibank & Traquair forest quarries.
Both these new roads will give access for the initial establishment phases and subsequent thinning interventions and felling operations throughout the management of the crop. The timber from thinnings and fellings would be hauled utilising the existing forest road network within the adjacent block and use of the existing approved timber transport route (D83/2) to bring timber to the market.
See **map 6** for roading operations and timber haulage detail.

4.2 Biodiversity

4.2.1 Designated sites

Although not within the plan boundary Williamhope and Glenkinnon Burn Sites of Special Scientific Interest (SSSI) are within appx. 0.5km from the boundary. The River Tweed SSSI and Special area of Conservation (SAC) is also connected to the site through the Stiel Burn.

4.2.2 Native Woodland

Native woodland will increase to 10% with the addition of the afforestation. All native woodland being planted has been assessed according to their site suitability whilst also considering a degree of diversity to add further resilience to the site.

It is anticipated that native woodland will expand through natural regeneration within the successional open areas, this will be monitored and recorded in later reviews of this land management plan.

4.2.3 Ancient Woodland | Plantation on Ancient Woodland Sites

No designated ASNW or PAWS are present on site.

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.

Due consideration has been given to expand suitable habitat for this species given that the plan lies within the Upper Tweed Priority Area for Red Squirrel Conservation. Furthermore

sightings have been recorded on both FLS land nearby and on adjacent land with the latter within the nearby woodland to the north of the site. Here retention of existing broadleaf along with expansion of native conifer and broadleaf will give a wider habitat corridor for the red squirrel and provide connectivity to the larger FLS blocks.

Priority habitats

Map 7 indicates the current habitat composition of the site with all Priority Habitats highlighted with a red boundary. The greatest extent of Priority Open Habitats is Upland Heath. This has a rich field layer in places, including sphagnum mosses (*Capilifolium*). There are also Upland Flush Fen and Swamp areas, with flushes running down from the top of the site, and fens and swamps in the low flat areas next to the boundary at the north. The flushes at the top have a valuable wet woodland component, developed over a long time. This is semi-natural in nature and compliments the plant communities in them. Most of the remaining habitats found here are acid grassland, bracken, and neutral grassland. The protection of these habitats includes preventing management which changes the habitat type into a non-priority habitat type, e.g. a coniferous plantation, or draining an area and therefore changing the hydrological behaviour.

Enhancement through best practice methods, such as introducing or continuing grazing, removing threats such as non-native plants and trees, or in some specific circumstances, establishing native trees through natural regeneration, or even planting locally native trees and shrubs.

Within coupe **86007** a fringe of scrub broadleaf consisting of hawthorn and willow species along with 50% open ground will be allocated to the lower sections of the Upland Heath this will enhance the priority area and be beneficial for specie such as black grouse and other species of birds along with associated invertebrates.

An additional open area within this coupe is allocated for the GWDTE (see below).

Coupe **86010** will be enriched with blocks of broadleaf between the priority habitats and existing scrub woodland with successional species (oak, hazel, rowan, birch) to compliment the diversity of the area.

Coupe **86003-** currently a matrix of various Wet Woodland priority Habitats to the west will also be enriched to match species already present (primarily willow). To the east of **86003** the hawthorn scrub component will also be enriched with hawthorn and rowan allowing for diversity of species and diversity of the woodland edge.

Ground Water Dependent Terrestrial Ecosystems (GWDTE)

Within **86007/9** High dependency moderately rich GWDTE areas have been highlighted these are left open with a further 20m buffer of low density broadleaf. All springheads will have a 5 m protection zone around them from ground preparation and planting.

4.2.5 Open Ground

86009

The bulk of the managed open ground area is associated with the entirety of Ashiestiel Hill. This area is suitable for retention under the current pasture regime.

86003
Small patches of planting of site-suited native broadleaf are proposed to enrich the existing wet woodland/scrub broadleaf on site.

86011
No planting will occur within this area but it is anticipated the existing scrub broadleaf will naturally regenerate to expand and complement the existing habitat.

The total open ground will comprise 51% of the site.
See **map 5** for open ground location.

4.2.6 Dead wood

Given the site is primarily a woodland creation scheme quantities of deadwood are below the guidelines however, this will increase through the life of the woodland being planted.

4.2.7 Invasive species

None present on site

4.3 Historic Environment

4.3.1 Designated sites

There are no historic environment features of significance. The 1970 record of Mesolithic Flints (CANMORE 54391) being found is not detailed enough to identify a true location, and further walkover survey and a watching brief during establishment is not therefore required by the UKFS.

4.3.2 Other features

Two 19th Century features are present of local significance which include a sheepfold at NT 4135 3564 and a marker cairn at NT 4154 3560.

4.4 Landscape

4.4.1 Designated areas

Ashiestiel is visible from the local area with limited wider views within the Tweed Valley however, the site is an important landscape feature in the wider context. It lies within two SNH landscape character types (LCT); Southern Uplands with Scattered Forest (93) & Upland Valley with woodland (116). It also lies wholly within the Scottish Borders Councils Local Landscape Designation; Special Landscape Area (SLA3): Tweed, Ettrick and Yarrow confluences.

The boundary of the LCT's can be seen in **map 2** and all landscape designations are detailed within **Appendix I – Topography and Landscape** and **Appendix VII – Landscape Key Characteristics**. The majority of the site lies within LCT 93. A mix of planting and open land will be incorporated throughout the plan to retain this landscape type specifically capturing the large scale dome shaped summits, locally prominent scattered large areas of forestry and a degree of remoteness and wild character.

The lower north eastern area is within LCT 116 this is maintained by the retention of the existing woodland scrub along with enrichment of this to achieve the strong influence of woodland.
To capture and be in keeping with SLA3, the proposed design for Ashiestiel Hill maintains the elements of being broad and open in places and in a wider setting maintains the open heath hill tops and associated views. The proposals include diversity of species which caters for the mixed woodland climbing the valley sides.

A hard un-organic edge along the higher elevations of the FLS owned block; Elibank, is visible in the wider context. This area will be addressed with conifer planting to expand the edge and create a more organic shape. It is proposed that this area will be felled along with subsequent rotations of the adjacent Elibank coupe which will in the long term incorporate an element of connectivity between the two sites.

There are a number of key external viewpoints that have informed the design of the woodland. Three key viewpoints (shown on **Map 1**) have been used to illustrate the LMP management proposals (3D visualisations are shown in **Appendix VI**). These were selected on the degree of visibility and the significance of the views.

4.4.2 Other landscape considerations

The site is directly opposite the Ashiestiel Designed Landscape (77), the planting proposals directly adjacent to this area have been diversified incorporating areas of broadleaf, conifer and mixed conifer and broadleaf.
Viewpoint 3 shows the Ashiestiel designed landscape in the foreground with the proposed planting behind. There is formal planting around the house (not visible) with older policy woodland extending throughout formal grounds. Behind this formal planting are pasture

fields visible on the valley sides, these fields are framed behind by small-medium scale farm woodlands of productive conifer and broadleaf. The site is at a transition point between the formal small to medium scale farmed landscape and the informal larger scale hills behind.

A viewpoint from the Southern Upland Way was assessed however the woodland creation has little to no impact on this.

4.5 People

4.5.1 Neighbours and local community

Despite COVID-19 related restrictions neighbours and local community were engaged with through press release, online FLS website updates, online survey and discussions with the local council on development of plans.

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

The issues log can be found in **Appendix III**, this details all the comments including opportunities and constraints highlighted from the initial scoping and consultation period. Should fencing be utilised gated access is to be maintained on the eastern boundary in consideration for the adjacent shelter belts.

4.5.2 Public Access

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.

There is one existing track (see **map 2**) within the site and this will remain unplanted to give public walking access through the site. The future road (T59a/b) will be aligned with the middle section of the existing farm track which will give public an alternative access point into the Elibank block and give opportunities to form a looped walk in the future.

Should fencing be utilised to protect the establishment phase of this LMP **map 10** shows an indication of where access will be maintained.

4.5.3 Renewables, Utilities and other developments

A Private water supply is located within the Stiel Burn and associated infrastructure is present along the northern boundary. All operations will be follow forest and water guidelines in consideration of this.

4.5.4 Support for the rural economy

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

4.6 Soils

4.6.1 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.

4.6.2 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 (PEW).

After areas for which there is a presumption to restore are identified, the remaining afforested peatlands will be investigated, looking for evidence to support replanting, as per the FCS Practice Guide. If evidence is found that they will clearly support good growth of Yield Class 8 or more, then they will be restocked. If no evidence is found, they will either be restored, if this is considered to be achievable, or if not, e.g. on slopes of greater than 5%, have a low density native woodland established (PEW).

Within coupe **86003** 0.93 ha area of 8b Juncus articulatus or acutiflorus Bog was recorded during the soil survey, with peat depths of 45 - >100 cm. This area will not be planted.

See **map 8** for distribution of soils.

4.7 Water

4.7.1 Drinking water

The Private Water Supply (PWS) located at NT 408 355 is currently within a primarily open habitat with low shrub broadleaves. This will be maintained as an open successional area where native broadleaves will be tolerated to naturally regenerate.
The planting scheme design has been assessed using the Forest Research information note; Water Use by Trees (*Nisbet, 2005*) and using the calculation of; for every 10% of upland catchment being covered by mature conifer canopy there would be a potential 1.5-2.0% reduction in water yield, we found that the proposals would be very unlikely to threaten the integrity of the water supply.
All private drinking water supply points (and pipes) are recorded as a layer in our Forester Web GIS (included in **Map 2**). This is consulted during the work plan process for all forest operations to ensure their protection. Affected neighbours will be consulted prior to any works commencing. Features will be clearly marked on all contract maps, as well as on the

ground. The design of the future forest has incorporated an open space or broadleaf buffer of at least 50m around these supply points to minimise future disturbance.

4.7.2 Watercourse condition

See **Appendix I – Hydrology**, for water quality and condition.
All forestry operations will meet the requirements of the UKFS Guidelines on Forests and Water.

4.7.3 Flooding

See **Appendix I – Hydrology**, for flooding detail.
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 future 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:

Tom Harvey | Planning Forester

Forestry and Land Scotland, South Region (East), Weavers Court, Forest Mill, Selkirk, TD7 5NY

t: +44 (0) 131 370 5286 **|** m: 07990627644 **|** e: tom.harvey@forestryandland.gov.scot

Appendix I: Description of Woodlands

Description of woodlands
Topography and Landscape
Ashiestiel is connected to the Forestry and Land Scotland (FLS) managed Elibank block in the Tweed Valley Forest Park (TVFP) within the Scottish Borders. The site rises to 440 m (a.s.l.) on its south western corner near the summit of South Height and saddles over to include the summit of Ashiestiel Hill at 402 m (a.s.l.) the lower slopes to the north drop to 180 m (a.s.l), 50 m above the River Tweed Valley bottom. The Stiel Burn flows through the site south-north and feeds into the River Tweed. The local landscape is made up of rolling hills and smooth slopes predominantly managed as productive coniferous forestry to the south of the River Tweed and to the north the land is primarily a mixture of rough and improved pasture. The Tweed Valley is characterised by its' meandering river valley of which in this area is relatively open although does incorporate a visual perception of being narrow and confined in parts. The area is represented by SNH landscape types; **(93) Southern Uplands with Scattered Forest** • 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 **(116) Upland Valley with woodland** • Meandering river valley, strongly enclosed by uplands. • Flat valley floor, broad and open in places, narrow and more intimate in others. • Prominent terraces (haughlands) caused by fluvial and glacial action. • Strong influence of woodland, with extensive coniferous forest prominent on valley sides, and mature hedgerow tree lines, broadleaf, and mixed policy woodlands on valley floor. • Traditional dwellings, farmsteads and hamlets clustered at the foot of valley side slopes. • Mill towns prominent on valley floor and sides. • Tower houses and mansions common along river banks.

Description of woodlands

- Prehistoric hillforts common on gently rounded hill tops.
- Designed policies and parklands significantly contribute to woodland cover and character.

The site is wholly within the Special Landscape Area (SLA) SLA 3: Tweed, Ettrick And Yarrow Confluences.
The **Special Landscape Area SLA3: Tweed, Ettrick And Yarrow Confluences** designation statements relevant to Ashiestiel are:

- The enclosing uplands and upland fringes offer contrast and an attractive wider setting and enable views across the valleys.
- East of Thronylee, the Tweed flows in to a narrower section winding between steep valley sides which are often densely forested.
- The southern upland way follows the ridge between tweed and yarrow, offering views across the area.
- A series of estate landscapes give visual diversity to these valleys

The site is immediately south of the Ashiestiel Designed Landscape.

These land based designations are detailed on **map 2.**

Geology and Soils

The underline geology consists of bed rock comprising mainly wacke sandstone, siltstone and mudstone in variable proportions. An overlay of superficial glacial deposits run consistently with the Stiel Burn.
A range of soils are present with the most dominate primary soils being brown earths consisting of typical (20%), upland (13%) and podzolic (17%) as to be expected these are located on the upper to middle slopes. The next most abundant primary soil type are typical surface water gleys (25%), these are located in the flushes and lower gentler slopes below the natural seepage boundaries draining the upper brown earth soil types. A minor element of peat (categorized as *Juncus articulatus* or *acutiflorus* bog) is located toward the western center slopes making up less than 1% of the site.

Across the site Soil Moisture Regimes (SMR) vary from wet to fresh with slightly dry being the most abundant and the Soil Nutrient Regime (SNR) values vary from very poor to rich with very poor and poor being the most abundant across the site.

Soils types within the forest block are shown on Map 8

Description of woodlands

Climate

The site has a cool, moderately exposed and wet climate. The climate station based at Galashiels- 7.5 km from Ashiestiel records the average summer and winter temperature and precipitation averages are 10.3 °C & 59.5 mm and 5.8 °C and 75.2 mm respectively.

The ecological Site Classification gives the accumulated temperature (day degrees above 5 °C) ranging from 940 - 1150 (cool) and a moisture deficit range of 60-100 (wet - moist).

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

Hydrology

Map 2 shows all water courses, Ground Water Dependent Terrestrial Ecosystems (GWDTE), and recorded water supplies.

The Stiel Burn runs through the site south-north receiving its catchment from the south west of the site through multiple tributaries.

The SEPA water classification hub gives a good overall condition status for the River Tweed at this point. The SEPA Flood Risk Management map shows the River Tweed at this point at a medium to high likelihood of flooding.

Ground Water Dependent Terrestrial Ecosystems (GWDTE) are present throughout the site. These are primarily consistent with being moderate dependency with low richness however, there is a small area circa 1.5 ha within the south of the site containing high dependency moderately rich GWDTE. Associated springheads are also clustered throughout the site.

There are areas of Upland Flush primarily in the southern and upper 350 m to 380 m contour ranges and also relatively large areas of wet woodland primarily in the north eastern areas of the site, smaller fragmented habitats of wet woodland are located within the south west.

Windthrow

Ashiestiel has a predominantly north facing aspect and therefore is out of the dominant south westerly winds however, the Detailed Aspect Method of Scoring (DAMS) ranging

Description of woodlands

from 12-17, highlights that Ashiestiel is sheltered on the lower slopes but can be subject to high exposure

above the 340 m contour level. However this still lends the majority of the site to being at low risk from wind throw.
See **map 10** for DAMS map

Adjacent Land use

Neighbouring land on the western boundary is owned and managed by FLS, this block is Elibank and is a component of the Tweed Valley Forest Park. The Land Management Plans are currently under review with the current objectives at the time of writing as:

1. To maintain a multi-purpose and multi-benefit forest for the local and national economy.
2. To plan and design resilient and healthy forests.
3. To enhance landscaping in visitor zones.
4. To care for Priority Habitats and species.

The lower slopes and dominant frontage of Elibank is primarily managed as strip, uniform or group shelter wood selection systems with also an element of minimum intervention. The higher slopes and hill tops toward the back southern areas of the sites are primarily managed under a patch clear fell system. Current species neighbouring the site are primarily consistent with spruce and larch with minor elements of pine and Douglas fir. Alongside the productive forestry component of the adjacent forest an extensive area of broadleaf and juniper comprising a wet woodland is managed as a riparian habitat along the Stiel Burn.
To the east, the site neighbours land where mixed pasture incorporates hawthorn scrub linking onto that of the same within the Ashiestiel block along with small to medium sized shelter belts which are currently managed along the eastern march of the FLS landholding on a patch clear fell system.
The south neighbours land managed primarily for rough grazing and grouse. The Williamhope SSSI is within this southern patch of land and holds various lowland habitat including calcareous and neutral grassland, lowland dry heath and springs. These habitats are either in a favourable recovered/maintained condition or unfavourable yet recovering.

Public access

Description of woodlands
There are no formal public access routes currently within the site. There is however informal access along a track in the east which starts from the public road and leads to 80 m below the Ashiestiel Hill summit. See **Map 2**
Historic environment
Ashiestiel has no formally designated scheduled monuments. Two 19th Century features are present of local significance which include a sheepfold at NT 4135 3564 and a marker cairn at NT 4154 3560. See **Map 2**
Biodiversity
Faunal and floral surveys have taken place within the Ashiestiel site. As of 2019 there were a number of bird species of conservation concern identified on site namely; Curlew, Skylark, Mistle thrush, Meadow pipit, Reed bunting and Willow warbler. Mammals present on site were seen to include common lizard (albeit infrequent) and evidence of badger presence was noted through feeding/digging signs. The site contains an interesting mix of UKBAP open habitats and woodland assemblages including: Upland Heath - Located primarily on the upper slopes Upland Flushes – Running from the top of the slopes down through the site and into the Fens and Swamps (noted below). These are found within the concave bowls and hollows and total approximately 5 across the slope. Purple Moor Grass Pasture – Located neighbouring the lower Fens and Swamps Fens and Swamps – Within the lower flat areas to the north of site. It was noted that all of these habitats were providing a healthy filtration system, lowering any possible negative impacts on water quality, and providing good foraging habitat in terms of insects, adders, etc. The woodland assemblages consist of three notable areas including the mosaic of willow scrub within the south east currently in a successional stage towards upland oakwood and ashwood alongside wet alder/willow wood. A well-established riparian woodland rises along the Stiel burn and is complimented by the adjacent Elibank management of juniper introduction and further native broadleaf expansion. An area of well-developed hawthorn scrub is also present to the north east connecting onto similar habitat on the neighboring land. See **Appendix V** for biodiversity records
Invasive species
No known invasive species are present on site.
Woodland composition

Description of woodlands
There are two small blocks of recently planted conifer (P2016) totalling roughly 14 ha, these comprise largely of Sitka spruce with elements of Norway spruce and Scots pine and were planted under the FGS grant scheme (16FGS12037). The average stocking density is 2500 stems/ha. According to the James Hutton Institute Land Capability for Agriculture (JHI LCA) the whole site is classed as: 5.2 – Land capable of use as improved grassland, with sward establishment presenting no difficulties but physical limitations can cause maintenance problems. Given the gradient, vegetation present and historic land use it is likely that classification 6.12 (land capable of use only as rough grazing) is more appropriate The land is currently grazed with traditional blackfaced sheep with grazing densities fairly light but appropriate for woodland development as evidenced by the existing woodland communities on site. See **map 7.**
Plant health
No plant health issues have been recorded within the Ashiestiel site however, the site lies within the *Phytophthora ramorum* Priority Action Zone. On the eastern march on the neighbouring land a Statutory Plant Health Notice (SPHN) for *P.ramorum* was issued in 2013 and has subsequently been felled and restocked. Within the adjacent FLS block; Elibank there have been no SPHN's however, Traquair has had two which have both been felled and compliant as of 2018. There are currently no formal records of *Dendroctonus micans* however, minor populations have been observed in the local area. Other plant health issues of note are *Hymenoscyphus fraxineus* (previously known as *Charlara fraxinea*) which is evident along the Glenbenna FLS entrance of Elibank.

Appendix II: EIA screening opinion request form

Overleaf if required

Appendix III: Issues log and community online consultation results

See attached

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: Biodiversity records

Bird survey findings summary 2019 - Full survey submitted to Scottish Forestry

Species Name	Local Abundance	Breeding Evidence	S/W/R	Zone	Status	LMP Consideration
Curlew	M - L	P,H	R	2	R	YES
Skylark	L	P,H,S,N			R	YES
Meadow Pipit	H	H,S,P,N,FF	R,S	1,2.	A	
Reed Bunting	M	H	R		A	
Wood Pigeon	H	F,H	R	1,2.	G	
Mistle Thrush	L	F	R,S	1,2	R	
Redstart	L	H,S,P	S	1	G	
Stonechat	L	P,H	R	1	G	
Willow Warbler	H	P,S,H	S	1,2	A	
Chiffchaff	H	H,S	S	1,2	G	
Common Buzzard	H	F	R	1	G	
Pheasant	H	H	R	1,4,5	G	

Local Abundance South EastScotland - High, Medium, Low.

Summer migrant(S) Winter (**W**) migrant, **R**esident all year.

Red letters denotes breeding bird relevant to LMP.

Codes for breeding evidence

F - flying over	A - agitated behaviour
M - migrant	UN - used nest / eggshell
H - insuitable habitat	DD - distraction display
S - singing male	FL - fledged young
P - pair in suitable habitat	ON - occupied nest
T - territorial display	FF - food or faecal sack
D - courtship display	NE - nest with eggs
N - visiting probable nest	NY - nest with young

The FLS open habitat report and native woodlands report are available upon request.

Records of ground flora from the Botanical Society of Britain and Ireland recorded within the NT4135 survey area are available upon request.

Appendix VI: 3D Visualisations

See attached

Appendix VII: Landscape key characteristics

Key Characteristic considered for Landscape Character Type 93 Southern Uplands with Scattered Forest	**Existing Contribution**	**Proposal/Concept** **How the special quality is affected,** **maintained and how?**
• 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	The local landscape is made up of rolling hills and smooth slopes predominantly managed as productive coniferous forestry to the south of the River Tweed.	Planting and open land will be incorporated throughout the plan to retain this landscape type specifically capturing the large scale dome shaped summits, locally prominent scattered large areas of forestry and a degree of remoteness and wild character.
Key Characteristic considered for Landscape Character Type 116 Upland Valley with woodland	**Existing Contribution**	**Proposal/Concept** **How the special quality is affected,** **maintained and how?**
• Meandering river valley, strongly enclosed by uplands.	The local landscape frames the River Tweed and at this point contains both open valley floors	The theme of strong woodland influence and coniferous forest is to be expanded with these proposals whilst also being sympathetic to the mixed policy woodland below. The

• Flat valley floor, broad and open in places, narrow and more intimate in others. • Strong influence of woodland, with extensive coniferous forest prominent on valley sides, and mature hedgerow tree lines, broadleaf, and mixed policy woodlands on valley floor. • Traditional dwellings, farmsteads and hamlets clustered at the foot of valley side slopes. • Tower houses and mansions common along river banks. • Designed policies and parklands significantly contribute to woodland cover and character.	and narrow intimate upland views. The surrounding slopes are mixed farm woodland shelterbelts with larger scale areas of conifer plantation. The south side of the Tweed close to Ashiestiel contributes to the farm steading character along with tower houses and mansions locally to the site. The Ashiestiel Designed Landscape is present with historical policy-type woodland planting in the foreground of the site.	use of mixtures of broadleaf and conifer along with the retention of scrub woodland throughout the north eastern side of the site will provide the transition into the two landscape character types. Furthermore, low impact forestry management on this side of the forest will maintain this transition into the pure conifer coupes above.
Key Characteristic considered for Special Landscape Area SLA3: Tweed, Ettrick And Yarrow Confluences	**Existing Contribution**	**Proposal/Concept** **How the special quality is affected, maintained and how?**
• The enclosing uplands and upland fringes offer contrast and an attractive wider setting and enable views across the valleys.	The wider context of Ashiestiel shows a diversity of landscape with strong large scale conifer plantation to mixed policy woodlands and into Ashiestiel	The elements of being broad and open are to be maintained from Ashiestiel Hill with the two main conifer elements stopping approximately below the 350 m contour mark. This will also cater for maintaining the views within the site. Planting is maintained above this point however with low

• East of Thornylee, the Tweed flows in to a narrower section winding between steep valley sides which are often densely forested. • The southern upland way follows the ridge between tweed and yarrow, offering views across the area. • A series of estate landscapes give visual diversity to these valleys	itself the contrast of rough upland grazing land. The open views from the summit of Ashiestiel Hill provide the wider views from within the site which showcase this diversity.	growing scrub woodland transitioning into the open heathland. The proposals include diversity of species which caters for the mixed woodland climbing the valley sides and the feature of being densely forested.