



Forestry and
Land Scotland
Coilltearachd agus
Fearann Alba

Dalbeattie Forest

Long Term Plan (LTP)

2027 – 2036

We manage Scotland's national forests and land to the United Kingdom Woodland Assurance Standard – the standard endorsed in the UK by the international Forest Stewardship Council® and the Programme for the Endorsement of Forest Certification. We are independently audited.

Our land management plans bring together key information, enable us to evaluate options and plan responsibly for the future. We welcome comments on these plans at any time.



The mark of
responsible forestry



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Version History

Version	Date	Comments

A. Description of Woodlands

A.1 Property Details and Declaration

A.1 Property Details			
Property Name:	Dalbeattie Forest, Bar Hill & Buittle Hill		
Grid Reference: (e.g. NH 234 567)	NX 8513 5856	Nearest town or locality:	Dalbeattie
Local Authority:	Dumfries and Galloway		
LTP plan area (hectares):	1212		
Applicant Details			
Regional Manager:	John Dougan		
Planner:	David Darroch		
Organisation:	Forestry and Land Scotland	Position:	South Region
Primary Contact Number:		Alternative Contact Number:	N/A
Email:			
Address:	55-57 Moffat Road, Dumfries		
Postcode:	DG1 1NP	Country:	Scotland
Approval - to be completed by Scottish Forestry staff:			
LTP Reference Number:			
Plan Period: (ten years) (day/month/year)	From:	To:	
Operations Manager Signature:		Approval Date: (dd/mm/yyyy)	

Declaration

I hereby apply for a permission to fell the trees described in this application and I certify that:

- I am authorised to sign legal contracts on behalf of Forestry and Land Scotland.
- I undertake to obtain any permissions necessary for the implementation of the approved Plan.
- I have made the necessary checks with the local planning authorities regarding Tree Preservation Orders and Conservation Areas.
- I confirm that the scoping, carried out and documented in the Consultation Record attached, incorporated those stakeholders which SF agreed must be included.
- I hereby acknowledge that Scottish Ministers may process any of my personal data contained in or relating to this application in accordance with the terms of Scottish Forestry's Privacy Notice.
- Where applicable and appropriate I have submitted an EIA screening opinion request form for operations contained within this application under the Forestry (Environmental Impact Assessment) (Scotland) Regulations 2017 for road building /quarries /afforestation /deforestation.
- I have read and understand this application fully and, to the best of my knowledge and belief, the information given in this application is complete, true, and accurate.
- I accept that any false or misleading information provided in this application constitutes an offence and may result in any felling permission based on this application being revoked at any time.
- I have read and understand Scottish Forestry's Privacy Notice.

Do you give consent for Scottish Forestry to access your land? Delete as appropriate.		YES			
You are not obliged to give us consent to enter your land, however if we are denied access to your land, and cannot carry out an assessment because of this, we may reject your application. This consent is for access to assess this application as well as monitor compliance with any subsequent approval, where applicable					
Signed, Planning Manager:		Print:		Date:	
Signed, Area Manager		Print:		Date:	

A.2 Location and Background

Dalbeattie is a lowland forest with a few higher elevation ridges and hills. The forest sits just to the south of Dalbeattie Town and extends down towards the Solway coast, with two satellite woodlands Barhill and Buittle Hill to the north and northwest respectively. The composite area is approximately 1212 ha. This is one of the earliest Forestry Commission plantations with many parts of the forest now in the third rotation although some of the original 1920’s trees are still present (especially in Town Wood). Historically there is evidence of woodland, on at least part of the block area, since the Roy maps (with significant areas of semi-natural ancient woodland) otherwise the ground was used for rough grazing until the 1920’s and 30’s. The first rotation was mostly Scots pine, Norway spruce and Douglas fir. The second rotation moved more towards Sikta spruce. Dalbeattie forest is very important for local and tourism access; residents and local businesses take a great deal of interest in the forest. There are several areas of high ecological value within the LTP area, including Plantation on Ancient Woodland Sites (PAWS), Long Established Plantation Origin) LEPO, and priority open habitats. See Map 1.

A.3 Existing Schemes & Permissions

The purpose of the Long Term Plan (LTP) is to outline felling and thinning proposals over 20 years with the first 10 years (2027-2036) specified in detail. Additionally, restocking proposals for the whole plan area are described. This first 10-years are most important as the activities described for that time are approved by Scottish Forestry (SF), including operations which may require screening for a determination on whether Environmental Impact Assessment (EIA). Where plans include woodland creation, deforestation, roads and quarries, an accompanying EIA Screen Opinion Request will be submitted to SF. Longer term management of Dalbeattie Forest is included in the plan to provide an indication of the direction of travel and context.

The plan will be reviewed after five years to ensure the objectives set out in the LTP are still appropriate. All operations, both planned and completed, will be reviewed to ensure they still support the objectives.

The management of the woodland is certified and will always adhere to the UK Forestry Standard (UKFS) and the UK Woodland Assurance Standard (UKWAS).

This LTP has been produced in accordance with a range of government and industry standards and guidance as well as recent research outputs. A full list of these standards and guidance can be found on our website.

Table: Existing Schemes & Permissions		
Type	Ref. No.	Details
Land Management Plan	231	Dalbeattie Land Management Plan – 2016-2025 (licence expires 20.09.26)
Forest Design Plan	228	Aucheninnes Land Management Plan – 2015-2024 (license expired 20.01.26)

A.4 Stakeholder Engagement

A full record of comments raised during public consultation is available in Appendix I.

Table: Stakeholder Engagement Summary	
Scoping – Main Points	LTP Reference (section/page):
Improved focus on biodiversity and protection of habitats	C.2.11 & C.2.13
Improved recreational offering and access	C.2.10
Protection and maintenance of heritage features	C.2.9

A.5 Long Term Vision and Management Objectives

Vision

The management objectives will have been prioritised resulting in an actively managed exemplar forest that delivers high levels of production, amenity and biodiversity value. The key management activity will have been a regular, ongoing thinning program allowing for increasing use of Low-Impact Silviculture Systems (LISS). This activity will be helping to maintain and increase species and age diversity. There will be a bigger focus on actively managed alternative species. Plantations on Ancient Semi-natural Woodlands (PAWs) restoration will be well advanced and a maintenance program in place. Ecologically sensitive areas of lowland raised bog will have been converted from poor timber stands to low density native woodland with integrated open areas. Conversion from conifer to broadleaf species will have begun to link areas of high ecological value via conservation area networks. An improved recreation network and visitor facilities will be in place and being actively maintained.

Management Objectives		
Number	Objectives (including environmental, economic and social considerations)	Indicator of objective being met
1	Sustainable timber - Continue to ensure a regular timber supply via sustainable woodland management. Recover windblow and improve stability via species choice, thinning and suitable management type.	Adherence to felling and restock plan. A thinning program to be in place within 1 year of plan approval and to have been achieved by the end of the plan period. All LISS coupes at a thinnable age to have achieved at least one thinning by the end of the plan period. A measurable increase in mixed stands, especially on shallow soils by the end of the plan period.
2	Ecological restoration - Continue PAWS restoration and ensure ongoing maintenance via thinning and removal of non-native species. Create native woodland conservation corridors to enhance connectivity. Where beneficial and practical remove plantation crop from deep peats unsuitable to forestry and manage as low density peatland edge woodland. Continue management and protection of Priority Open Habitats.	The felling of the spruce in Gallowleck, Moyle Hill and Fairgirth PAWS areas to have been achieved by year 5 of the plan. The felling of Cloak Moss (coupe 42036) to have been achieved towards the end of phase 2 and low-density native woodland to be planted where suitable by year 10. An initial base survey assessing Priority Open Habitats (POHs) in Aucheninnes carried out in Year 1 of the plan and the conservation grazing adjusted if required. Condition surveys to be carried out every 2 years to ensure suitable level of grazing and monitor species populations.
3	Recreation – Begin opening currently obstructed trails by felling windblown coupes. Update and enhance recreation provision via the Borderlands project. This will include improving trail network, accessibility, updating the MTB network, and improving facilities.	Felling of coupes with blocked trails 42055 & 42132 within phase 1. Recreational update program to be agreed once final Borderlands funding confirmed within next 12-24 months. Work begun on the improved recreation offering within phase 1.

A.6 General Site Description

A.6.1 Topography and Landscape

Dalbeattie Forest has a varied topography with undulating landscape. The northern end of the forest has several historical granite quarries resulting in some interesting crag formations. The southern end of the main block is designated as part of the East Stewarty National Scenic Area, which is designated, in part, for its traditional woodland and agricultural features. The forest sits within the Coastal Uplands (179) Landscape Character Type denoted by its '*rugged granite hills...rough outcrops...rough grassland and forested hill slopes*'.

A.6.2 Geology and Soils

Dalbeattie Forest has a mainly granodiorite bedrock dating from the early Devonian epoch. Buittle Hill has a wacke bedrock. This combined with an undulating landscape has resulted in an interesting mix of soils. A large portion of the site is typical free-draining brown earth with a poor to medium nutrient regime. In the wetter areas of the southern half of the forest this often transitions to typical surface water gleys (medium nutrient regime) or Molinia bog (very poor nutrient regime). In the northern half the picture is more complex with significant areas of various deep peats, nutrient poor podzols, surface water gleys, brown earths and rankers. The level of variation allows for good species diversity. In general, the site is very rocky which may impede access and establishment in places. See Map 8: Soils.

A.6.3 Climate

Dalbeattie Forest has a warm and moist climate with an average annual rainfall of 1331mm over the last 9 years ([Scottish Rainfall Data for Dalbeattie STW - provided by Scottish Environment Protection Agency \(SEPA\)](#)).

The climate data for Dalbeattie Forest was obtained from the Ecological Site Classification system (ESC) using the *1960-1990 baseline* model, the *Medium to High 2050* model and the *Medium to High 2080* model. The results of interrogating this system gave the following data.

AT5 (Accumulated Temperature) is the accumulated total of the day-degrees above the growth threshold temperature of 5°C, which provides a convenient measure of summer warmth. The results for AT5 place the entire block in the **warm** zone.

MD is the Moisture Deficit for the area. Moisture deficit reflects the balance between potential evaporation and rainfall and therefore emphasises the dryness of the growing season (rather than the wetness of the winter or entire year). These results place the block in the **moist** zone.

The Medium to High 2080 future climate models within ESC predicts a rise in the accumulated temperature and moisture deficit, which will likely aid the growing season but may put additional stress on drought sensitive species on free draining soils.

The wind throw risk is measured by the DAMS score for the forest area. DAMS is the Detailed Aspect Method of Scoring. This represents the amount of physically damaging wind that forest

stands experience in the year. Dalbeattie has a range from 'sheltered' (<12) to 'moderately exposed' (12-16) and thus should not be a limiting factor although in the moderately exposed areas with shallow soils species rooting type (flat, heart or tap) could have an impact on long-term stability.

Each tree species has tolerances for these, and other factors, and they can be used to identify species suitable for the site conditions. The results above will be used to help assist in the choice of tree species for restocking in this plan.

Further information on these criteria and the application of ESC can be found in [Forestry Commission Bulletin 124 - An Ecological Site Classification for Forestry in Great Britain](#).

A.6.4 Hydrology

There are several water bodies within, or bordering, the forest. These include Plantain Loch (NX 8414 6017), Smithlands Loch, Barean Loch (just outside our boundary - NX 8614 5568) and White Loch (just outside our boundary - NX 8637 5480). Dry Loch (NX 8552 5795) has developed into a wetland habitat. There are also several smaller ponds in Aucheninnes, Woodhouse and Smithlands.

Water mainly flows southwards from the forest to the Solway Estuary. The main watercourses are Fairgirth Lane to the east, the Urr Water to the west and Kirkgunzeon Lane to the north. All of which are currently rated good for water quality.

The forest is within the Solway Tweed River Basin Management Plan. Dalbeattie town is a high-risk area for flooding and forms part of the Solway Flood Risk Management Plan. The National Forest Inventory shows that 22% of the Dalbeattie catchment is afforested and FLS own 12% of the National Forest Inventory within the Dalbeattie drainage area. The section of Dalbeattie forest that is within the Dalbeattie catchment accounts for approximately 3% of the total.

This is well under 40% of the catchment total (the point at which large scale felling can have a significant impact on flood risk – [UKFS Practice Guide: Designing and managing forests and woodlands to reduce flood risk, p20](#)), therefore the impact of any felling will not significantly contribute to the potential future flood risk.

Private Water Supplies in or around the block that may be impacted by forest operations over the next 10 years are detailed in Appendix IV.

A.6.5 Windthrow

The DAMS range is from 12-16 (sheltered to moderately exposed). There has however been some significant windblow damage resulting from Storm Arwen and felled larch stands. Unthinned mature and over-mature spruce on thin, rocky soils or peats have also contributed to this. This has resulted in some blocked walking and MTB trails. DAMS should not be a limiting factor in the stand management in this forest if we continue to diversify species on suitable soils, thin where possible and improve the felling order and age class range.

Much of the remaining mature forest however was all planted in the late 1980s and as such there is a balance to be struck between improving the future age class diversification, via the

progressive felling of smaller coupes which progress NE to SW, and the of felling larger coupes now to prevent possible future windthrow issues resulting from over-mature unthinned stands.

A.6.6 Adjacent Land Use

Directly adjacent to the north is the town of Dalbeattie with a population of over 4000 people. This makes the forest part of everyday life for many people in the town as a regular recreational resource.

There are also the smaller habitations of Colvend to the south and numerous holiday-let residences and hotels based around the perimeter of the forest, especially at the southern end. This part of the Solway area is a popular destination for tourists with numerous businesses offering recreational activities based in and around the forest. These includes horse riding, segway riding, golf, a fishery, and mountain biking.

Much of the remaining adjacent land is made up of grazing land, farms or woodland (including PAWS) or private dwellings.

A.6.7 Access

Public access is permitted across the site. There is a core path running roughly north to south down the western side of the main block. There are also several Rights of Way across the site. There are various other walking trails and multi-user trails.

Dalbeattie forms part of the Seven Stanes group of MTB destinations and therefore has a network of MTB trails of varying difficulty grades. Some routes need repair and updating.

There are two main car parks at Dalbeattie. One suitable for pedestrian visitors at Town Wood and a more MTB and horse-riding friendly car park at Richorn (which is a Seven Stanes destination). There are also toilets at this car park. There are several other pedestrian access points to the forest including from Townwood, Spycraigs, Gallowleck and Colvend.

Renewal of the recreational offering in the form of new or upgraded walking/horse riding/MTB trails, including skills areas, accessible trails and upgraded car parking is in the planning stage as part of the Borderlands project. This is an externally funded project separate to the scope of this LTP. Further details on this can be found at [PROJECTS & PROGRAMMES | Borderlands Inclusive Growth Deal](#).

For more detail on the existing network please see Map 11 – Recreation.

A.6.8 Historic Environment

There is one designated site within the Dalbeattie LTP area; Moyles Hill Enclosure. This comprises the remains of a hilltop enclosure, most likely representing numerous phases of human activity from prehistoric through to early modern periods ([Moyle Hill, enclosure \(SM2347\)](#)). FLS's current Regional Historic Asset Management Plan for the South Region

recommends ongoing monitoring of the monument. It notes the endemic bracken but recognizes that control of the bracken would be unsustainable.

There are other recorded features and areas of archaeological interest shown on Map 9 – Historic Environment. These mostly comprise of farmstead and field systems and several granite quarries. These will be assessed for remnants and historic value as impacted coupes are felled. See Appendix II.

A.6.9 Biodiversity

Dalbeattie Forest has some excellent areas for biodiversity. It is part of the Stewarty Environmentally Sensitive Area and contains 103 ha of ancient woodland. There are nine distinct PAWS sites with all but one containing ground rated as having high ecological value. Previous restoration work has proved successful in parts of Fairgirth, Barscraig and Gallowleck. There is also almost 220 ha of LEPO (Long-Established Plantation Origin). For example, Town Wood was present on the Roy Maps and is classed as LEPO with high ecological value due to its species diversity, veteran trees and continuity of management. See Map 10 – PAWS & LEPO.

There is also a significant amount of existing native woodland providing a good basis for improving linkages between areas of high ecological value via conservation corridor networks.

The majority of Priority Open Habitat can be found in Aucheninnes. It contains lowland heathland, lowland raised bog, lowland dry acid grassland and lowland fen. It also contains upland birchwood. Aucheninnes also has some important crab apples. A significant proportion of the Aucheninnes site is currently being managed under conservation grazing (via a tenancy agreement) to help maintain these sensitive open habitats.

There are also several lochs and wetland areas, see also A.6.4 Hydrology. Dry Loch (NX 8552 5795) is the most valuable having developed into an interesting wetland habitat bordered by wet woodland. However, there has been some nutrification due to a historical drain running through the centre of the habitat.

A high number of bat species are present around these water bodies including pipistrelles, Daubenton's bat, brown long-eared and noctules. Red and grey squirrels are present within the forest. Pearl bordered fritillaries have been found in the mowed rides and road verges. Goshawks, buzzards and kestrels etc are all found within the forest blocks. Nightjars have historically been found on areas of deep peat near Cloak Moss. Pine martins and other small mammals are also found in the forest. Feral pigs are also active in the block.

A.6.10 Invasive Species

Although not overwhelming, there is a significant amount of *Rhododendron ponticum* spread across the entire forest area. Japanese knotweed has been found in the Richorn, Smithlands and Townwood areas. Beech, Western hemlock and Sitka regeneration is also present in many PAWS/LEPO areas.

A.7 Woodland Description

Map 2 shows the existing tree species composition and pattern.

Woodland makes up 86% of the overall LTP area. Dalbeattie has a long history as woodland and subsequent plantation forest and as such has a high level of diversity and ecological value. There is almost 220 ha of LEPO (Long-Established Plantation Origin) and 103 ha of ancient woodland, mostly now classed as PAWS. There is a high variety of soils within the LTP area, dominated by brown earths, providing excellent opportunity for diversity and LISS management. Sitka spruce currently makes up 38% of the forest, other conifers account for 24%, native broadleaves 23% and 1% other broadleaves. There is a good spread of ages within the forest with over 5% of trees over 100 years old, however over 50% is approaching or at max Mean Annual Increment, which presents a challenge to ensure a regular timber supply going forward whilst avoiding increasing windthrow risk. Mixed stands dominate Town Wood, with many other mixed species coupes across the forest. Restoration is already well underway in approximately 40 ha of the PAWS areas across the forest. Although many areas of the forest especially Town Wood have been well thinned in the past, no thinning has occurred in the forest since 2014, or even 2009. LISS systems have previously been prescribed for 360 ha of the forest and although there is excellent potential for such management across much of Dalbeattie, many areas have missed their thinning window and so clearfelling may now be required. Birch actively regenerates across much of the forest and presents both challenges and potential opportunities.

Table 1 - Area by species

This shows the current and future species composition within the entire plan area.

Area by species						
Species	Current		Year 10		Year 20	
(Add relevant species groups, or OG/OL)	Area (ha)	%	Area (ha)	%	Area (ha)	%
Sitka spruce	465	38%	303	25%	229	19%
Other conifers	293	24%	386	32%	432	36%
Native broadleaves	285	23%	325	27%	345	28%
Other broadleaves	13	1%	12	1%	11	1%
Open ground	141	12%	158	13%	160	13%
Fallow	17	2%	28	2%	35	3%
Total*	1214	100	1212	100	1212	100

* Differences between report and LTP plan area are due to presence of multiple storeys in the sub-compartment database resulting in a correct double count of species. Difference between current and Year 10 and Year 20 areas are due to inability to account for multiple storeys in the future restock areas layer.

Table 2 – Area by age

This shows the woodland area broken down by age class and will show how well the woodland is distributed across the age classes.

Plan Area by Age						
Age Class (years)	Current Area (ha)	%	Year 10 Area (ha)	%	Year 20 Area (ha)	%
0-10	217	20%	301.4	28%	158	15%
11-20	106	10%	190.1	18%	301.1	28%
21-40	396.4	36%	208.6	20%	266.6	25%
41-60	233.2	21%	242.5	23%	208.4	20%
60+	143.8	13%	118.7	11%	133.9	13%
Total	1096.4	100	1061.3	100	1068	100

* Differences between report and LTP area are due to presence of multiple storeys in the sub-compartment database resulting in a correct double count of species. Difference between current and Year 20 areas are due to inability to account for multiple storeys in the future restock areas layer.

A.8 Plant Health

Phytophthora ramorum has infected much of the larch in Dalbeattie since its outbreak in the south-west of Scotland. The management of this disease has evolved over the years. Currently, Dalbeattie lies within what is referred to as the '*Phytophthora ramorum* Management Zone'. Scottish Forestry no longer issue Statutory Plant Health Notices for felling of larch infected with *P. ramorum* within the 'Management Zone'. The policy is to actively remove diseased larch via the LTP and manage the safety implications of dead and dying larch. Areas of larch that has been grown in mixtures and well thinned seems to be resisting the disease so far. Please see the webpage below for more information.

There is recorded evidence of the invasive Great Spruce Bark Beetle, *Dendroctonus micans* present within the forest and has been recorded in Town Wood recently. The control beetle *Rhizophagus grandis* which predated the *D. micans* larvae has been released by Forest Research to help control this pest.

There is little evidence of *Dothistroma* Needle Blight within the pine at Dalbeattie, even though there is a considerable amount of pine within the plan area.

B. Analysis of Information

B.1 Constraints and Opportunities

B.1 Constraints and Opportunities		
Factor	Constraint	Opportunity
Timber	• Clearfell will continue to be used in many areas with unfavourable soil/species combinations or that have missed the first thinning window. • The felling order has been somewhat compromised due to windblow and larch sanitation fellings leaving some exposed mature crops and difficult decisions regarding future felling sequence. • Some of the LTP area comprises of wet, peaty soils presenting possible compactions issues for subsequent thinning interventions. • Windblow areas and infected larch stands and exposed long-term retentions require felling causing potential disruption to the existing plan structure. • Steep sections and rocky outcrop present access challenges in some areas. • Much of the remaining second rotation was planted in the 1980s. This presents challenges when attempting to introduce structural diversity, reduce coupe size or fell at max MAI.	• Expansion of mixed stands has the potential to improve resilience and stability via differing rooting depths, increased drought resistance and improved pest/disease resilience. • The generally moderate to good quality soils provide excellent diversification options and allow the growing of high-quality timber of both conifer and broadleaves. • Opportunity to carry out first and second thinnings on several coupes to provide an additional revenue stream, increase timber quality and provide the option of future potential conversion to Low Impact Silvicultural Systems (LISS). • Opportunities to re-order some of the felling to reduce potential future windblow damage. • Options to reduce future clearfell coupe sizes to mitigate possible drought, soil erosion and pest issues. • The more sheltered areas of the site and better soils present opportunities for future conversion to LISS.

Recreation	• High levels of recreational use, both local and from visiting holidaymakers can complicate the management of operations. • Possible conflict arising from different user groups – for example inconsiderate use of multi-use trails by some.	• Opportunity to show public a well, actively managed forest, especially when implementing LISS. • Opportunity to create new recreational routes for various users (MTB, walkers, horse riders) and upgrade existing offering and signage. • Opportunity to increase access for users with limited mobility via new easy-access route. • Opportunity to increase links with external/long distance routes.
Water	• Several private water supplies in nearby neighbouring properties with extraction points either on FLS land or nearby. • Dalbeattie is a high-risk area for flooding and forms part of Solway Flood Risk Management Plan. • Number of watercourses present across site may impact operations. • Number of local businesses rely on preserving local water quality (fisheries, farms etc)	• Opportunity to improve knowledge of local private water supplies to assist success of future operations. • Opportunity to positively contribute to local flood management by practising continuous forest cover where possible and reducing the size of clearfells and limiting fallow periods. • Opportunity to contribute to water quality via improvements to riparian zones and undertaking good water management by strictly following the Forestry and Water guidelines.
Roads & Haulage	• Some roads require maintenance or upgrade to allow operational access. • Only one main timber exit increases wagon movements within forest.	• Overall roading provision is good so opportunities for smaller coupes LISS management and thinning.
Landscape	• Highly visible for local population. • Southern edge of site within East Stewarty National Scenic Area.	• Opportunity to continue to enhance landscape via diverse species and age class stands.

Historic Environment	• Scheduled Monument – Moyle Hill Enclosure restricts operations in this area and requires maintenance. • Several other historical features recorded within the block.	• Opportunities to promote via recreation route and to protect and maintain for future generations.
Climate	• Future climate may result in warmer drier summers, an increase in drought events and wetter winters presenting seasonal water availability issues for drought prone, shallow rooting species on freely draining soils.	• Expansion of mixed stands has the potential to improve resilience and stability via differing rooting depths, increased drought resistance and improved pest/disease resilience. • Warmer climate should increase annual growth depending on site suitability of species.
Biodiversity	• 22 surveyed PAWS sites. Town Wood is a LEPO site present on the Roy Maps. This presents demands on management and restock of those areas. • Number of priority open habitats, especially in Aucheninnes. • Number of waterbodies present within or adjacent to the site supporting numerous species such as various bat species. • Habitat management required to retain certain species, such as pearl bordered fritillaries.	• Opportunities to continue good record of PAWS restoration within the forest. • Opportunities to improve linkages between various PAWS and other areas of high ecological value such as Dry Loch and Aucheninnes. • Opportunity to continue to refine the management of Aucheninnes via conservation grazing and improve surveying and record keeping. • Opportunity to protect and promote success of species such as Pearl bordered fritillaries by mowing rides. • Opportunities to manage a significant area of the forest for primarily biodiversity and conservation and promote species such as red squirrels, pine martins, etc.

Soils	• Wetter poorer soils limit management options in some areas. • Some soil types will limit suitable species choice. • Some previously afforested deep peat areas present challenges in balancing felling, possible soil damage and low-density woodland creation.	• Dalbeattie has some very good soils and where better soils (albeit thin in places) are present there is opportunity to improve resilience via alternative species and conversion/continuation of Low Impact Silvicultural Systems (LISS). • Re-introduction and expansion of a thinning program in suitable areas has the potential to improve overall stand stability and tree health.
Geology and topography	• Undulating terrain, rocky outcrops and shallow granite-based soils with limit operations in some areas.	• Topography allows visual impacts of felling coupes to be minimised. • Topography and geology allow high diversity of species and woodland type in close proximity. • Decent bedrock allows for stone for roading to be quarried on site.

Concept

Dalbeattie has the potential to be an exemplar of multi-purpose forestry by achieving recreational, environmental and quality timber production objectives across the site. Although particular areas of the forest more naturally lean towards certain objectives. There is a long history of species diversity, native woodland protection and high levels of amenity access. Going forward FLS will begin a program of upgrading and expanding the recreational opportunities via the Borderlands project. We will also enter a phase of more active management in areas such as Town Wood via thinning and small fellings to meet the objectives of timber production whilst protecting the amenity value and current diverse nature of the forest for the next generation. This will also be positive for biodiversity through increased light to the forest floor, natural regeneration and areas of deadwood and veteran trees. In other parts of the forest, timber production will be the primary focus, with much of the forest capable of growing high-quality timber if well thinned. The remaining unrestored PAWS sites with high ecological potential will be a focus of the next plan period to begin restoration. The process of improving the connectivity of these and other conservation focussed areas will also be initiated.

Map 3 illustrates how the plan concept incorporates the important constraints and opportunities into the management objectives.

C. Management Proposals

C.1 Silvicultural Practices

The majority of Dalbeattie will currently remain under clearfell and restock systems. However, there is high potential for adoption of LISS given the forest is fairly sheltered, has variety of soil types and high capacity for regeneration. The recent lack of thinning and operational constraints may limit our ability to implement this in the current rotation for much of the block.

The Town Wood LEPO area was previously designated as uniform shelterwood. Unfortunately, the lack of recent thinning and the lack of detailed management specifications for the area has led to little being done in the last 10-15 years. Much of the crop is now over 100 years old with a dense understory of beech and hemlock. Some areas have also been windblown. More prescriptive active management is required to ensure a transition to the next generation, whilst maintaining the high ecological and amenity value of this mixed woodland. The result is a combination of LISS and clearfell systems being applied to distinct areas. Specific prescriptions for each distinct coupe can be found in Map 4 and the Appendix V: LISS Plan. See section C.2.3 for further details.

C.2 Prescriptions

C.2.1 Felling

Sites proposed for clear felling in the plan period are identified as Phase 1 and Phase 2 management coupes on Map 4. Refer to Table 3 for scale of felling. Any other planned tree felling (e.g. selective felling, felling of individual trees, or felling of coppice) is shown on Map 5

Coupes 42137 and 42135 looks like an adjacency issue but 42137 was felled due to *P. ramorum* and restock has intentionally been delayed allowing the felling of the remaining spruce in 42135. The two coupes will then be restocked as one and re-merged into a single coupe in the next LTP revision.

Other planned tree felling includes felling of non-native conifers out of the PAWs area within coupe 42129 (also a Natural Reserve) and ongoing intermittent non-native regeneration removal from all PAWS areas as required. This is shown on Map 5.

Other tree felling in exceptional circumstances

FLS will normally seek to map and identify all planned tree felling in advance through the LTP 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 LTP approval period to cover the following circumstances:

- Individual trees, rows of trees or small groups of trees that are impacting on important infrastructure (as defined below*), either because they are now encroaching on or have been destabilised or made unsafe by wind, physical damage, or impeded drainage.
**Infrastructure includes forest roads, footpaths, access (vehicle, cycle, horse walking) routes, buildings, utilities and services, and drains.*
- The maximum volume of felling in exceptional circumstances over the plan area covered by this approval is 75 cubic metres per calendar year.

A record of the volume felled in this way will be maintained and will be considered during the five-year 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].

C.2.2 Thinning and Respacing

Potential sites for thinning in the plan period are identified on Map 5. Table 4 indicates the potential area.

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. Where trees need to be removed to accommodate facilities to support approved thinning and CCF, including stacking areas, ramps and access racks within adjacent management coupes, this should ideally be identified in thinning maps and thinning plans as part of the LTP submission. Where this is not the case, additional felling necessary for reasonable infrastructure can be agreed by exchange of email. In all cases work plans will define the detailed thinning prescription before work is carried out and operations will be monitored by checking pre and post thinning basal areas for the key crop components.

C.2.3 Low Impact Silvicultural Systems (LISS)

Areas identified for LISS management are shown on Map 4.

Overall, 121.92 ha of Dalbeattie will be managed under some form of LISS. This equates to approximately 10% of the plan area. Details are found below:

Coupe no. (area)	Fell year	Current Species / Planting year	Proposed LISS / Management description	Management Objectives	Management Prescription	Next intervention
42002 (3.89 ha)	2047/48	SP/1923 MB/1973	Clearfell with seed trees – Transitioning to FDT 2.1.5 SP & SOK	SP sawlogs > 40cm DBH Amenity and biodiversity.	Thin every 5 years until reach a BA of 25m ² . Remove BE understory when thinning. Then seeding fell to 30-50 seed trees per ha and scarify to promote SP regeneration.	P1 2027/28 - Thin
42004 (8.48 ha)	2027/28	NS / 1923	Group Shelterwood – See FDT 1.2.6 NS & XBLL	NS sawlogs target DBH >50cm. Structural diversity and maintain high amenity value	Thin to reduce BA to 30m ² /ha and combine with felling 5-7 distinct initial groups up to 0.3ha in size (focus on windblown areas first). Remove BE understory as part of this operation. Restock initial groups rapidly via planting. Monitor regen. in rest of coupe following thinning and fell next 5-7 groups groups/expand existing groups after 5 years.	P1 2027/28 – Thin and fell initial groups
42005 (6.33 ha)	2032/33	CP/1923 MB/1980 NS/1923 SS/1923	Strip Shelterwood - Transitioning from FDT 2.2.1 CP & XCLD - to FDT 2.1.2 SP beginning in 2032/33	CP/NS/SS sawlogs of DBH >50cm. Transition to SP via planting of strips to maintain amenity value during transition	Working from NNE to SSW. Fell first 50m strip in felling year (incl. removing BE understory and some mature BE) and restock. Simultaneously carry out establishment cut in next 50m (BA down to 25m ² and reduction of BE understory) scarify, if possible, to encourage regen. Retain mature oaks where possible. 5 years later fell that strip and undertake establishment cut in next 50m strip. Repeat every 5 years. Restocking via planting or regen as required.	P1 2027/28 - Thin
42006 (7.78 ha)	2032/33	SP/1923 SOK/1923 MB /1976	Strip Shelterwood - Transitioning from FDT 2.1.1 SP to 2.1.2 SP beginning in 2032/33	SP sawlogs >40cm. Maintaining of woodland cover and natural composition for amenity and biodiversity.	Working from NNE to SSW. Fell first 50m strip in felling year (incl. removing BE understory and some mature BE) and restock. Simultaneously carry out establishment cut in next 50m (BA down to 25m ² and reduction of	P1 2027/28 - Thin

Coupe no. (area)	Fell year	Current Species / Planting year	Proposed LISS / Management description	Management Objectives	Management Prescription	Next intervention
				Promote SP regeneration if possible.	BE understory) scarify, if possible, to encourage regen. Retain mature oaks where possible. 5 years later fell that strip and undertake establishment cut in next 50m strip. Repeat every 5 years. Restocking via planting or regen as required.	
42007 (6.66 ha)	2027/28	SP/1923 DF/1923	Strip Shelterwood – Transitioning to FDT 2.1.7 SP & BI and 7.1.2 BI & NMB beginning in 2027/28	SP sawlogs >40cm DBH. DF sawlogs > 50cm DBH. WH removal. Amenity and biodiversity.	Working from N to S. Fell first 50m strip in felling year and restock with NMB. In same operation carry out establishment cut in next 50m strip to reduce BA to 25m ² /ha. Scarify to promote SP regen. Every 5 years thereafter cut the next 50m establishment strip and final fell the previous strip. Plant as required if regen absent. Reduce BE component where possible.	P1 2027/28 - Thin
42011 (3.08ha)	2052/53	SP/1924 MB/1980	Uniform shelterwood Transitioning to FDT 2.1.5 SP & SOK	SP sawlogs >40cm DBH. Amenity and biodiversity	Progress with regular thinning every 5 years until reach BA of 25m ² /ha. Remove BE understory. Once reached, scarify and assess regen potential. If potential low after 5 years, clearfell and restock quickly.	P1 2027/28 - Thin
42013 (7.96 ha)	2047/48	SP/1923 MB/1960	Clearfell with seed trees – Transitioning to FDT 2.1.7 SP & BI	SP sawlogs > 40cm DBH. Amenity and biodiversity.	Thin every 5 years until reach a BA of 25m ² . Remove BE understory when thinning. Then seeding fell to 30-50 seed trees per ha and scarify to promote SP regeneration.	P1 2027/28 - Thin
42020 (6.02 ha)	2042/43	SP/1924 MB/1980 MC/1924	Uniform shelterwood – Transitioning to FDT 2.1.7 SP & BI	SP sawlogs > 40cm DBH. Amenity and biodiversity.	Thin every 5 years until reach a BA of 25m ² /ha. Remove other conifers and BE when thinning. Scarify to promote SP regeneration. Final fell 5 years later and replant if necessary	P1 2027/28 - Thin

Coupe no. (area)	Fell year	Current Species / Planting year	Proposed LISS / Management description	Management Objectives	Management Prescription	Next intervention
42022 (5.23 ha)	2037/38	NS/1924 WH/1990	Uniform shelterwood – See FDT 1.2.2 NS	NS sawlogs > 50cm DBH. Amenities and biodiversity.	Thin in 27/28 and again in 32/35 to reduce BA to 35m ² /ha. Remove WH as part of operations. Assess regen potential and underplant if necessary. Final fell in 37/38.	P1 2027/28 - Thin
42025 (2.32 ha)	2105/06	DF/1926	Uniform shelterwood – See FDT 3.1.1 DF	DF sawlogs > 60cm DBH. Amenities and biodiversity	First crown thin at 10-12m. Continue crown thinning at 3m height intervals. When reaching desired final DBH begin reducing BA to 30m ² /ha and monitor regen, supplement plant as required, then final felling once regen. established	P1 2031/32 – Respace if required
42026 (5.03 ha)	2047/28	SP/1925 MB/1980	Uniform Shelterwood - FDT 2.1.1 SP transitioning to FDT 2.1.7 SP & BI	SP sawlogs > 40cm DBH. Amenities and biodiversity	Thin every 5 years until reach a BA of 25m ² /ha. Remove other conifers and BE when thinning. Scarify to promote SP regeneration. Final fell 5 years later and replant if necessary	P1 2027/28 - Thin
42032 (1.25 ha)	2105/06	SP/2026	Uniform shelterwood – See FDT 2.1.1 SS	SP sawlogs > 40cm DBH. Amenities and biodiversity	First crown thin at 10-14m. Continue crown thinning at 3m height intervals. When reaching desired final DBH begin reducing BA to 25m ² /ha and monitor regen, supplement plant as required, then final felling once regen. established	P1 2031/32 – Respace if required
42073 (5.61 ha)	2106/07	DF/2026 SS/2026	Uniform shelterwood – See FDT 3.1.3 DF & XCST	SS – sawlogs, target DBH > 50cm DF – sawlogs, target DBH > 70cm Increased biodiversity	First thin at 10-12m TH. Select 150-250 FC trees. Thin at 3m height intervals. Final harvesting: Reduce BA to 30-40m ² /ha, then final felling once regen. established.	P1 2031/32 – Respace if required
42088 (17.18 ha)	2098/99	DF/ 2015 BI/2015 WRC/2015	Uniform shelterwood – See FDT 3.1.1 DF	DF sawlogs > 80cm in 80-140 years. Increased habitat diversity and soil maintenance	First thin at 10-12m TH. Select 150-250 FC trees. Thin at 3m height intervals. Final harvesting: reduce BA to 30-40m ² /ha, then final felling once regen. established.	P2 2033/34 – First thin

Coupe no. (area)	Fell year	Current Species / Planting year	Proposed LISS / Management description	Management Objectives	Management Prescription	Next intervention
42091 (4.78 ha)	2105/06	DF/2007 BI/2007	Uniform shelterwood – See FDT 3.1.1 DF	DF sawlogs > 80cm in 80-140 years. Increased habitat diversity and soil maintenance	Respace to 2700 at 1-2m height. First thin at 10-12m TH. Select 150-250 FC trees. Thin at 3m height intervals. Final harvesting: reduce BA to 30-40m ² /ha, then final felling once regen. established.	P1 2027/28 – First thin
42094 (2.75 ha)	NA	SOK/2026	Group selection – See FDT 5.2.1 high initial stocking and fell when individuals reach target diameter.	SOK sawlogs of target DBH >50cm in 150 years. Diverse woodland with veterans and deadwood	See FDT 5.2.1 OK & BI. Respace as required to manage regen BI to 2000 stems/ha and protect SOK. Start crown thinning at 10-12m TH once selected 200 FC trees stems/ha. Continue till reach desired DBH and time felling with mast years.	P5 2050-51 -First thin
42140 (14.81 ha)	2139/40	DF/2021	Uniform Shelterwood – See FDT 3.1.1	DF sawlogs > 80cm in 80-140 years. Increased habitat diversity and soil maintenance	Respace to 2700 stems/ha at 1-2m height (preference of DF over BI regen). First thin at 10-12m TH. Select 150-250 FC trees. Thin at 3m height intervals. Final harvesting: reduce BA to 30-40m ² /ha, then final felling once regen. established.	P1 2027/28 – Respace if required
42141 (12.67 ha)	2146/47	DF/2021 NS/2021	Uniform Shelterwood – See FDT 3.1.1 & NS 2.1.1	DF sawlogs > 80cm in 80-140 years. NS sawlogs > 60cm in 80 years. Increased habitat diversity and soil maintenance	Respace to 2700 stems/ha at 1-2m height First thin at 10-12m TH. Select 150-250 FC trees. Thin at 3m height intervals. Final harvesting: reduce BA to 30-40m ² /ha, then final felling once regen established.	P1 2027/28 – Respace if required

C.2.4 Long Term Retentions (LTR) / Natural Reserves (NR) / Minimum Intervention (MI)

45% of the Woodland Management Unit (WMU) will have conservation and enhancement of biodiversity as a primary objective.

19% of the semi-natural woodland area within the WMU is Natural Reserve of semi natural origin.

Stands identified as LTR and Natural Reserve are shown on Map 4.

43.06 ha of **Natural Reserve** equating to approximately 3.5% of the LTP area.

215.82 ha are designated as **Minimum intervention** equating to 18% of the LTP area.

25.43 ha are designated as **Long Term Retention** equating to 2% of the LTP area.

See table below for rationale for designation of each NR and LTR coupe:

Dalbeattie already has a reasonable amount of retained deadwood. For example, in coupes 42039, 42082, and within NRs and restored PAWS areas. However, given the relatively high proportion of the forest that is now designated for biodiversity or amenity objectives there is high potential for increasing deadwood retention. Several Minimum Intervention or LTR coupes coincide with areas of high potential for retained deadwood. Where deadwood potential is high this has been referenced in the management description for that coupe (as shown in the table below).

Coupe ref	Management Type	Management Description	Area (ha)	Total Management Type Area (ha)
42008	Long Term Retention	Impressive 100-year-old SS. Retain as long as possible. Promote opportunities for deadwood.	4.83	25.43
42014	Long Term Retention	Area of NMB and SS from natural regen - retain for biodiversity. Promote deadwood opportunities.	1.74	
42023	Long Term Retention	Well-spaced CP with BL understory. Retain for biodiversity value.	4.21	
42030	Long Term Retention	160-year-old SPs present in this coupe. Promote opportunities to retain deadwood.	2.68	
42033	Long Term Retention	100 yo SS/SP. Wet peaty area. Retain for biodiversity and prevention of soil damage.	4.07	
42082	Long Term Retention	Retention of first rotation DF in this high visitor area. Promote opportunities to retain deadwood.	4.3	
42301	Long Term Retention	Contains FR Experiment Solway 13 - Notify FR 2 years pre-felling for final assessment. Road upgrade	3.6	43.06
42070	Minimum intervention (Natural Reserve)	Native wet woodland. Remove non-natives. Promote opportunities to retain deadwood.	13.5	

Coupe ref	Management Type	Management Description	Area (ha)	Total Management Type Area (ha)
42096	Minimum intervention (Natural Reserve)	PAWS - manage to remove non-natives and protect veterans/ promote deadwood.	14.63	
42100	Minimum intervention (Natural Reserve)	Old quarry, very steep, with potential for interesting niche habitat creation.	1.11	
42129	Minimum intervention (Natural Reserve)	Allow natural development but remove non-natives from PAWS Promote opportunities to retain deadwood.	8.59	
42134	Minimum intervention (Natural Reserve)	PAWS - Wet woodland area. Promote opportunities to retain deadwood.	2.07	
42202	Minimum intervention (Natural Reserve)	Wet woodland area. Promote opportunities to retain deadwood.	1.58	
42210	Minimum intervention (Natural Reserve)	Upland birchwood (UKBAP Priority Habitat)	1.18	
42211	Minimum intervention (Natural Reserve)	Upland birchwood pasture - conservation grazed area. Promote opportunities to retain deadwood.	0.4	

C.2.5 Restocking Proposals / Natural Regeneration

Planned restocking of felled areas, and proposals for the future habitats and tree species over the whole plan area are shown on Map 6. See Table 5 for areas, establishment, and mix proportions. Timing of restocking will comply with the plan tolerance table shown in section C.4.

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

Stocking densities will be at least 2,500 stems per ha (sph) for conifers and 1,600 sph for broadleaves unless justified elsewhere in this plan. If the restock or natural regeneration should fail to reach these levels the site will be beaten-up to the required planting density. This will be assessed at year 3 and year 5 after planting with beat-up by at least year 5.

There will be a preference for natural regeneration of native woodland areas. Any non-productive broadleaf planting will be native to the area and will complement existing naturally growing scrub and woodland to give the most ecological value.

Table 3 – Felling

This shows the scale of felling within the felling phases in the context of the whole LTP. This includes any areas of ‘LISS – Fell’ (i.e. removal of final overstorey) * (see Map 4).

SCALE OF PROPOSED FELLING AREAS (including LISS final fell areas)												
Total LTP Area:		1211.7		hectares								
Felling	Phase 1	%	Phase 2	%	Phase 3	%	Phase 4	%	Long Term Retention*	%	Area out-with 20-year plan period	%
Area (Ha)	148.2	12.1	125.2	10.3	67.6	5.6	68.3	5.1	0	0	340.1	28.1

* Phases 3 and 4 include one uniform shelterwood LISS - Fell coupe each. No felling will be carried out in Long – Term Retention within the 20 year plan period.

Table 4 – Thinning

This shows the area of thinning over the first 10 years of the LTP (see Map 5).

Phase	Management coupe	Species	Prescription	Thinning area (ha)
1	42002	SP/MB/OK	Thin SP, removing BE as part of the process	3.89
1	42004	NS/MB/CP	Fell small groups and thin the rest of the stand. First groups focussed on the windblow (plus one or two more). Make groups no bigger than 50m diameter.	8.48
1	42005	CP/MB/NS	Undertake coupe wide thin in 27/28. In 32/33 fell the first 50m strip and thin the second strip down to a BA of 25m ² /ha	6.33
1	42006	SP/MB/OK	Undertake coupe wide thin in 27/28. In 32/33 fell the first 50m strip and thin the second strip down to a BA of 25m ² /ha	7.87
1	42007	SP/DF/MB	Fell first 50m strip in 27/28 and thin next 50m strip down to 25-30m ² /ha. Thin the rest of the coupe, removing some of the BE understory.	6.66
1	42011	SP/MB	Minimum intervention	3.08
1	42013	SP/MB	Thin to reduce SP BA and promote final crop trees. Remove BE gradually.	7.96
1	42020	SP/MB	Reduce BA and promote final crop trees. Remove BE. Aiming for 25-30m ² /ha at pre-final felling	5.89
1	42022	NS/WH	Promote final crop trees and move to low thinning. remove as much WH as possible. Reduce BA to 30m ² /ha prior to final felling and assess regen.	5.23
1	42026	SP/MB	Thin SP, remove BE understory. Transition to low thinning and aim for 25-30m ² /ha before final felling.	5.03
1	42028	SP/MB	Thin the 1923 SP and if possible, first thin the 2003 SP crop.	4.01
1	42030	PBI/MB/SP	Thin mature crop and if possible /respace or first thin BI.	2.68
1	42045	DF	First Thin at 10-12m, identify 150 FC trees/ha and crown thin	4.75

Phase	Management coupe	Species	Prescription	Thinning area (ha)
1	42064	NS/SS/JL	First thin NS - select 150-250 FC trees per/ha and crown thin	14.14
1	42078	SS	First thin SS - select 150-250 FC trees and crown thin	11.1
1	42102	SP/MB/SS	Thin to promote SP	10.28
1	42103	SP	First thin SP - select 200-300 FC trees and crown thin	1.44
1	42116	BE/MB	PAWS area - Identify 200 FC trees/ha and thin to promote. Can take a hard thin. Also halo thin around native veterans if present. Aim to eventually remove BE from the PAWS	2.51
1	42126	NS	First thin NS - Line and rack. Select 150-250 FC trees and crown thin	3.59
1	42149	NS/HL/MB/SP/SS	First thin of NS/LA/SP at 10-12m. First crown thin, mainly removing dominant/co-dominant with visible defects or poor form - then select 150-250 FC trees stems/ha. Too late to thin SS	11.65
1	42151	DF/NS/MB	At 1-2m respace if regen push N>3000. First thin of DF/NS at 10-12m. First crown thin, mainly removing dominant/co-dominant with visible defects or poor form - then select 150-250 FC stems/ha	7.27
1	42300	BI/SS	First thin of this birch stand at 10-12m	1.23
1	42089/090/091	DF/BI	First thin of DF at 10-12m. Identify 150 FC trees and crown thin.	12.84
2	42088	SS/DF/BI	See FDT 3.1.1 - DF: At 1-2m respace to 1500-2000 trees/ha if necessary. At 10-12m Identify 150 FC trees and crown thin	17.18
2	42123	SS	At 1-2m respace if regen push N>3000. First thin of SS at 10-12m. First crown thin, mainly removing dominant/co-dominant with visible defects or poor form - then select 150-250 FC stems/ha	10.06

Phase	Management coupe	Species	Prescription	Thinning area (ha)
2	42136	OK/SS	PAWS - Remove SS and thin OK. First thinning- Crown thin while maintaining closed canopy to promote self-pruning. Select and promote 200 FC trees.	16.22
2	42138	SS/BI	At 1-2m respace if regen push N>3000. First thin of SS at 10-12m. First crown thin, mainly removing dominant/co-dominant with visible defects or poor form - then select 150-250 FC stems/ha	16.53
2	42201	DF/SS	First thinning of DF and SS once reach 10-12 metres	10.03
2	10003/005	DF	First thinning of DF crop at 10-12m high	11.11
Total area				229.04

* Percentages are given for the respective sub-compartment areas and are not representative of the proportion of each species being removed in thinning prescriptions.

Table 5 – Restocking

This table provides information on the restocking proposals for the first 10 years of the LTP listed on a coupe-by-coupe basis (see Map 6).

Felling Phase	Map Identifier(s)	Species *	Area (ha) to be planted**
Phase 0 ***	42066	DF 100%	2.42
Phase 0 ***	42120	NMB 100%	3.89
Phase 0 ***	42137	DF 100%	5.12
		NMB 100%	2.14
Phase 0 ***	42205	SOK	2.28
		HAZ	0.57
Phase 1 - 2027	42306	DF 100%	1.53
		NMB 100%	0.99
		NS 100%	0.29
Phase 1 - 2027	42307	NS 100%	6.64
		DF 100%	3.20
		NMB 100%	1.32
		NMB 100%	1.12
Phase 1 - 2027	42310	NMB 100%	0.64
Phase 1 - 2028	42053	NMB 100%	1.74
Phase 1 - 2028	42053	DF 100%	0.95
Phase 1 - 2028	42055	NS 100%	15.83
		SP 100%	5.33
		DF 100%	5.02
Phase 1 - 2028	42132	DF 100%	16.99
		RC 100%	7.42
		NMB 100%	0.86
		SP 100%	1.54
		NMB 100%	1.36
Phase 1 - 2028	42135	NMB 100%	6.25
		DF 100%	1.04
Phase 1 - 2029	42080	NS 100%	9.15
		DF 100%	4.12
		NMB 100%	0.64
		NMB 100%	1.17
Phase 1 - 2029	42114	NMB 100%	10.23

Felling Phase	Map Identifier(s)	Species *	Area (ha) to be planted**
		NMB 100%	6.12
		SOK 70% / SBI 30%	2.73
Phase 1 - 2030	42145	DF 100%	7.88
		SS 60% / NS 40%	5.28
		SS 100%	3.63
		NMB 100%	0.20
Phase 1 - 2032	42065	DF 100%	9.45
		SP 100%	5.88
		NMB 100%	0.75
		SS 100%	1.27
Phase 2 - 2033	42003	SS 100%	2.72
		NMB 100%	1.50
		SP 100%	1.66
Phase 2 - 2033	42018	NMB 100%	0.62
Phase 2 - 2033	42021	SP 100%	1.07
		BI 100%	0.68
		SP 100%	0.23
Phase 2 - 2033	42097	NS 100%	7.71
		NMB 100%	2.16
Phase 2 - 2033	42106	BI 25% / GWL 25% / ROW 25% / CAR 25%	8.12
		DF 60% / NS 40%	2.15
		NMB 100%	0.18
Phase 2 - 2034	42074	NMB 100%	4.46
		NS 100%	2.99
		NMB 100%	0.53
Phase 2 - 2034	42111	NS 70% / SS 30%	18.39
		SOK 70% / SBI 30%	2.30
		NMB 100%	0.28
Phase 2 - 2035	42036	SS 50% / LP 50%	8.44
		BI 30% / CAR 30% / SCI 20% / ROW 20%	6.62
		SP 80% / SBI 20%	2.02
		NMB 100%	0.74

Felling Phase	Map Identifier(s)	Species *	Area (ha) to be planted**
Phase 2 - 2035	42058	SP 100%	5.92
		DF 100%	4.57
Phase 2 - 2035	42081	NMB 100%	5.31
Phase 2 - 2035	42084	SOK 70% / SP 30%	4.30
		NMB 100%	0.94
Total Restock Area			262.33

*Establishment by planting unless otherwise stated.

**net area to be planted excluding designed open ground.

***Previously approved felled areas or failed stands.

C.2.6 Protection

Management of deer is an underpinning activity essential for the delivery of benefits from Scotland's National Forests and Land. The aim is to manage healthy wild deer populations and manage deer impacts across the estate consistent with the carrying capacity of the land and successful delivery of FLS land management objectives. The FLS Deer Management Strategy directs the priorities for management (copies are available upon request).

The plan area is part of the Dalbeattie Deer Management Unit (as denoted in the FLS Deer Management Strategy): Spring mean deer density for 2026 was approximately 10/km² (10 roe/km²). In the last full five-year culls from April 2021 to April 2025, FLS have culled: 384 roe. Culls are ongoing with targets set based on population modelling, cull data and site evidence.

In South Region, FLS currently aim to achieve ≤5 deer/km² by 2035. This is subject to regular review and will be influenced by rate of deer immigration, ever-changing forest structures, and resourcing.

C.2.7 Fence Erection / Removal

Possible removal of 3.5km of fencing around Aucheninnes towards the end of phase 2.

C.2.8 Road Operations and Timber Haulage

Map 7 shows the existing forest road network and any associated quarries, timber haulage egress points, and any local 'Agreed Timber Transport Routes'. No new roads or quarries are planned for the Dalbeattie block within this plan period.

C.2.9 Public Access

FLS welcome responsible public access in accordance with the Scottish Outdoor Access Code.

Where trails are affected by forestry operations, appropriate temporary closures will be implemented and, where possible, suitable diversions provided to maintain access while ensuring public and operator safety. Access to key routes such as core paths and rights of way will be maintained and restored as required after operations. Liaison with the Local Authority Access Officer will continue to be carried out as appropriate.

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. Where present these are shown on Map 11.

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

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

Dalbeattie Forest has a high level of public access for recreational use and has a large number of dedicated paths and trails for various activities – walking, horse-riding and MTB. As part of the Borderlands investment project this offering is due for revision and significant upgrade. Details of which can be found in the LTP folder and provided upon request.

C.2.10 Historic Environment

Map 9 and Appendix II provide more information about the historic environment features within and adjacent to the plan area.

Moyle Hill is a Scheduled Monument and will be maintained as per the advice from our national archaeological advisor and Historic Scotland. Bracken and woody regeneration to be monitored and controlled periodically as required.

C.2.11 Biodiversity

UK Forestry Standard guidance is to manage a minimum of 15% of the forest management unit with conservation and the enhancement of biodiversity as a major objective. An impressive 45% of the Dalbeattie LTP area qualifies.

Opportunities for retaining or creating deadwood will be identified during the planning of all felling, favouring areas with the highest deadwood ecological potential. Valuable deadwood and deadwood areas will be marked on contract maps. Areas of minimum intervention and riparian corridors 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.

The Priority Open Habitats within Aucheninnes will continue to be managed via conservation grazing following the revision of the current grazing rights lease. Regular surveying and monitoring will be conducted to ensure the continuing conservation of these habitats, including the monitoring and protection of rare locally native crab apples. The wetland habitat of Dry Loch has been absorbed into the Dalbeattie block and a baseline habitat survey will be undertaken to inform future management. Recommendations may include the blocking of the central drain to reduce ongoing nutrification.

Certain areas of deep peat around Cloak Moss will be felled and restocked with low density peatland edge woodland to improve habitats for species such as nightjar and improve biodiversity on very poor, unproductive spoils.

A return to active LISS management within the Town Wood LEPO area will benefit biodiversity in that area by the improved management and control of highly shade tolerant species such as Western hemlock and beech. Additionally, the opening up of the canopy from small scale fellings and regular thinnings will create a mosaic of habitats and diverse stand structures.

Over 50 ha of PAWs restoration works will be undertaken over the next 10 years. Please see the table below for details. See Map 10 for details of all PAWS in the plan area.

Coupe ref	Management Type	Phase and Felling Year	Management Description	Area (ha)
42135	Clearfell	P1 2027/28	PAWS restoration - fell non-natives retain native NR. Minimise ground disturbance - liaise with Env.	13.55
42114	Clearfell	P1 2028/29	PAWS restoration - fell non-natives retain native NR. Minimise ground disturbance - liaise with ENV.	23.03
42074	Clearfell	P2 2033/34	Partial PAWS - MUST LIAISE WITH ENV. TEAM. Sensitive - protection of veteran BLs/deadwood essential.	7.98
42081	Clearfell	P2 2034/35	Requires SM consent. PAWs restoration (previously NR) therefore retain MB. Liaise with ENV.	6.47
Total Area (ha)				51.03

C.2.12 Tree Health

Dalbeattie is within the Management Zone for Phytophthora ramorum on larch. The forest has seen several infections in recent years with sanitation felling carried out across the site. Any future infections will be felled as required or removed as per the LTP's felling plan. There is 27 ha of larch remaining across the LTP area.

As part of the districts chemical minimisation strategy, the *Hylobius* Management Support System (HMSS) is used to measure *Hylobius* numbers on clearfell sites. This may suggest a fallow period

between felling and re-stocking may result in restocking not taking place within two years of felling (see Tolerance Table in Appendix III).

Instances of *Dendroctonus micans* will continue to be monitored and reported as required. Control via the predatory beetle *Rhizophagus grandis* has been undertaken by Forest Research.

Stump treatment with urea post felling may be required, for *Heterobasidion annosum*, in the areas of poorer site types.

Areas of pine will continue to be monitored for *Dothistroma* Needle Blight (DNB) infections as per the guidance laid out in the FLS DNB Strategy v5 (2024), with any identified outbreaks managed accordingly.

When designing the restock of this plan, species have been appropriately matched to sites, and efforts have been made to diversify the range of species and silvicultural systems used where appropriate, including greater use of mixtures to reduce future impacts of climate affects.

C.2.13 Invasive Species

Forestry and Land Scotland will explore opportunities to work with local conservation organisations, adjacent landowners and stakeholders to achieve common objectives to protect and enhance priority species and habitats wherever possible.

Control of invasive non-native species will be carried out as budgets and resource allocation allows with areas for control being identified and prioritized by FLS Planning and Environment staff on a regional basis.

Rhododendron ponticum will be removed as coupes are felled. PAWS areas will be prioritised for chemical control. Non-native conifers within ancient woodland areas will be monitored and actively removed as necessary.

C.2.14 New Planting

NA

C.2.15 Wildfire

FLS work closely with the Scottish Fire and Rescue Service (SFRS) to ensure a safe and consistent approach to help tackle wildfires on 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.

The general approach to managing fire risk will be to maintain suitable access to key areas of the woodland for fire control purposes and to avoid management actions which would further exacerbate fire risk, especially where the threat to key assets is particularly high. Fire risk has been assessed in accordance with *Forestry Commission Practice Guide 22: Building Wildfire Resilience into Forest Management Planning*; including consideration of forest management and restocking proposals.

Fire risk for Dalbeattie has been assessed as medium based on the context of the forest. Key factor(s) contributing to a medium or high level of risk include high recreational interest in the area, car parks, quarries and proximity to Dalbeattie Town. Proposals within this plan aim to limit the risk through several mitigation methods including increased species/ age diversity, coupe structure, buffering of existing features, management prescriptions, increase thinning, display fire risk in offices clearly to alert staff & public, information in the car parks and on the FLS website. Additional measures will be considered at operational planning stage (i.e. forest road maintenance and brash recovery).

C.2.16 Other

Soils

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

Flooding

As noted in section A.6.4, nearly 22% of the Dalbeattie catchment is afforested. The forest plan area only makes up approximately 3% of the total catchment area. Less than 0.1% of the catchment area will be felled in Phase 1 and less than 0.1% in Phase 2. Therefore, the proposed felling plan will result in negligible impact on flooding. Further measures include utilising low impact silvicultural systems and significantly increasing broadleaved riparian buffer zones, beyond the UKFS minimum requirement, along most of the watercourses. Where possible, coupe size has been reduced to minimise the size of clearfelled coupes to help minimise run off.

Landscape

A small part of the southern end of the Dalbeattie block lies within the East Stewarty National Scenic area. This is already an area of diverse woodland. Active future management and a diverse restock plan will help maintain the scenic beauty of this coastal area.

C.3 Environmental Impact Assessment and Permitted Development Notifications

Total area (hectares) for each project type and provide details as requested by sensitive or non-sensitive area.

Type of Project	Sensitive Area		Non-sensitive Area		Total
Afforestation	%Con	%BL	%Con	%BL	ha
Deforestation	%Con	%BL	%Con	%BL	0ha
Forest Roads	0ha		0ha		0ha
Quarries	0ha		0ha		0ha

C.4 Tolerance Table

	Map 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 2 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 email and map	Y		Up to 15% of coupe area	Between 2 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 more than 60m in either direction from centre line of road	Increase by up to 10% Any reduction in open ground within coupe area	Up to 5 ha
Approval by formal plan amendment may be required	Y	Felling delayed into second or later 5-year period Advance felling into current or 2 nd 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	More than 10% of coupe area Colonisation of open areas agreed as critical	More than 5 ha

Note

*Felling sequence must not compromise UKFS in particular felling coupe adjacency. Felling progress and impact will be reviewed against UKFS at 5-year review.

** No more than 1 ha, without consultation with Scottish Forestry, where the location is defined as 'sensitive' within the Forestry (Environmental Impact Assessment) (Scotland) Regulations 2017.

*** Tolerance subject to an overriding maximum of 20% designed open ground.

****Where windblow occurs, Scottish Forestry must be informed of extent prior to clearance and consulted on clearance of any standing trees.

D. Production Forecast

Not applicable. FLS provide this nationally to Forest Research as per agreement with Scottish Forestry.

Maps

Item number	Title
1	Location
2	Current tree species
3	Concept
4	Management (Felling)
5	Thinning
6	Future habitats and species (Restock)
7	Timber haulage
8	Soils
9	Historic environment
10	PAWS & LEPO
11	Recreation & Access
12A	Private Water Supplies: All - CONFIDENTIAL
12B	Private Water Supplies: No interaction - CONFIDENTIAL
12C	Private Water Supplies: Potential interaction - CONFIDENTIAL

Appendices

1. Stakeholder Consultation Record
2. Historic Environment Record
3. Larch Tolerance Table
4. Private Water Supplies
5. Low Intensity Silvicultural System Plan

Appendix I. Stakeholder Consultation Record

See section A.4 for a summary of the main points raised below by stakeholders and where they are addressed in the plan.

Issue	Raised by	Requirement / Recommendation / Concern / Aspiration
Biodiversity	RSPB Members of public.	Continued habitat provision and enhancement for animal species, specifically Nightjar. Potential to identify forest to bog restoration sites and to consider establishing peatland edge woodland. Focus on removal of non-natives and protection of biodiversity. Grey squirrel control Protection of locally native crab apples. Refer to C.2.11 & C.2.13
Heritage	D&G Council HES	Protection of SM Moyle Hill and opening up of view. Removal of bracken and scrub from SM area. Refer to C.2.10
Parking	Members of public.	Concern regarding locals paying for parking in FLS car parks.
Recreation	Members of public	Maintenance and improvement of MTB network. Moyle Hill bench replacement. Maintaining ROW access. Improving horse access, especially in the south, via route maintenance and improved signage, and improved online communication. Improved public communication regarding grazing and keeping dogs on leads in grazed areas. Refer to C.2.9
The following stakeholders responded with no comment or no issues:		
The following stakeholders were contacted during scoping but did not respond: Scottish Forestry, SEPA, NatureScot, SPEN, Scottish Water, SSE, Raptor Study Group, Confor, Scottish Wildlife Trust, Visit Scotland, South Scotland Timber Transport, British Horse Society, Ramblers Scotland, South Scotland Golden Eagle Project, Dalbeattie Forest Community Partnership, Dalbeattie Initiative, Scottish Endurance Riders, Scottish Rally.		

Appendix II. Historic Environment Record

Historic Environment Records						
Map ref.	Designation	Name	Feature Description	Grid Reference	Importance	Area (ha)
1	Undesignated	BUITTLE SLOT, 'SLOT WELL'	WELL	NX813616	Regional Importance	0
2	Undesignated	DALBEATTIE, SPY CRAIG QUARRY	QUARRY	NX839609	Local Importance	0.8
3	Undesignated	AUCHENINNES PLANTATIONS, QUARRIES	QUARRY(S)	NX841606	Local Importance	2.35
4	Undesignated	AUCHENINNES PLANTATIONS, QUARRIES	QUARRY(S)	NX843601	Local Importance	1.12
5	Undesignated	FEATURE: No Site Name	FARMSTEAD, STRUCTURE	NX846608	Local Importance	0.02
6	Undesignated	FEATURE: No Site Name	QUARRY(S)	NX846602	Local Importance	1.04
7	Undesignated	LITTLE RICHORN	FARMSTEAD (POSSIBLE)	NX838595	Regional Importance	0.01
8	Undesignated	WOODHOUSE, MOYLE HILL	FARMSTEAD	NX846585	Regional Importance	0.51
9	Undesignated	WOOD HOUSE, MOYLE WOOD	FARMSTEAD	NX846579	Regional Importance	0.03
10	Scheduled Monument	MOYLE HILL	ENCLOSURE, FORT	NX848575	National Importance	5.44
11	Undesignated	BARSCRAIGH	FARMSTEAD, FIELD SYSTEM	NX858577	Regional Importance	2.24
12	Undesignated	BARSCRAIGH	BUILDING(S)	NX855573	Regional Importance	0.01

Historic Environment Records						
Map ref.	Designation	Name	Feature Description	Grid Reference	Importance	Area (ha)
13	Undesignated	BARSCRAIGH	FIELD SYSTEM, SHEEPFOLD	NX863573	Local Importance	3.66
14	Undesignated	BARSCRAIGH	FARMSTEAD	NX858572	Regional Importance	0.02
15	Undesignated	BARSCRAIGH	FARMSTEAD	NX856573	Regional Importance	0.28
16	Undesignated	BARSCRAIGH	BUILDING(S), FARMSTEAD(S), FIELD SYSTEM(S)	NX857574	Regional Importance	16.7
17	Undesignated	WOODEND	FARMSTEAD	NX871568	Regional Importance	0.21
18	Undesignated	COLVEND	DRESS FASTENER (COPPER)(ROMAN)	NX850550	Uncategorised	100
19	Undesignated	SMITHLAND HILL	BUILDING, FARMSTEAD, FIELD SYSTEM	NX860559	Regional Importance	2.27
20	Undesignated	CLONYARD LOCH	FLAT AXEHEAD (BRONZE)	NX857555	Uncategorised	1
21	Undesignated	HLA Relict Area	Medieval/Post-medieval Settlement and Agriculture	NX863555	Uncategorised	1.21
22	Undesignated	SMITHLAND	FARMSTEAD	NX866553	Regional Importance	10.99
23	Undesignated	TARLILLYAN	FARMSTEAD, FIELD SYSTEM	NX870556	Regional Importance	10.36
24	Undesignated	NEWBARNES	FIELD SYSTEM	NX877558	Local Importance	2.32

Appendix III. Larch Tolerance Table

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

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

Appendix IV: Private Water Supplies – CONFIDENTIAL

See separate document.

Appendix V: Low Intensity Silvicultural System Plan

See separate document.