Forestry and Land Scotland
Coilltearachd agus Fearann Alba

Loch Lomond Forests LMP 2025-2035

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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Contents

Version History

Version	Date	Comments
0.1	30/06/2025	Initial Draft of LMP

A Description of Woodlands

A.1 Property Details

A.1 Property Details				
Property Name:	Loch Lomond Forests			
Grid Reference: (e.g. NH 234 567)	NS 4000 9339	Nearest town or locality:	Balmaha	
Local Authority:		Stirling Council		
LMP Plan area (hectares):		1103.9		
Owner's Details				
Title:		Forename:		
Surname:				
Organisation:	Forestry and Land Scotland	Position:	Central Region	
Primary Contact Number:	0300 067 6600	Alternative Contact Number:	N/A	
Email:	enquiries.central@forestryandland.gov.scot			
Address:	Five Sisters House, Five Sisters Business Park, West Calder, West Lothian			
Postcode:	EH55 8PN	Country:	Scotland	
Approval - to be completed by Scottish Forestry staff:				
LMP 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 the landowner or an occupier of the land with written permission of the landowner;
- Where the landowner is a business, I am authorised to sign legal contracts on behalf of that business;
- If I am an acting on behalf of the landowner or occupier, I have been mandated to do so;
- Any necessary consents from any other person(s) if required, have been obtained;
- I have made the necessary checks with the local planning authorities regarding Tree Preservation Orders and Conservation Areas;
- I have notified all stakeholders that may be affected by the felling in this application and sought their views prior to submitting this application;
- 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, a copy of which is available at www.forestry.gov.scot;
- Where applicable and appropriate I have submitted an EIA screening opinion form for operations contained within this application under the Forestry (Environmental Impact Assessment) (Scotland) Regulations 2017;
- 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, and

I have read and understand Scottish Forestry's Privacy Notice, a copy of which is available at https://forestry.gov.scot/privacy-complaints-freedom-of-information-and-requests-for-information

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:		Print:		Date:	

A.2 Location and Background

The Loch Lomond Forests LMP covers an area of ~1104 ha, comprised of three existing woodland blocks; **East Loch Lomond (979.47 ha)**, **Balmaha (53.75 ha)**, and **Ross Priory (70.64 ha)**. Situated along the eastern and southern banks of Loch Lomond, the LMP area lies within the Loch Lomond and the Trossachs National Park and is bisected by the highland boundary fault line with only **East Loch Lomond** being located to the north of this. **East Loch Lomond** and **Balmaha** are also within **Queen Elizabeth Forest Park** a 19,665-hectare forest park which extends from the eastern shores of Loch Lomond to the mountains of Strathyre. The forest park is one of six such parks in Scotland, and was established in 1953, the year of the coronation of Queen Elizabeth II

East Loch Lomond itself is also known by it's constituent parts of Strath Cashel, Sallochy, Ross Wood, and Rowardennan.

Most of the LMP area was formerly coniferous woodland plantation and has been the target of native woodland restoration for the last two decades.

A.3 Existing Schemes & Permissions

Table: Existing Schemes & Permissions		
Type (e.g. Felling Permission)	Ref. No.	Details
East Loch Lomond LMP	033/CT/ELL/14(3)	Previous LMP for East Loch Lomond, expires 09/07/2025

A.4 Stakeholder Engagement

Table: Stakeholder Engagement Summary	
Scoping – Main Points	**LMP Reference (section/page):**
National Park and neighbours concerned about the removal of non-native conifer regen	C.2.2; C.2.7
Risk of felling to catchment hydrology and increased flood risk	A.6.4

Table: Stakeholder Engagement Summary	
National Park and Public desire for more recreational infrastructure	C.2.12
Information about herbivore management	Appendix II

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

A.5 Long Term Vision and Management Objectives

In the mid-1990s, FLS (then Forest Enterprise Scotland) entered into a management agreement between Scottish Ministers, The National Trust for Scotland, and The Loch Lomond and the Trossachs National Park (LLTNP); this agreement was updated to create the Ben Lomond National Memorial Landscape (BLNML) in 2015.

This agreement outlined key objectives for the area within the BLNML as being landscape preservation, conservation, and quiet recreation with all non-native conifers to be removed within a 50-year period. The **East Loch Lomond** block falls within this area and management has been conducted accordingly since the agreement's inception.

Whilst **Balmaha** and **Ross Priory** do not fall within the BLNML, the vision for these blocks remains broadly similar, prioritizing environmental and social benefits of the woodlands whilst also creating opportunities for high-quality timber production where this can help to enhance environmental and social benefits. Whilst these latter two blocks will not be limited to native species as with **East Loch Lomond**, future species will be selected for compatibility with native broadleaves.

Management Objectives	
Objectives (including environmental, economic and social considerations)	**Indicator of objective being met**
Continued progression of the BLNML and associated management agreement	Remaining mature non-native conifers removed for **East Loch Lomond** and assessment of non-native regeneration in the

Management Objectives	
Objectives (including environmental, economic and social considerations)	**Indicator of objective being met**
	area completed with removal of these areas programmed before seeding age is reached.
Work with stakeholders to help facilitate potential projects involving FLS land	Consistent contact with community groups and partner organisations in the area to ensure that potential collaborations are captured and user experience is of high-quality
Progress the management of productive broadleaf areas for high quality timber	Respacing and/or first thinnings of native broadleaves completed

A.6 General Site Description

A.6.1 Topography and Landscape

Elevation within the LMP area ranges from 15m on the banks of Loch Lomond to 450m at the highest point. Hillocks of a range of sizes are common along the shore at **East Loch Lomond**, as well as at **Balmaha** where there are three within the block which are the result of the highland boundary fault. **Ross Priory** has its high point in the west of the block, sloping downwards from this point towards the east.

The entire LMP area falls within the Loch Lomond National Scenic Area (NSA) where the special qualities for Loch Lomond lists “Banks of Broadleaved Woodland” as one of these qualities.
In their landscape capacity study on the east coast of Loch Lomond, LLTNP found the capacity for increasing native woodland in the area to be low, but providing viewpoints over the Loch and of the surrounding hill and mountain summit are maintained, native broadleaves “would enhance the wooded character and setting to Loch Lomond without detriment to the SLQs”. Whilst this report concerns new afforestation proposals, it is understood that woodland change from non-native conifer to native broadleaf is at least equally desirable.

A.6.2 Soils

Both **Ross Priory** and **Balmaha** are made up of a large proportion of brown earths of medium nutrient status with more areas of surface water gley at **Balmaha** than **Ross Priory**.

East Loch Lomond predominantly contains upland brown earth soils of poorer nutritional status in, as well as flushed surface water gleys and small areas of Calluna blanket bog at higher elevations. At Rowardennan, there is a much greater proportion of Molinia bog and gleyed soils.

A.6.3 Climate

Using the measures of warmth and wetness defined in the Ecological Site Classification by Forest Research, the LMP area is warm and moist below 175m elevation, becoming cool and wet above this point.

A.6.4 Hydrology

See M3 – Analysis Map (Hydrology)
The Loch Lomond Forests LMP area falls entirely within the Loch Lomond water catchment. As the average annual rainfall for the area is high for Scotland at 2015mm, it is important to consider the implications of tree removal on flooding in the surrounding area. The total LMP area is ~1104 ha, making up just 1.4% of the water catchment area which covers 89,383 ha. It is understood that generally, where tree removal occurs on less than 20% of the overall water catchment area, its impacts on flooding will be negligible.

There are numerous watercourses throughout the LMP area, nearly all of which flow directly into Loch Lomond. The only exceptions to this are in the Sallochy portion of the **East Loch Lomond** block where some burns flow into Dubh Lochan before ending up in Loch Lomond.
GIS analysis indicates no active private water supplies within the LMP area, and local residents confirmed that although many had previously used private water supplies, they had since been connected to a new Scottish Water mains line.

A.6.5 Windthrow

According to the climate model of Forest Research, the LMP area is classified as sheltered below 200m elevation. This covers the vast majority of the area, except from the upper slopes of Sallochy and the northeastern part of Rowardennan where exposure levels rapidly increase.

Despite this, there is evidence of windthrow at **Balmaha** and **East Loch Lomond** which can be attributed to the removal of areas of Larch due to tree health concerns. These necessary operations have resulted in the loss of a green edge and, consequently, exposed unstable areas of crop.

A.6.6 Adjacent Land Use

East Loch Lomond is bordered by the loch itself, as well as land owned by the National Trust for Scotland, and the Royal Scottish Forestry Society. There are also several residences that break up the block along the main road, and some adjacent private land which is mainly agricultural with a small amount of private forestry at the top of the Cashell Burn.

Balmaha has many residents in its immediate vicinity, with the village itself looking to expand with new social housing immediately to the south of the block. There are also some plans for native woodland creation to the east and north of the block by the neighbouring landowner.

Ross Priory is surrounded on all sides by farm land, as well as an RSPB reserve to the east, and Whinny Hill Wood, owned by the Woodland Trust to the southwest.

A.6.7 Access

A.6.7.1 Public Access

M6 – Analysis Map (Recreation)
Visitor numbers are high throughout the LMP area with FLS car parks at Rowardennan and Sallochy serving the **East Loch Lomond** block, whilst **Balmaha** is next to a large car park run by Stirling Council. The West Highland Way, Scotland's most popular long-distance walking route, runs through both of these block. Additionally, day hikers frequent both the Ben Lomond path and the Conic Hill path.

Whilst **Ross Priory** has no official trails, it was apparent from consultation drop-in events that this block is a highly valued local asset with many members of the community in the surrounding area keen to share their favourite aspects of the wood.

A.6.7.2 Operational Access

From the forest all timber must travel along the unclassified road to Balmaha and from there the B837 to Drymen and the main A811 Alexandria to Stirling Road. The former minor roads are consultation routes and the relevant authorities will be kept informed of proposed usage by timber traffic. Local restrictions are already in place and these will be reviewed at the time of operations.
Despite an extensive network of forest roads, Sallochy block requires an additional spur to access a coupe next to the main public road. In addition, a number of ramps will be required to

allow harvester/forwarder access into most coupes that are to be felled during the design plan period. EIA determination will be sought for these on a workplan basis prior to operations commencing.

A.6.8 Historic Environment

See M4 – Analysis Map (Designations and Heritage Features)
Historic features can be found throughout the LMP area. At **East Loch Lomond**, these are most frequently bloomery mounds from old iron works, especially towards the northern end. Other features include charcoal burning platforms, trackways, shieling-huts, deserted farmsteads, and slate quarries. Given the volume of sites identified in field surveys carried out on adjacent land owned by the National Trust for Scotland in the 1990s, it is possible that there are unidentified sites within the forest block which has not been subject to the same level of survey.
The name 'Craigie Fort' appears on both the 1st edition and current Ordnance Survey maps of the area in the west of the **Balmaha** block beside the loch. Whilst no such presence has been officially confirmed, there is the potential for material of this type to be present anywhere around this headland, between the road and the loch.
A round cairn is located at the top of Black Hill in the **Ross Priory** block. Whilst this feature was buffered to prevent planting, there is evidence of natural regeneration around the area.

A.6.9 Biodiversity

Some 260ha of woodland form part of the Rowardennan Woodland SSSI, themselves part of the Loch Lomond Wood SAC. The SSSI is cited for its assemblage of ancient and long established semi-natural woodland with mostly sessile oak. Several other native tree species occur and there are species rich bryophyte and flowering plant communities characteristic of western sessile oak woods. There are diverse bird and invertebrate fauna associated with the woods.

Until recently the remainder of the plan area was dominated by non-native conifers, mainly Sitka spruce but with some larch and lodgepole pine. This is now changing as the mature conifer is felled and restocked with native species. In the short term this has resulted in large areas of open space which has a tendency to infill with seed dispersed by the remaining non-native conifers and is also an issue in areas of native broadleaf restocking.
The transformation of the **East Loch Lomond** block over the previous two decades is representative of FLS' commitment to restoring and expanding Atlantic temperate rainforest as part of the Allliance for Scotland's Rainforest. This type of habitat is one of the world's rarest, with less than 1% of global landmass being capable of sustaining it. By targeting the removal of non-native conifers, as well as invasives such as *Rhododendron Ponticum*, FLS are targeting the

key natural barriers to healthy temperate rainforest and contributing to the expansion of the 30,000 hectares of rainforest that still remain in the whole of Scotland.
Notable bird species include black grouse which are found, in particular, on the moorland edge. Other bird species known to be present include osprey, buzzard and sparrowhawk. Mammals include red squirrel, and otters are known to be present along the shore of Loch Lomond.

A.6.10 Invasive Species

Rhododendron ponticum bushes can be found throughout the LMP area - a programme of monitoring and control is being implemented.

Additionally, non-native conifer regeneration is frequent throughout site, especially in recently felled and restocked areas. The intensity of this regeneration is expected to drastically reduce with the continued felling of mature non-native confers in the LMP area.

A.7 Woodland Description

East Loch Lomond presents a mix of ancient semi-natural upland oakwood, largely concentrated at Ross Wood and Strath Cashel, and Long-Established Plantation Origin (LEPO) woodland, the majority of which has been felled and restocked with native broadleaves in the last 20 years. There are also areas of predominantly non-native conifer plantation both on the top of the hill and by the shore of the Loch at Rowardennan, as well as the lower slopes at Sallochy. Ancient veteran oak trees a frequent occurrence within these existing plantation areas.

Balmaha primarily consists of mature coniferous woodland with several areas of wind damage. An SPHN was served on an area of diseased Larch in 2022 which is now a notably open area with tubed broadleaves which are successfully establishing. Throughout the woodland area, several large veteran Scots Pine trees can be found which will remain for years to come as the area is gradually harvested and restocked with native broadleaves.

Ross Priory is a particularly interesting woodland for tree enthusiasts with a wide variety of broadleaved species present. Once a conifer plantation, with much of the block's area being recognized as LEPO woodland, it is now a veritable haven for wildlife with only a few individual conifers remaining that provide valuable nesting habitats for a variety of birds of prey.

A.8 Plant Health

There are no active plant health concerns within the LMP area; however, there have been instances of *Phyophthora Ramorum* in the LMP area in recent years which have resulted in removal of Larch after the serving of Statutory Plant Health Notices.

Larch accounts for 30.7 ha of the forest canopy which equates to around 3% of the total woodland cover within the LMP area.

The LMP area falls entirely within the Priority Action Zone (PAZ), designated by Scottish Forestry in an effort to slow the spread of *P. Ramorum* after their 2021 review into their Larch action plan. As part of FLS' commitment to the PAZ, all Larch will be removed in the first two phases of any new LMPs within the zone.

Table 1 - Area by species

This shows the current and future species composition within the entire Land Management 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	66.3	6%	20.7	2%	18.3	2%
Norway Spruce	42.7	4%	8.5	1%	8	1%
Other Conifers	13.8	1%	5.9	1%	4.9	<1%
Larch	30.7	3%	1.6	<1%	1.3	<1%
Scots Pine	82.9	7%	84.9	8%	85.4	8%
Native Broadleaves	532	45%	565.1	50%	563.8	50%
Other Broadleaves	146.4	13%	138	12%	134.9	12%
Open/other	255.5	21%	287.7	26%	296	27%
Total**	**1170.3**	**100**	**1112.4**	**100**	**1112.6**	**100**

* Of whole LMP area (including open ground (OG)). Any mixtures such as Mixed Conifer (MC) should be broken down and included as an individual species component where a species occupies more than 10%.

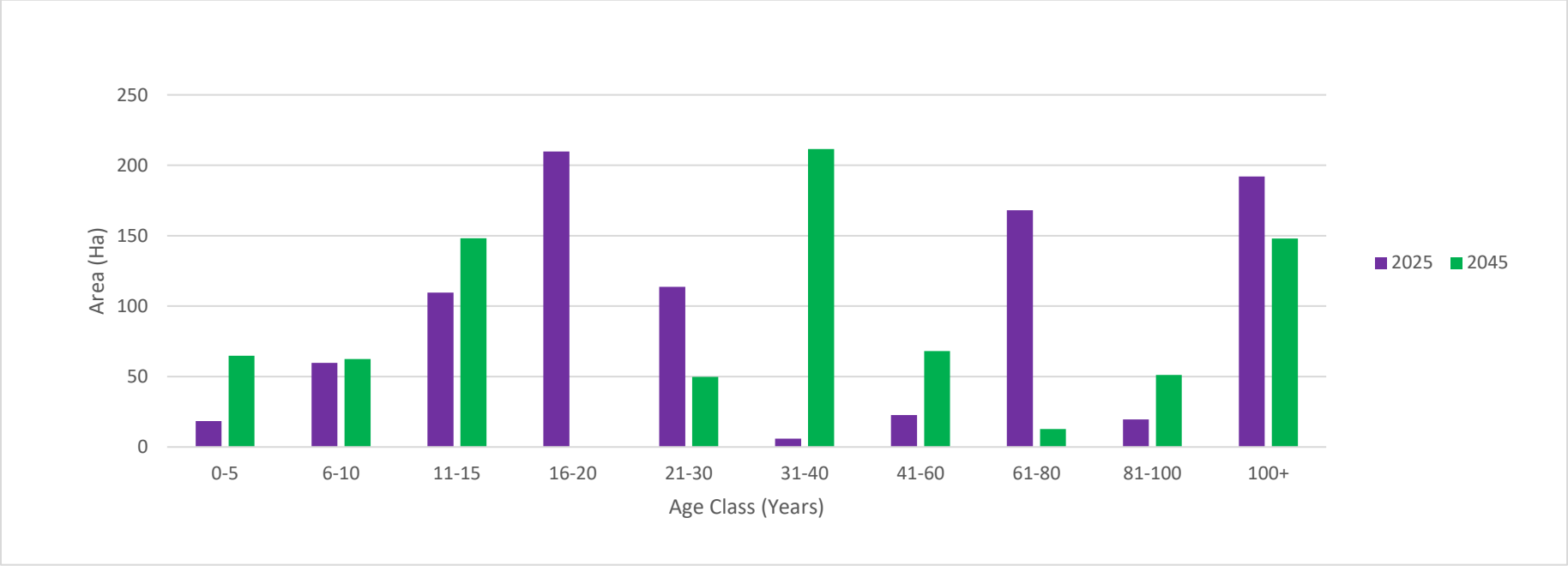
** Differences between report and LMP area are due to presence of multiple storeys in the sub-compartment database resulting in a correct double count of species. Difference between current and Year 10 and Year 20 areas are due to inability to account for multiple storeys in the future restock areas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

Age class (years)	Current Area (ha)	Year 20 Area (ha)
0-5	18.4	64.7
6-10	59.7	62.4
11-15	109.6	148.2
16-20	209.8	0
21-30	113.7	49.7
31-40	5.9	211.5
41-60	22.7	68.2
61-80	168.1	12.8
81-100	19.6	51.1
100+	192.1	148.1
Total*	**919.6**	**816.7**

* Differences between report and LMP 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.


250
200
150
100
50
0
Area (Ha)
0-5
6-10
11-15
16-20
21-30
31-40
41-60
61-80
81-100
100+
Age Class (Years)
2025
2045

B. Analysis of Information

B.1 Constraints and Opportunities

B.1 Constraints and Opportunities		
Factor	**Constraint**	**Opportunity**
Biodiversity	Forestry operations will occur near and sometimes in the Loch Lomond Woods SAC.	Improve the condition of the western acidic oak woodland element of the SAC from unfavourable/declining by removing non-native conifers from the area, establishing more native oak woodland, and removing invasive species.
Landscape	Large clearfells will be visible from the West side of the Loch.	Removal of non-native conifers and the use of quick establishing native pioneer species for restock will result in a landscape more befitting of the National Park's special landscape qualities.
Heritage	Potentially undiscovered heritage sites in the afforested block.	Clearing non-native conifers offers the opportunity to reveal any potential sites that may not be known about currently and ensure they are appropriately buffered from any new planting.
Visitor Experience	The high volume of forestry operations in the area may disrupt the visitor experience in the short-term.	The visitor experience will be improved in the long term with the creation of a landscape area for quiet recreation that has the potential to be abundant wildlife.
Tree Health	Areas of Larch often occur in blocky mixtures with other non-native conifers making it difficult to extract.	Through creating large areas of clearfell, the vision of the BLNML can be achieved on a quicker timescale

	Potential for windthrow if areas of non-native conifer are not felled to the nearest green edge.	whilst also minimizing factors that could adversely affect tree health.
Timber Transport	Timber from East Loch Lomond has to be extracted via a consultation timber transport route, as does timber from the upcoming Ptarmigan LMP to the north.	Completed upgrade of the B837 will reduce the impact of timber extraction on the public.
Utilities	Presence of low hanging power lines, fiber optic cables, and private water supplies near felling areas that are important to local residents' wellbeing.	Engagement with local residents and utility providers to ensure minimal disruption to services related to forestry operations.

Concept

- Utilise clearfelling to work towards the objectives of the Ben Lomond National Memorial Scenic area in the most effective way possible.
- Establish woodland with the objective of extending areas of Atlantic Temperate Rainforest to the benefits of biodiversity, the visitor experience, and landscape visuals.
- Consult with and engage local timber transport groups to develop a strategic timber extraction plan that minimizes disturbance in the local area during operations.
- Engage with local residents and service providers to ensure no disturbance to livelihoods occur as a result of forest operations.

C. Management Proposals

C.1 Silvicultural Practices

All proposals have been designed in accordance with sound silvicultural and environmental principles, falling within the framework outlined by the UK Forestry Standard, the UK Woodland Assurance Scheme, FC Bulletin 112 Creating New Native Woodlands, FC Bulletin 115 Alternative Silvicultural Systems, FC Bulletin 124 Ecological Site Classification for Forestry and the current SF edition of Forest & Water Guidelines. This plan has considered the natural and historic environment as well as green network opportunities.

The LMP seeks to follow the UKFS in all aspects. The dominance of Phase 1 felling is driven by environmental and tree health considerations which override normal best practice relating to felling phasing.

The plan 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 here: https://forestryandland.gov.scot/what-we-do/planning

C.2 Prescriptions

C.2.1 Clearfelling

See M8 – Management Map

A clearfell approach has been selected as the most effective way of achieving species change within East Loch Lomond for the purpose of establishing the BLNML. By removing the seed source of non-native conifers in an expedient manner, competition with native broadleaved trees will be drastically reduced allowing for the native woodland to successfully establish.

Large coupes have been created and felling designated for the same phase as adjacent coupes in order to minimize the potential for windthrow. The vast majority of these non-native conifers have reached maturity and are un-thinned and hence more likely to blow over in a storm event. It is important to reduce the risk of windthrow in order to minimise the amount of damaged and unhealthy trees which could increase susceptibility to tree pests and diseases.

C.2.2 Thinning and Respacing

See M9 – Thinning Map

Primary thinning objective is to remove non-native conifer regen from within areas with a management objective of delivering on biodiversity aims. These occur either within Long Term Retention or Minimum Intervention areas. Trees removed may be mature and removed by motor manual means or regen that will be collected by a small machine equipped with tree shears.

Coupe 60503 includes areas of the Loch Lomond Woods SAC and associated ancient semi-natural woodland. This coupe is designed to remove elements of non-native conifer in the area and will not involve the felling or thinning of native species. Where felling of non-native conifers occurs within this coupe, trees will be felled to waste where appropriate to reduce any potential environmental disturbance. Trees will be directionally felled away from the SAC through motor-manual operations to further reduce any disturbance.

A secondary objective of thinning is to deliver high quality hardwood timber, this is contained within Low Impact Silvicultural Systems (LISS)/Continuous Cover Forestry (CCF) designated areas.

C.2.3 LISS/CCF

See M8 – Management Map

LISS/CCF areas have been selected where access and environmental conditions are favourable and negative impact minimal. These areas will contribute to the biodiversity of the area, offering an opportunity to remove any latent non-native regeneration which may occur whilst also producing revenue.

These areas are also designed to deliver upon the third aim of the BLNML: “To recognise the social and economic needs of those who live and work in the area”. Timber production has been a part of the landscape for many years; these areas of LISS/CCF continue the tradition of timber production in a way that is more in-keeping with the local surroundings.

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

See M8 – Management Map

The majority of the LMP area is designated as MI for management, reflecting the environmental and social objectives of this plan. Any felling in these areas will be done to promote the health of native broadleaf woodland, both as it establishes and once it has matured.

Areas of LTR have been utilized both where mature trees can be retained without unwanted regeneration to aid age class diversity and provide habitat, as well as where it is currently not known if the area will be overtaken by non-native natural regen. In the latter of these two areas, trees may be cleared and mulched before seeding age if they make up a large majority of the area that is intended to be native broadleaves.
There are no NR designations within this LMP area.

C.2.5 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 covered by this approval is 75 cubic metres per Land Management Plan 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.

C.2.6 Woodland Management in Visitor Zones

Visitor Zones have been identified in areas where FLS encourage and manage access or where the woodland managed by FLS interacts with popular visitor sites or access routes. Visitor Zones are shown on **M6 – Analysis Map (Recreation)**

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; such as through the development of large trees, or preferential removal of trees to favour a particular species.

C.2.7 Restocking Proposals / Natural Regeneration

See M10 Future Species and Restock

East Loch Lomond – In order to successfully migrate from non-native conifers to native broadleaves, a fallow period of up to 5-years may be employed to allow for potential natural regeneration. It is hoped that the complete removal of non-native species will mean that the majority of this regeneration will be native pioneer species, beginning the process of Oak woodland establishment in creating ideal habitat for Oak trees to seed into. Non-native regen will be monitored and mapped throughout establishment and at the 5-year compliance review for the LMP. This regen will then be removed via whole tree harvesting prior to the trees reaching seeding age (e.g. for Sitka Spruce Regen, this will be removed before it gets to seeding age which for this species is 15-20 years old).
As the first listed objective for the BLNML is to "enhance the landscape and nature conservation value of the area", the future species aims are best expressed in relation to the *National Vegetation Classification*. In this way, any restocking or management of natural regeneration will be guided by the principle of establishing community W7 (*Alnus glutinosa – Fraxinus excelsior* – Lysimachia nemorum)* in the wettest areas, whilst W11 *(Quercus petraea – Betula pubescens – Oxalis acetosella)* will be established on the lower slopes and graduate into W17 (*Quercus Petraea – Betula pubescens – Dicranum majus*) with increasing elevation. Where there are drier knolls in the LMP area and at the highest points, W18 (*Pinus Sylvestris – Hylocomium splendens*) will be managed for. Reference to these communities is an important part of management within this woodland block to ensure that nature conservation value is maximised and the correct native habitat is established in the long-term.

**Fraxinus excelsior*, common name Ash, will not be planted as part of this community due to Ash die-back disease. Substitute species are likely to be Aspen and Hazel.

Balmaha – Restocking in this woodland block during this LMP period will be primarily non-productive native species for recreational value along the West Highland Way with some productive conifer to the east of this.

Ross Priory – There is no restocking planned for this woodland block in this LMP period.

Where restocking of coupes by planting is planned, it will be done to the following prescriptions:

Productive area -
Productive restocking on site will be with the primary aim of quality timber production; as such, and as per the Regional restocking strategy, the management input will generally be:
• Low disturbance ground prep methods where LMP objectives are not compromised by said methods
• restocking at full initial density of 2,700 stems/ha to achieve a final density of between 2,250 and 2,500 stems/ha with an emphasis on achieving overall stocking
• standard top-up spraying and weeding as required

Amenity Broadleaves –
Broadleaf planting will add landscape value, merging existing areas of similar species, and will be planted to achieve a final target density of 1600 stems/Ha.

Table 3 – Felling

This shows the scale of felling within the felling phases in the context of the whole LMP. This includes any areas of 'LISS – Fell' (i.e. removal of final overstorey).* See map **M8**.

SCALE OF PROPOSED FELLING AREAS (including LISS final fell areas)												
Total LMP Area:		1103.9	hectares									
Felling	Phase 1	%	Phase 2	%	Phase 3	%	Phase 4	%	Long Term Retention*	%	Area out-with 20yr plan period	%
Area (Ha)	92.9	8.4	96.5	8.7	0	0	0	0	41.1	3.7	67.5	6.1

* As all areas of proposed LISS management will have some overstorey trees retained over the next 20 years, no areas of 'LISS – Fell' are listed.

Table 4 – Thinning

This shows the area of thinning over the first 10 years of the LMP (see map **M9**).

Species*	Thinning coupe ref	Thinning (ha)**
Mixed Broadleaves (43%), OG (57%)	60501***	28.28
Mixed Broadleaves (51%), OG (37%), SS (12%)	60502***	14.60
Mixed Broadleaves (58%), Scots Pine (13%), Mixed Conifer (12%), OG (17%)	60503****	52.89
Mixed Broadleaves (100%)	60601	17.72
Mixed Broadleaves (100%)	60602	14.46
Mixed Broadleaves (100%)	60603	13.46
Mixed Broadleaves (100%)	60604	6.07
Mixed Broadleaves (100%)	62602	1.93
Mixed Broadleaves (100%)	62603	3.81
Mixed Broadleaves (100%)	65602	18.08
Total		**169.53**

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

****** Gross coupe areas given where net area of thinning operations is likely to be significantly less.

***Thinning coupe is for removal of non-native conifers which are likely to be present but not yet appear in the SCDB

****Thinning coupe is exclusively for the removal of Mixed Conifer. A large area has been designated to ensure all non-native species are removed from the SAC and adjacent areas.

Table 5 – Restocking

This table provides information on the restocking proposals for the first 10 years of the LMP listed on a coupe by coupe basis (see map **M10**).

Felling Phase	Map Identifier(s)	Species *	Area (ha) to be planted
Phase 1	60037A	SOK	2.98
Phase 1	60037A	BI	2.98
Phase 1	60037A	SP	0.74
Phase 1	60037B	SP	2.11
Phase 1	60037B	BI	1.05
Phase 1	60037B	MB	0.53
Phase 1	60043A	SP	8.25
Phase 1	60043A	BI	6.19
Phase 1	60043B	BI	5.04
Phase 1	60043B	SP	2.52
Phase 1	60043B	MB	1.26
Phase 1	60043C	BI	3.15
Phase 1	60043C	MB	2.36
Phase 1	60043C	SP	0

Felling Phase	Map Identifier(s)	Species *	Area (ha) to be planted
Phase 1	60043D	SOK	1.59
Phase 1	60043D	BI	1.19
Phase 1	60043D	MB	0.4
Phase 1	60043D	SP	0.4
Phase 1	60044A	SOK	5.75
Phase 1	60044A	BI	4.32
Phase 1	60044A	MB	1.44
Phase 1	60044A	SP	1.44
Phase 1	60044B	BI	5.2
Phase 1	60044B	SP	2.6
Phase 1	60044B	MB	1.3
Phase 1	60044C	SP	2.04
Phase 1	60044C	BI	1.53
Phase 2	60013A	SOK	4.11
Phase 2	60013A	BI	4.11
Phase 2	60013A	MB	1.37

Felling Phase	Map Identifier(s)	Species *	Area (ha) to be planted
Phase 2	60013A	SP	1.37
Phase 2	60013B	SOK	1.76
Phase 2	60013B	BI	0.59
Phase 2	60013B	MB	0.29
Phase 2	60016A	SOK	6.07
Phase 2	60016A	BI	6.07
Phase 2	60016A	MB	2.02
Phase 2	60016A	SP	2.02
Phase 2	60016B	SOK	1.69
Phase 2	60016B	BI	0.56
Phase 2	60016B	MB	0.28
Phase 2	60019A	SOK	7.96
Phase 2	60019A	BI	2.65
Phase 2	60019A	MB	1.33
Phase 2	60019B	SOK	3.04
Phase 2	60019B	BI	3.04

Felling Phase	Map Identifier(s)	Species *	Area (ha) to be planted
Phase 2	60019B	MB	1.01
Phase 2	60019B	SP	1.01
Phase 2	60026A	SOK	5.44
Phase 2	60026A	BI	1.81
Phase 2	60026A	MB	0.91
Phase 2	62003A	SP	3.29
Phase 2	62003A	BI	2.47
Phase 2	62003A	NMB	0.82
Phase 2	62003B	NMB	2.68
Phase 2	62003B	SP	0.89
Phase 2	62003B	OK	0.45
Phase 2	62003C	NS	1.47
Phase 2	62003C	SP	1.1
Phase 2	62003C	NMB	0.73
Total Restocking Area			142.76

*Establishment is expected to be by planting unless otherwise stated.

C.2.8 Hydrology

All operations will follow best practice as detailed in the current Forest and Water Guidelines. Timber extraction will normally avoid crossing burns or main drains, but, where necessary, each crossing point will be piped or bridged. Branches will be kept out of watercourses and trees will generally be felled away from the watercourses.
Additionally, operations will be planned with an awareness of the legacy drains across the site that connect to watercourses to minimize the risk of pollutants entering watercourses.
As part of the work plan process in advance of any operations such as harvesting or road construction, we will ground truth the operational status of any nearby private water supplies and communicate with local users appropriately.
Ross Priory is close to the Scottish Water Raw Water Intake site on the shore of Loch Lomond. Any operations will include robust environmental protection measures that account for all seasonal weather conditions.

C.2.9 Protection

Herbivore management will be done in accordance with FLS' regional deer management plan for Central Region **(See Appendix II – Cowal and Trossachs Deer Management Plan)**.
Where browsing pressure can be seen to be excessively high, or herbivore management is impractical due to location, tree guards may be used to ensure successful establishment of more palatable species.

C.2.10 Fence Erection / Removal

N/a

C.2.11 Road Operations and Timber Haulage

See M11 – Timber Haulage Map
One short forest road spur, totalling 80m in length, will need to be constructed for phase 2 felling from the main public road. To ensure permissions are up to date, this new access point will be subject to an EIA SOR and planning application as part of the 5-year progress and compliance review of this LMP.
Due to shared use of the public access road, the felling times of the upcoming Ptarmigan LMP will be coordinated with the management actions of this LMP to ensure minimum disruption to the public on the East side of the Loch.

Any ramps constructed to allow for access to felling coupes from forest roads will be subject to an EIA SOR and submission of Prior Notification, both of which will be applied for prior to each individual operation.

C.2.12 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.
Whilst this LMP does not contain any new recreational infrastructure, we at FLS are aware of several aspirational projects in the surrounding area which are being considered by various community groups. Should these projects be developed further, communities are encouraged to contact our Visitor Services team to arrange a path agreement or Community Asset Transfer scheme where our land is concerned.
There is also potential for the new forest road spur at Sallochy to be transformed into additional parking facilities after completing its operational purpose in felling coupe 60026 during the next LMP period.

C.2.13 Historic Environment

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

The *Regional Historic Asset Management Plan* includes conservation management intentions for those designated historic assets in Scotland's national forests. Details of all known historic environment features are held within the *Forester Web Heritage Data* (built using national and regional historic environment records) and included within specific operational *Work Plans* to ensure damage is avoided. Significant historic environment features will be depicted on all relevant operational maps."

Objective	Opportunities	Constraints	Concept
Caring for the Historic Environment	We will ensure positive conservation management at significant historic assets, undertaking scrub control, condition monitoring and archaeological recording where necessary.	We will undertake suitable work practices on operational sites with known historic assets (and those discovered during operations).	We will ensure that historic assets (both designated and un-designated) are included within our land management and operational plans and are managed in line with *UK Forestry Standard*.

The potential for exposure of previously undocumented heritage features within the woodland block has been noted. Any such features that are discovered will be noted to the relevant stakeholders and protected according to forestry guidelines.

C.2.14 Biodiversity

All forestry operations to be conducted within the lifetime of this plan will comply with current best practice guidelines and conform with statutory regulations relating to the protection of species and habitats.

Where there is felling of non-native conifers adjacent to, or within, the boundary of an SAC, trees will be directionally felled away from the boundary, towards the area outwith the SAC. Non-native conifers for forestry purposes being listed by NatureScot as a main negative pressure impacting the Loch Lomond SAC for Western acidic oak woodland; It is essential to the long-term

health of these conservation areas that these non-native trees and their associated natural regeneration are removed entirely.

FLS as a partner in the "Scottish Raptor Monitoring Scheme" (SRMS) will continue to protect and support raptor populations within our land holdings. Working with local conservation organisation's opportunities will be identified to protect and bolster priority species through habitat creation, modification and the monitoring of populations during the lifetime of this plan.

Existing mature broadleaf trees within the felling areas will be retained and incorporated in to the mosaic of recently afforested areas, the retention and inclusion of mature trees within the wider forest habitat will provide increased biodiversity value within a relatively young woodland and contribute to age class diversity in the area.

During all felling operations deadwood will be retained in line with the UK Woodland Assurance Standard (UKWAS) targets, average of 20 m3 per hectare (both standing and fallen deadwood).

A range of management tools will be utilised to increase deadwood resource and these will be included in operational workplans:

- Broadleaved deadwood will be prioritised for retention;
- Veteran trees will be retained and protected where safe to do so;
- Deadwood will be concentrated where it will provide the highest ecological benefit and in areas less likely to be disturbed by future operations, such as riparian and peat edge woodland, broadleaved long-term retentions and minimum intervention areas;
- Where conifer stands are clear felled or thinned, a proportion of windblown stems will be made safe and left in situ;
- In long-term retention and LISS thinning areas, a proportion of standing injured or dying trees will be retained - where away from visitor zones, roads and march boundaries.

C.2.15 Tree Health

Felling in this plan includes the removal of all Larch from the LMP area in the next 10 years as part of FLS' efforts to slow the spread of *Phytophthora Ramorum*. If an SPHN is delivered for the Larch in the area before it is due to be felled, an exchange of letters with the regulator will be sought to fell the infected trees at a sooner time than planned.

C.2.16 Invasive Species

Forestry and Land Scotland will explore opportunities to work with local conservation organisations, adjacent land owners and stakeholders to achieve common objectives to protect and enhance priority species and habitats wherever possible.
Control of invasive non-native species are 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. East Loch Lomond will have a separate invasive species management program under our specialist rainforest management team.

C.2.17 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.

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.

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	0%Con	0%BL	Con	BL	0ha
Deforestation	0%Con	0%BL	0%Con	0%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 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	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.

Appendices

Item number	Title
I	List of Consultation Responses
II	Cowal and Trossachs Deer Management Plan

Maps

Item number	Title
M1	Location Map
M2	Current Species Map
M3	Analysis Map (Hydrology)
M4	Analysis Map (Designations and Heritage Features)
M5	Analysis Map (Utilities and Transport)
M6	Analysis Map (Recreation)
M7	Concept Map
M8	Management Map
M9	Thinning Map
M10	Future Habitats and Species Map
M11	Timber Haulage Map