Forestry and Land Scotland
Coilltearachd agus Fearann Alba

Loch Goil Forest
Larch Removal Plan

2025-2030

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.

FSC
www.fsc.org
FSC® C123223
The mark of responsible forestry

PEFC
PEFC/16-40-1002
Promoting Sustainable Forest Management
www.pefc.org

Contents

A. Description of Woodlands

A.1 Property Details

Property Name:	Loch Goil Forest		
Business Reference Number:		Main Location Code:	
Grid Reference: (e.g. NH 234 567)	NN 195 018	Nearest town or locality:	Lochgoilhead
Local Authority:		Loch Lomond and the Trossachs National Park	
LMP Plan area (hectares):		4119ha	

Owner's Details			
Title:	Mr	Forename:	Jamie
Surname:	Howie		
Organisation:	Forestry & Land Scotland	Position:	Planning Forester
Primary Contact Number:	07979 246060	Alternative Contact Number:	
Email:	jamie.howie@forestryandland.gov.scot		
Address:	Central Region, Aberfoyle Office, Aberfoyle, Stirling		
Postcode:	FK8 3UX	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)	

Version History

Version	Date	Comments
V01	26/07/2023	Internal to FLS only, very early development draft
V02	14/02/2024	Internal to FLS only, first draft of consultation version
V03	25/03/2024	Published consultation version
V04	02/10/2024	Final version in old format template, internal to FLS only
V05	20/12/2024	Reformatting V04 into new style template
V06	27/01/2025	Final minor corrections pre-submission.
V07	26/05/2025	This version – addresses comments from Public Register.

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	~~NO~~

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.

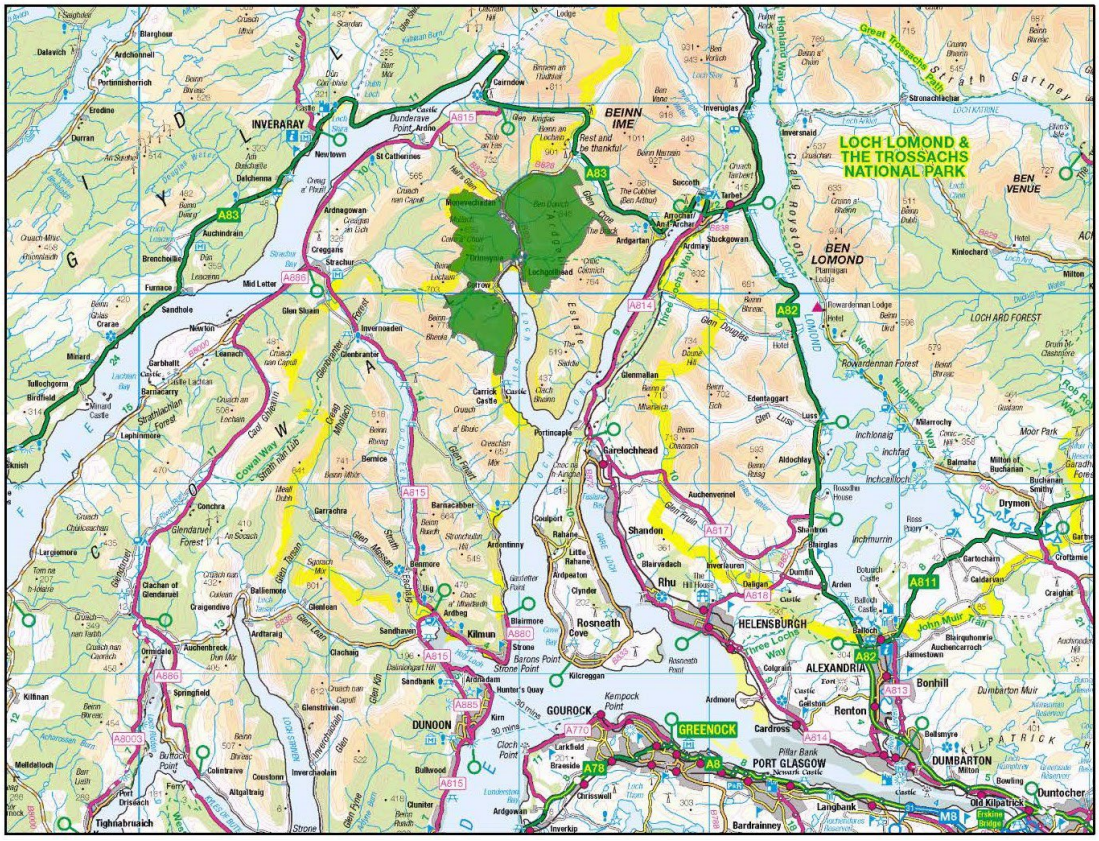
This consent is for access to assess this application as well as monitor compliance with any subsequent approval, where applicable

Signed:		Print:		Date:	

A.2 Location, Background and Summary of Proposals

A.2.1 Location and Background

Figure 1 – Location map of Loch Goil forest (highlighted green)



Loch Goil Forest is located around the village of Lochgoilhead in the Cowal Peninsula, within the Loch Lomond and the Trossachs National Park *(Figure 1)*. The total plan area occupies 4119ha of coniferous forest, broadleaved woodland and open hill *(Map M03 Current Species)*.

This is a 5-year plan developed to undertake a structured removal of Larch spp. from the Loch Goil plan area to minimise the spread of *Phytophthora ramorum*. It succeeds the plan approved in 2010. Loch Goil Forest has been severely affected by *P.ramorum* infection in Larch spp., resulting in numerous Statutory Plant Health Notices *(SPHN)* which has and will necessitate widespread felling *(Map M02 SPHNs and Larch)*. The intention is to create a robust plan to remove Larch spp. from Loch Goil Forest and establish the permission to carry out this work, both in response to SPHNs already served and proactively in the remaining forest.

Although this 5-year plan covers a shorter time frame than normal Land Management Plans, it still addresses the issues that would normally be covered. Restocking largely follows that described in the previous plan, with some exceptions including the replacement of Larch spp. with alternative species.

A.2.1 Location and Background

A revised 10 year plan will be produced to succeed this one which will cover the future forest in greater detail.

A.2.2 Summary of Proposals

Table 1 – Summary of key proposals

Total Plan Area: 4119ha (including open ground); of which 1328ha forested land (as at 2024)	
Planned Operations:	
Felling	117.4ha; 63220m^3
Thinning	160.5ha; 10297m^3
Restocking	233.3ha Total* *(107.6ha already felled, awaiting restock; 125.7ha corresponding to clearfell coupes proposed in this plan)*
New Planting	0ha
Roads and Tracks	n/a †
Public Access	n/a‡

**Total restocking area includes areas already felled and awaiting restock at time of writing.*

†Note that further roading and access tracks will be required for the successful delivery of some aspects of this plan; approval for these will be applied for via separate EIA-SOR.

‡This refers to planned new public access features.

A.3 Existing Schemes & Permissions

The table below lists the most recent permissions in place for Loch Goil Forest. The previous Land Management Plan *(LMP)* expired in 2022; four Felling Permissions *(FPA; no. 9980-9983)* were put in place to allow FLS to continue SPHN compliance felling until a new LMP was put in place. Due to delays in the completion of *FPA 9983*, further approval was obtained to complete the felling of coupe 04116 via *FPA 12000*. *FPA 11141* was approved to allow the clearance of windblow.

Type (e.g. Felling Permission)	Ref. No.	Details
LMP	033/CT/L/07-7	Approved 03/02/2010. Expired 30/09/2022 after 2 year extension. This plan is intended to replace it.
FPA	FPA 9980	Approved 20/10/2022 until 19/10/2024 for clearfelling of coupe 04055 due to SPHN STH21_0612_0613_0619_0620. Felling complete.
FPA	FPA 9981	Approved 20/10/2022 until 19/10/2024 for clearfelling of coupe 04061 due to SPHN STH21_0612_0613_0619_0620. Not felled.
FPA	FPA 9982	Approved 20/10/2022 until 20/10/2024 for clearfelling of coupe 04083 due to SPHN STH21_0608-0610. Felling complete.
FPA	FPA 9983	Approved 24/10/2022 until 21/10/2024 for clearfelling of coupe 04116 due to SPHN STH22_0199. Felling ongoing; further permission obtained via FPA 12000.
FPA	FPA 11141	Approved 29/05/2024 until 29/05/2026 for clearing windblow in coupe 04182 following Storm Babet. Clearance operation still to start.
FPA	FPA 12000	Approved 12/11/2024 until 12/11/2026 to allow the completion of felling of coupe 04116 / FPA 9983.

A.4 Stakeholder Engagement

The full Consultation Record can be found in *Appendix 4*. This appendix also includes a description of the consultation activities carried out so far, and future consultations especially with reference to felling work in the River Walk area; and a description of changes made to this plan compared to the earlier consultation version.

Scoping – Main Points	LMP Reference (section/page):
Protection of the River Walk in west Strath Goil from felling operations in this area.	There is currently no operational access to the clearfell coupes in this area. The work required to create access for forestry operations will have to go through the planning process. Once realistic options have been determined, there will be further consultation with Scottish Forestry, the planning authority (LLTNP) and relevant stakeholders, including local groups. See sections *C 2.13*, *C 2.19* and Appendices *4* and *5*.
Protection of heritage features including additional features advised of by WoSAS.	FLS' GIS records updates with additional features. See sections *A 6.8* and *C 2.14*, and *Appendix 3*.
Minimise pollution risk.	All UKFS and relevant guidance and legislation will be followed during forestry operations. Sites will be monitored throughout operations and action taken as required. See section *C 2.9*, and section *C 2.8* for notes on ground preparation.
Protection of public and private water supplies and associated infrastructure.	This is designed in to the restocking proposals of this plan as seen in *Map M05*; at the more detailed work planning stage of specific coupes, relevant buffers and riparian planting will be designed in as appropriate. See also section *C 2.9*.
Waste materials removed/recycled/disposed of from work sites (including treeshelters).	All UKFS and relevant guidance and legislation will be followed during forestry operations. See also section *C 2.10*.
Consider formal and informal walking routes when designing restock sites, including fencing.	Map M08 Recreation has been updated following consultation feedback. See also section *C 2.13*.

A.5 Long Term Vision and Management Objectives

Tell us how you intend to manage the forest in the long term and your goals for its development.

Vision
In the short term to gain approval for the timely removal larch and to both minimise the risk of further spread of Phytophthora ramorum (PR) and allow for removal of dead or dying stands. The long term vision for the site will be set out in the future Loch Goil Forest Land Management Plan.

Management Objectives

Give your objectives of management and also how you will manage the forest area sustainably. Your objectives should be specific and you should also be able to measure their outcomes.

No.	Objectives (including environmental, economic and social considerations)	Indicator of objective being met
1	Comply with existing and future SPHNs, contributing to strategic national objectives to limit further spread of *Phytophthora ramorum.*	This plan seeks approval for felling of coupes that encapsulate the vast majority of Larch spp. in the forest, allowing FLS to create a programme of work that will facilitate this objective.
2	Produce a 5-year management plan for Loch Goil Forest focussed on Larch removal.	Approval of this plan will allow FLS to created a programme of work aimed at removing Larch spp. from the forest.
3	Manage recently windblown coupes.	Prompt felling of coupes 04131 and 04182, for which we seek approval in this plan.
4	Restoration of native woodlands and rainforest habitat through restocking and enhancement of existing remnant woodland.	Principally through successful restocking and establishment of relevant clearfelled sites where native broadleaves are specified in the restocking proposals.
5	Introduce greater species and structural diversity & provide greater options for future forest management.	Through successful restocking and establishment of clearfelled coupes, as per restock proposals in this plan.

A.6 General Site Description

Provide details under each of the headings below. Append maps if appropriate for each subsection.

A.6.1 Topography

Lochgoilhead Forest lies within a landscape of steep slopes and craggy summits in and around Gleann Mor, Donich Glen, the River Goil and Loch Goil. The landscape rises from sea level to a high point of 847m elevation at the summit of Ben Donich. Forestry is mainly found on the lower slopes; the upper slopes and summits are mainly open habitat. Parts of the plan area are highly visual on the local landscape, especially the slopes around Loch Goil itself; other areas are less easy to view, including the upper parts of Gleann Mor.

The landscape has been characterised into three Landscape Character Types in the SNH (now NatureScot) National Landscape Character Assessment: much of the plan area is within *LCT 250 Steep Ridges and Hills*, Gleann Mor is within *LCT 252 Upland Glens – Loch Lomond and the Trossachs*, and Loch Goil and Strath/Glen Goil in *LCT 253 Straths and Glens*.

Further description and analysis of the landscape can be seen in *Appendix 2*, as can a selection of visualisations to illustrate the change and associated visual impact on the landscape. Viewpoint positions are shown on *Map M01 Location and Viewpoints.*

A.6.2 Geology and Soils

The underlying geology of the area is mainly metamorphic, part of the Southern Highland Group found on the northern side of the Highland Boundary Fault. These are composed of Psammite and Pelite, metamorphosed sandstones and mudstones and date from the upper Neoproterozoic and lower Cambrian Periods, around 542Ma ago. More recent igneous intrusions can also be found.

Superficial deposits of glacial till can be found much of the area, with alluvial deposits around the River Goil.

Soils are mainly Iron-pans and Peaty Surface Water Gleys; Brown Earths can be found in some areas, including around Monevechadan, Drimsynie, below Cruach nam Miseag and to the east of the River Goil. Alluvial soils occupy much of the lowest terrain by the River Goil.

A.6.3 Climate

Mean annual temperatures for this area are around 9.0°C, January being the coldest month and July-August the warmest. Annual rainfall is up to 3500mm, making the west of Scotland one of the wettest parts of the UK. October to January is the wettest season with rainfall of 120mm-150mm per month; April to June is the driest season, with 60mm-100mm per month. Western Scotland is very exposed to Atlantic weather systems, and the frequency and intensity of depressions is highest in the winter. Subsequently, winds are strongest from November until March, and lightest in July-August. Prevailing wind directions are typically from the south through to the northwest. Climate change projections suggest that the climate will in general become warmer and wetter in this area, with an increase of frequency and intensity of extreme weather events expected.

A.6.4 Hydrology
The northern parts of the forest (Drimsynie, Gleann Mor, Donich Glen and Strath Goil) are in the catchments of the River Goil and Allt Glinne Mhoire (north), Donich Water (east) and Lettermay Burn (west). These and the Lettermay area shed to Loch Goil itself, which is a sea loch.

A.6.5 Windthrow
The Loch Goil Forest has suffered from windblow in recent years and this has partly shaped the forest as seen today, particularly in the Lettermay area. Much of this windblow was a result of storms in winter 2011-12 and has been cleared; further areas of windblow have developed in the Lettermay, Donich Glen and Drimsynie areas as recently as winter 2023-24. Areas of windblow are shown on *Map A* and *Map B*.

A.6.6 Adjacent Land Use
There is neighbouring private housing all around the Loch Goil forest, including the village of Lochgoilhead; the forest forms the backdrop to Drimsynie House Hotel and Holiday Park. The Loch Goil plan area is contiguous with the FLS Land Management Plan areas of Glen Croe to the north, Ardgartan to the southeast and Beinn Lagan, part of Glenbranter Land Management Plan area, to the west. Part of the Loch Goil Forest area is managed by Cormonachan Community Woodland, and much of the open hill land in the LMP area is under lease for sheep grazing (*Map M07 Designations and Features*). Elsewhere there are significant areas of privately owned land managed for forestry, sheep grazing and open hill habitat.

A.6.7 Access, Community & Recreation
There are a number of promoted trails and features in the Loch Goil Forest area and these can be seen on Map M08 Recreation: • Ben Donich footpath • The River Walk • Donich Glen Trail • The Cowal Way • Other Core Paths • Lochgoilhead Car Park and Play Area • Lochgoilhead Arboretum A number of other known informal routes are also illustrated on Map M08. The forest road network and wider forest is managed in line with the Scottish Outdoor Access Code (*SOAC*). FLS will continue to regularly engage with local community groups and other organisations for promoted events and proposals for new developments, and welcomes engagement with interested stakeholders to develop a sustainable visitor offer.

A.6.8 Historic environment
There are no Scheduled Ancient Monuments in Loch Goil Forest. There are 47 known unscheduled heritage features within the forest, the majority of which have regional or local importance. Types of feature are various but many are remnant stone buildings such as shieling huts. A full list of these features is appended to this document *(Appendix 3)* and their locations are shown on *Map M07 Designations*. Known historical features are mapped on FLS' GIS system, and this database has been updated following feedback from West of Scotland Archaeological Service *(WoSAS)* during the consultation period of this plan *(Appendix 4)*.

A.6.9 Biodiversity
Species: The forest is host to or in the vicinity of numerous protected species including Red Squirrels and Badgers; and Golden Eagle, Kestrel, Peregrine and Merlin. Black Grouse is known to lek in the area with potentially suitable habitat in the surrounding area. **Rainforest**: There is good existing and potential rainforest habitat in the Loch Goil area with indicator species of lichen and bryophyte present; there is the potential for connectivity of this habitat from the Hell's Glen SSSI in the north, south through Strath Goil and along both sides of Loch Goil itself. Loch Goil has been identified as a priority landscape for rainforest habitat. **Other habitats**: The upland areas, currently under grazing, hold remnants of montane willow scrub and blanket bog; amongst the crags are mature native broadleaved species including Aspen, offering a potential seed source for the natural regeneration of native woodlands. Loch Goil itself is part of Upper Loch Fyne and Loch Goil MPA (NC), a Marine Protected Area for Nature Conservation of marine habitat and species. (*See Map M07 Designations and Features*).

A.6.10 Invasive Species
Rhododendron ponticum is found throughout the forest area. This poses a threat to areas of existing native woodland and PAWS / rainforest restoration in particular.

A.6.11 Utilities
Infrastructure for various utilities are to be found within or adjacent to the forest: • Donich Water Hydro in Donich Glen • Scottish Water infrastructure in Donich Glen • Transmission masts at various locations • Overhead powerlines *(OHPL)* along the main roads *Water:* There are two Drinking Water Protected Areas *(DWPA)* in the plan area, around Donich Glen in the east and above Corrow and Lettermay in the west. Lochgoilhead village is served by mains water. In the west and north of the forest, water is supplied via Private Water Supplies *(PWS)*. The location of all known PWS in the forest area is mapped on the internal FLS GIS database but for

A.6.11 Utilities
privacy reasons are not published on maps accompanying this document. All other information is shown on *Map M09 Utilities*.

A.7 Woodland Description

Map M03 Current Species shows today's forest by the main species present per area unit ("sub-compartment") of the forest. This is broken down in *Table 2* below alongside an indication of the future direction of travel in terms of change and species diversification. Much of the current forest is dominated by Sitka spruce, frequently planted with Larch spp. More diverse conifers can be found in the Strath Goil area, and significant areas of native broadleaves are found around Hell's Glen SSSI, the west side of Strath Goil and the west side of Loch Goil. *Map M07 Designations and Features* shows the extent of *Plantation on Ancient Woodland Sites (PAWS)* in today's forest. Proposed clearfell coupes on such sites offer the opportunity to restore native species to the forest through restocking. The future forest will have a reduced amount of Sitka spruce and an increased amount of other conifer species and native broadleaves (*Map M05 Future Habitats* and *Table 1*).

Many of the older stands in the forest were planted in the 1960s and 1970s and these can still be found mainly in the Drimsynie and Donich Glen areas; the last approved LMP (2010-2022) oversaw a period of significant restructuring, through planned felling and additional felling due to windblow following storm events. This is shown on *Map A – Analysis of Previous Plan*. The distribution of Age Classes in the current and future forests is shown in *Table 3* and the accompanying graph below. An indication of the distribution of the younger plantations in the forest can be seen in *Map B – Concept, Issues & Opportunities.*

Table 2 - 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)**	**%**
All Larch	61.6	4.1	0.1	0.0	0.1	0.0
Sitka spruce	928.6	61.2	824.1	55.9	714.2	50.8
Norway spruce	55.1	3.6	67.9	4.6	119.7	8.5
All other conifers	73.8	4.9	96.5	6.5	103.8	7.4
All broadleaves	208.8	13.7	319.8	21.7	350.4	24.9
Internal Open Space†	189.5	12.5	166.3	11.3	118.7	8.4
Total	**1517.4**	**100.0**	**1474.7**	**100.0**	**1406.9**	**100.0**

**** Of forested area (including internal 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%.*

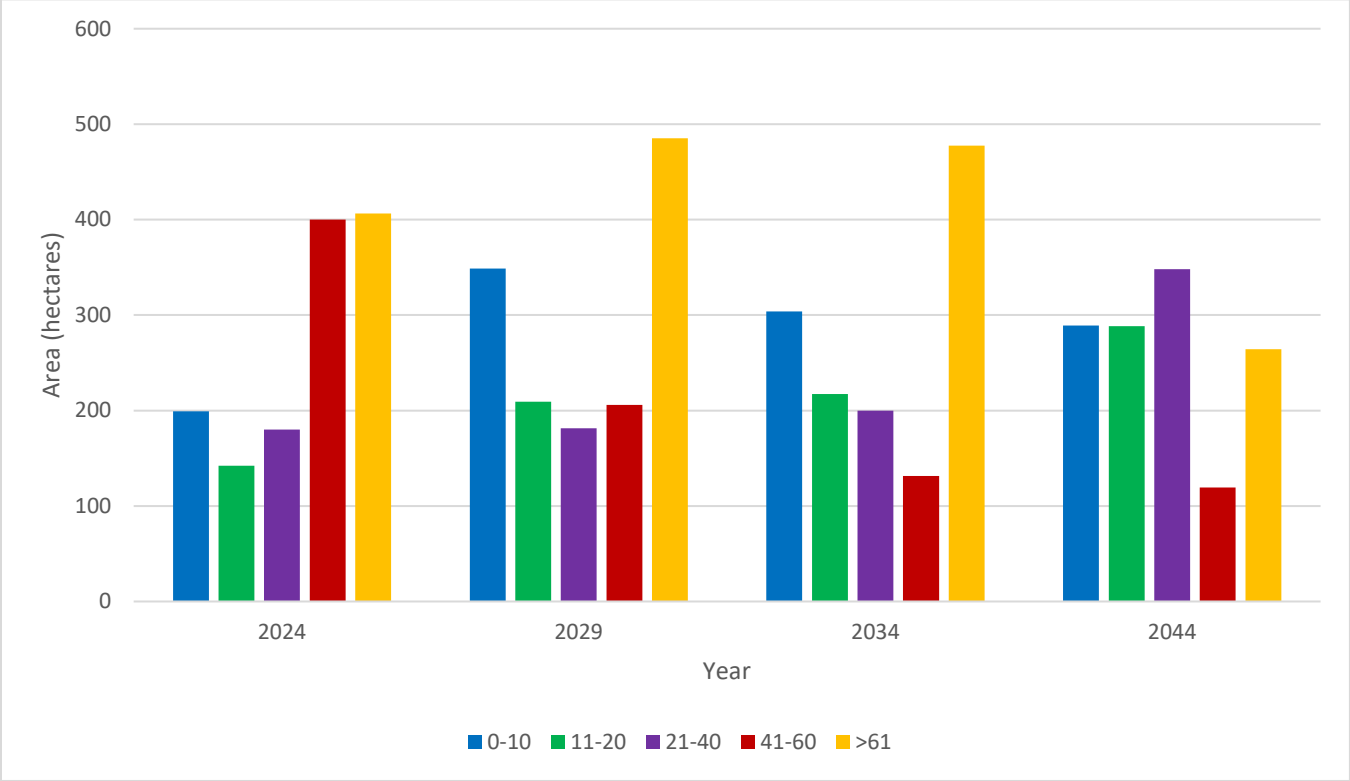
†This refers to open space within the forested area, and excludes areas such as open hill, open water and other non-forest land.

Table 3 – 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. Note: This has been updated so that age classes are 10 years, unlike the original Applicant's guidance of 20 years.

Age class (years)	Current	2029	2034	2044
	Area (ha)	Area (ha)	Area (ha)	Area (ha)
0-10	199.2	348.9	303.9	289.1
11-20	142.2	209.3	217.4	288.4
21-40	180.2	181.3	199.9	348
41-60	400	206	131.6	119.5
61+	406.4	485.4	477.6	264.3
Total	1328	1430.9	1330.4	1309.3

Figure 2 – Change in Age Class diversity over time (as per Table 2 above)



A.8 Plant Health
Provide details on any known plant health issues within the LMP area and their effect on the LMP.
Phytophthora ramorum disease affecting Larch species was first confirmed in Loch Goil forest in 2020. Statutory Plant Health Notices (*SPHN*) have been served on the forest every year since as the disease spreads. It is expected that all Larch spp. In Loch Goil forest will become infected with *P. ramorum*. Compliance with SPHNs requires FLS to fell all Larch spp. trees within a defined buffer; this often means felling other trees at the same time in order to leave the remaining forest in a windfirm state. Loch Goil forest is with the *Risk Reduction Zone* of Scottish Forestry's *Phytophthora ramorum on larch Action Plan*. Felling work is continuing (under *FPA*) in order to comply with SPHNs. The distribution of Larch spp. And SPHNs served in Loch Goil forest can be seen on *Map M02 SPHNs and Larch*.

B. Analysis of Information

B.1 Constraints and Opportunities

Identify constraints and opportunities. Append maps as appropriate and provide map reference.

Factor	Constraint	Opportunity
Tree health	Phytophthora ramorum has spread to all parts of the forest and SPHNs have been served *(Map M02)*. This is the main driver behind this plan in terms of identifying felling coupes; this means there may be coupes that will now be clearfelled that would have been retained were it not for this disease.	Accelerate PAWS / Rainforest restoration via clearfell and restocking; Increase the species and structural diversity throughout the forest, including the introduction of broadleaves into Donich Glen where there is currently a shortage of natural seed source; Improving resilience to future threats through increased species diversity; Reduce reliance on a single species (Sitka spruce) *(all ref. Map M04)*.
Windblow	Windblow has continued to developed recently, including storms of winter 2023-24, in various parts of the forest.	Securing future crop stability through restocking and providing more options for future forest management e.g. LISS / CCF / native broadleaves *(Map B)*.
Public Access	Maintaining and developing public access and recreation in the forest *(Map M08)*, while managing Health & Safety associated with ongoing programme of forestry works; in particular the River Walk footpath in west Strath Goil.	While much of the felling in this plan is consequential of *P. ramorum*, this gives an opportunity to build in greater resilience and operational buffers to known recreation areas for the future.
Poor operational access	Some Larch felling will be required in areas currently without operational access, requiring construction of roading facilities of permanent or temporary nature *(Map B)*.	Expansion of the forest road network will help open up the forest more (this is accessible under SOAS); Well designed, operationally appropriate infrastructure could help to keep forestry operations and recreational access separate for future forestry work.

Public road and utilities	Necessary tree felling and other forestry operations next to the public road B839 and/or utilities *(Map M09)*.	Build in resilience next to infrastructure through sensible species choice and future management options that reduce future conflicts, e.g. buffering an OHPL from future commercial forestry activities with a buffer of lower growing broadleaved species
Deer Management	Increased effort and cost during restock and establishment period post-felling, especially with increased broadleaves and soft conifer species.	Essential for getting away restock sites without reliance on fencing, but will benefit the forest as a whole, especially LISS and existing native broadleaf areas. Deer Management Plan is attached in *Appendix 1*.
Landscape	In some places there will be a visual impact to the landscape as a result of the felling necessitated by *P. ramorum*.	Use of a greater diversity of species and species mixtures when restocking, including native broadleaves, will provide greater future visual diversity to the forest; future management options e.g. LISS will reduce impact of future felling work.
Biodiversity	Various protected species are found in and around the forest, and there are areas of PAWS and ASNW that will need to be protected during forestry operations *(Map M07)*.	Restructuring of the forest as proposed through restocking will introduce greater diversity of forest, including restoration of PAWS; PAWS restoration and broadleaf planting will Improve habitat connectivity and will help to link up Hell's Glen SSSI in the north to the shores of Loch Goil in the south *(Map M05)*.
Archaeology	Archaeological features are present throughout the forest *(Map M07, Appendix 3)*. Some of these are within or adjacent to proposed clearfell coupes.	Known features are mapped; tree felling will open up sites for further investigation and site enhancement where this is seen to be desirable. Features will be buffered from future forestry operations to ensure their protection for the future.

Hydrology	The forest area overlaps with several watercourses, DWPAs and private water supplies *(Map M09)*.	All forestry operations will follow best practice to protect watercourses, including Forest & Water Guidelines; Felling allows for establishment of appropriate protective buffers to be established from features during restocking e.g. riparian broadleaf planting to protect water courses from future forestry operations.
Soils	A wide variety of soil types is present in the forest which can provide a challenge for forestry operations, including when using heavy machinery, or establishing future forests.	Match species selection and future management options to ground conditions in order to protect the soil and focus forestry operations where they are most appropriate e.g. future thinnings on drier, shallower sloping sites.

Outline how you intend to incorporate the constraints and opportunities into the management objectives.

Map B summarises the various issues in the Loch Goil Forest.

Tree health and crop stability have been the key considerations when developing this plan, due to the need on one hand to comply with Statutory Plant Health Notices for *P. ramorum*, and the need to leave a stable and windfirm forest where forest cover is retained. *Map M02* shows the current situation with SPHNs in Loch Goil Forest.

While the location and distribution of Larch spp. in the forest has driven the coupe design for this plan, this has been done with consideration to the potential landscape impact and, with input from our Landscape Architect, the coupes have been designed to minimise size and, where possible, minimise the visual impact felling will have on the landscape. *Appendix 2* describes this further and there is a series of graphical visualisations to illustrate the proposed changes to the forest. *Map B* and *Map M03* show how the clearfell coupes encapsulate the majority of the Larch spp. found in Loch Goil Forest.

Many of the proposed clearfell coupes coincide with PAWS areas. This gives us the opportunity to restore PAWS sites to native woodland through restocking with native broadleaved species. Elsewhere we have the opportunity to diversify the mix of conifer species in the forest. See *Map M05*. The forest has little recent history of thinning but has experienced widespread windblow in recent years (*Maps A* and *B*); while ground conditions and exposure will be a limiting factor in some places, restocking will allow us to consider different options for future forest management which are largely unavailable to us in this forest at the moment.

C. Management Proposals

C.1 Silvicultural Practice

Outline silvicultural practice and management prescriptions. Include any past management practice that is relevant and the strategies to address the issues identified during the analysis phase.

Map A – Analysis of Previous Plan provides an analysis of felling during the period of the previous approved plan, and since the expiry of that plan under standalone Felling Permissions (FPA); it also shows the distribution of Larch spp., windblow and the proposed new clearfell coupes.

Felling in the previous plan period was limited to clearfell, with a combination of planned felling, and reactive felling, approved through plan amendments, due to windblow and *Phytophthora ramorum*. *P. ramorum* felling has continued since the expiry of the previous plan via standalone Felling Permissions. Ther is no recent history of thinning in the Loch Goil forest; this means that proposed thinning in this plan is mainly limited to younger crops and thinning for habitat management purposes. Therefore the main management type that will be used in this plan is clearfell and restock.

Restocking in this plan will diversify the range of productive conifer species in the forest and expand the native broadleaved area.

This is further described in the following sections.

A comparison with the previous plan can be seen in *Appendix 6.*

C.2 Prescriptions

Please provide maps as set out in Appendix 2 of the Forest Plan Applicant's Guidance and complete the associated Tables. Provide any further details required along with the map references.

C.2.1 Felling

The plan presented here is focused on the removal of Larch spp. From the forest in the face of the rapid spread of *Phytophthora ramorum*. Due to the wide distribution of Larch spp. throughout the forest, and the mainly unthinned nature of the forest, clearfelling will be the principal management system used in this plan; felling proposals are shown in *Map M04 Felling and Thinning*. *Table 2* above breaks down felling proposals by species.

Clearfell coupes have been designed to allow felling of trees to sensible, windfirm boundaries to maintain the stability of the remaining forest, as well as being operationally feasible. Selectively felling large stands of Larch spp. in these areas would come with a very high risk of windblow. These coupes target the most concentrated areas of Larch spp. but will include the felling of non-Larch species. Coupe extent has been kept as small as possible. *Map M03 Current Species* illustrates how the proposed coupes will capture the majority of Larch spp. in the forest.

Landscape: Coupes have principally been designed to encapsulate Larch spp. and so it has not been possible to put as much emphasis on the landscape design element of felling as would normally be

C.2.1 Felling
the case. However, coupes have been designed to be as limited in extent as possible and this plan's restocking proposals (see *Map M05 Future Habitats*) include a greater diversity of species of broadleaves and conifers, which will provide greater structural and visual diversity in the future. *Windblow:* is still developing in Loch Goil Forest, as seen in various coupes including 04131 and 04182 *(Map B – Concept, Issues & Opportunities; Map M04 Felling and Thinning)*, which have been identified as priorities to clearfell during the period of this plan. An important consideration in the design of this plan's clearfell coupes was the use of existing windfirm edges to reduce the risk of future windblow in the forest, especially when in proximity to infrastructure e.g. coupe 04044.

C.2.2 Selective Felling of Larch
Outwith the proposed clearfell coupes, there will be some targeted removal of Larch spp., including isolated small groups of mature trees and young crops. These will be felled to recycle where it is not operationally possible to extract as timber to roadside. Ref. Map *M04 Felling and Thinning*.

C.2.3 Thinning
There is no recent history of regular thinning operations on Loch Goil Forest. While the main focus of this plan is the felling of Larch spp., Map M04 Felling and Thinning does present a number of thinning coupes; most of these are crops approaching the first thinning stage during the plan period in terms of age and tree height. Further investigation will be required before the decision to thin is taken, including a fuller assessment of ground conditions. A breakdown of species can be found in Table 5 below. See also Section *C 2.4* below. 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 LMP 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.2.4 LISS
Due to the aforementioned lack of thinning historically in Loch Goil forest there are limited opportunities for Continuous Cover Forestry (CCF) or Low Impact Silvicultural Systems (LISS). The best prospects will be younger or restocked crops found on the drier, more sheltered sites if thinning regimes can be introduced early enough not to compromise the stability of the stands. Future options will include much of the native broadleaf areas, and the west side of Strath Goil (Riverside).

C.2.4 LISS
Lochgoilhead Arboretum is one exception (Coupe 04578 on Map M03 Felling and Thinning); this is a mature stand with a very diverse mixture of tree species. The removal of Larch spp. from the Arboretum will be comparable to a single- or group-selection thinning. The success of this operation will influence future work and may instigate a period of renewed and active CCF management in this coupe. Invasive or dominating species (e.g. Rhododendron ponticum; natural regeneration of Western Hemlock) will have to be managed if CCF / LISS management is to be a success. This includes areas managed principally for habitat, including riparian areas, PAWS restoration, existing native woodlands and open ground habitats. The majority of this work will involve the removal of undesirable species before they become large trees, but it can be expected to include some stems >10cm dbh. There will also be an element of halo thinning and other thinning work akin to single-tree selection for the purposes of PAWS restoration. Coupe 04658 in west Strath Goil (Riverside) is an example of this, where gradual native woodland restoration will help contribute to the restoration of rainforest habitat and improve habitat connectivity. Volumes for this kind of work are expected to be low, up to 10m3ha-1 per annum.

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 75m^3 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 of 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 surround the various paths and other features listed in Section *A 6.7* above and mapped on Map M08 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

C.2.6 Woodland Management of Visitor Zones
enhance the experience of the forest setting, through the development of large trees, or preferential removal of trees to favour a particular species.

C.2.7 Restocking Proposals / Natural Regeneration
Restocking proposals in this plan can be seen on Map M05 Future Habitats. This map shows the ultimate destination of the forest but only the highlighted Clearfell and Felled Awaiting Restock coupes will be restocked as part of this plan. A coupe-by-coupe description can be seen in Table 6 below. The effect these restocking proposals will have on the future forest can be seen in Table 2. Restocking proposals are largely based on the previous approved plan, with the main significant change that all Larch spp. proposed for restocking in the previous plan (mainly as mixture components) have been replaced as appropriate with Norway spruce, Scots pine or Other/Mixed Conifers; detailed site observations at the work planning stage will determine the most appropriate alternative conifer species. Another departure from the previous plan is an expansion of native broadleaves for PAWS restoration post-clearfell, as seen on the east side of Strath Goil. Coupes 04026, 04037 and 04046 have been presented with an element of Sitka spruce in what are otherwise native broadleaf restock sites (Table 6 and Map M05 Future Habitats). The Sitka spruce here does not represent a restocking component, and FLS will not be actively encouraging this as a species here; rather, Sitka spruce is included as a component as an acknowledgement that, as these sites are former Sitka spruce plantations, natural regeneration can be expected while awaiting management. This has been represented as up to 20% of the restocked area, but as far as possible Sitka spruce regeneration will be managed to levels much lower than this. In the event of restocking following SPHN felling, species choice will follow Scottish Forestry's *Advice on Replanting Sites Affected by Phytophthora ramorum*; this includes conifers and broadleaves. Natural regeneration of Larch spp. will be controlled as directed by the SPHN. Where production is the key objective conifers will be planted at densities of approximately 2700 stems/ha and *productive* broadleaves at least 3500 stems/ha. Non-productive Native Mixed Broadleaves will be planted at approximately 1600 stems/ha. Restocking will be within two years of felling unless Hylobius Management Support System indicates a longer fallow period is necessary (Section C 2.16). In the latter case planting will be carried out within five years. Where Larch spp. is removed selectively, natural regeneration will be the preferred method of restock if it appears to be a realistic prospect. A survey of natural regeneration will be conducted at year 5 to assess progress; where it appears to be developing, a subsequent survey will be conducted at year 7; where natural regeneration is not developing satisfactorily, enrichment planting will be conducted by year 10 with appropriate species.

C.2.8 Ground Preparation
Ground preparation, including cultivation, is undertaken to aid tree establishment. FLS is committed to undertaking ground preparation operations with minimal site disturbance. Soils and terrain vary throughout the plan area, as can post-harvesting site conditions. This means a mix of different ground preparation techniques will be required on restocking sites in Loch Goil

C.2.8 Ground Preparation
Forest, ranging from no cultivation (“flat-planting”) to non-linear cultivation techniques including various types of mounding. The most appropriate technique will be selected during detailed site planning following harvesting, and will include appropriate buffers and mitigations to protect vulnerable features such as watercourses, water supplies or sensitive habitats.

Table 4 – 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).

SCALE OF PROPOSED FELLING AREAS (including LISS final fell areas)												
Total LMP Area:		4119	hectares									
Felling	Phase 1	%	Phase 2	%	Phase 3	%	Phase 4	%	Long Term Retention	%	Area out-with 20yr plan period	%
Area (Ha)	134.1	3.3	165.2	4.0	149.8	3.6	147.0	3.6	0	0	815.2	19.8

Table 5 – Thinning

This shows the area of thinning over the first 10 years of the LMP.

Species	**Thinning (ha)**
All Larch	10.3
Sitka spruce	126.4
All other conifers	13.1
All broadleaves	10.7
Total	**160.5**

Table 6 – Restocking

This table provides information on the restocking proposals for the 5 year period of this plan. Restocking is listed on a coupe by coupe basis.

Felling Phase	Map Identifier(s)	Species to be planted	Area (ha) to be planted
Felled, awaiting restock	04037	80% native mixed broadleaves, 20% Sitka spruce (SS expected via regen*)	21.5
Felled, awaiting restock	04046	90% native mixed broadleaves, 10% Sitka spruce (SS expected via regen*)	18.2
Felled, awaiting restock	04055	60% mixed conifers, 25% Norway spruce, 7.5% Sitka spruce, 7.5% native mixed broadleaves	16.3
Felled, awaiting restock	04083	55% Sitka spruce, 35% native mixed broadleaves, 10% mixed conifers	9.1
Felled, awaiting restock	04120	45% mixed conifers, 35% native mixed broadleaves, 20% Norway spruce	15.3
Felled, awaiting restock	04490	75% Sitka spruce, 25% native mixed broadleaves	27.2
Phase 1	04026	80% native mixed broadleaves, 20% Sitka spruce (SS expected via regen*)	17.6
Phase 1	04032	80% mixed conifers, 20% native mixed broadleaves	4.6
Phase 1	04043	50% native mixed broadleaves, 25% Sitka spruce, 25% mixed conifers	4.2
Phase 1	04044	40% Sitka spruce, 35% mixed conifers, 20% Norway spruce, 5% native mixed broadleaves	12.0
Phase 1	04061	40% native mixed broadleaves, 35% Sitka spruce, 25% Norway spruce	7.0
Phase 1	04087	60% native mixed broadleaves, 40% mixed conifers	24.0
Phase 1	04102	70% native mixed broadleaves, 20% Sitka spruce, 10% mixed conifers	1.5

Felling Phase	Map Identifier(s)	Species to be planted	Area (ha) to be planted
Phase 1	04116	50% native mixed broadleaves, 40% mixed conifers, 5% Sitka spruce, 5% Norway spruce	20.8
Phase 1	04118	40% native mixed broadleaves, 35% Sitka spruce, 25% mixed conifers	3.2
Phase 1	04122	60% Sitka spruce, 40% mixed conifers	4.3
Phase 1	04131	60% Sitka spruce, 30% mixed conifers, 10% native mixed broadleaves	7.5
Phase 1	04157	80% Sitka spruce, 20% native mixed broadleaves	4.4
Phase 1	04182	60% Sitka spruce, 25% native mixed broadleaves, 15% Norway spruce	4.2
Phase 1	04194	100% native mixed broadleaves	1.2
Phase 1	04221	50% Sitka spruce, 25% Norway spruce, 25% native mixed broadleaves	1.7
Phase 1	04226	80% Sitka spruce, 20% native mixed broadleaves	7.5
		Total Restocking Area	233.3

**Note: Sitka spruce is not a replanting component here, but is expected to be present as natural regeneration awaiting management. See section C.2.7.*

C.2.9 Hydrology
Forest & Water Guidelines and all relevant guidance and legislation will be followed in order to prevent pollution and protect water bodies and water related infrastructure. Future resilience is built in to the restocking proposals with planting of native broadleaves in riparian areas and more broadly in the plan area. *Hydro power scheme:* In Donich Glen. This will be close to some restocking in coupes 04055 and 04490, which may include ground preparation in 04055. The asset owner will be liaised with to agree safe working buffers in advance of operations. Access will be managed during forestry operations including felling of coupe 04157. *Scottish Water infrastructure:* In the west end of Donich Glen and shares the Donich Glen DWPA as a catchment. Scottish Water have provided information confirming the locations of infrastructure in relation to proposed felling and thinning coupes; and have provided guidance which should be followed. This includes liaison with Scottish Water in advance of operations. *DWPA:* Found in Lettermay and Donich Glen areas. Scottish Water have provided guidance which should be followed. This includes liaison with Scottish Water in advance of operations. *PWS:* Present in all plan areas outwith the main village centre and east Loch Goil *(ref. Map M09 Utilities)*. Known PWS and their catchments are mapped on FLS' internal GIS system; further ground truthing takes place at work planning stage and pre-operations. PWS owners affected by our proposed operations will be contacted in advance of operations. Forest & Water Guidelines specify *minimum* buffer zones to apply to protect these features and additional mitigations can be installed should it be necessary.

C.2.10 Protection
The proposals for restocking include replacing felled Larch spp. with a significant amount of mixed conifer and native broadleaf species, much of which will be vulnerable to deer browsing. Deer management measures will be critical to successful restocking, including culling and fencing *(see Section C 2.11 for fencing)*. Where treeshelters are deemed appropriate and necessary, these will be recorded and managed in line with internal procedures, including take down date and waste disposal. Deer Management for Loch Goil Forest is covered by the Deer Management Plan for Ardgartan, Drumsynie and Lettermay, which supplements the Cowal & Trossachs Deer Management Plan *(Appendix 1)*.

C.2.11 Fence erection / removal
Currently, external fencing is mainly limited to stock fencing which is in variable condition. It is FLS policy that internal fences should be the exception rather than the rule, but will be considered where additional protection is required for areas of vulnerable species, or where opportunities to shoot are limited by, for example, high public usage. It is acknowledged that fencing can present a risk to wildlife, including bird strike, and that Loch Goil and the surrounding area is highly suitable for protected species such as Eagle species and Black Grouse. The requirement for fencing will be

C.2.11 Fence erection / removal
assessed by the FLS Wildlife Management team, and design considered at the operational work planning stage; any fencing will have to consider public access, landscape impact and potential impacts on wildlife, including the risk of bird strike, and migration of deer species. Where fencing is deemed to be necessary, appropriate mitigations to maintain access and protect wildlife will be used, including careful route design, fence markers and timely takedown.

C.2.12 Road Operations
Haulage plans for timber movements out of Loch Goil Forest are detailed on M*ap M06 Roads, Access and Haulage*. The public road network around Lochgoilhead (B828 and B839) are Timber Transport Consultation Routes. Argyll & Bute Council will be consulted on for this plan, and are given annual updates from FLS on timber haulage plans. In summary, all timber transport from the Donich Glen, east Strath Goil and Gleann Mor areas use the internal forest road network exclusively until joining the Agreed Route by the Rest & Be Thankful; haulage from the Lettermay and Drimsynie areas uses approx. 800m of the B839 Consultation Route between the Drimsynie and Pole Cottage forest entrances; haulage from the Riverside area has previously left the forest travelling south to the turning facilities approx. 250m to the south before driving north to Pole Cottage on the B839, approx. 2.5km. One forest road is planned for construction in the plan period, but is currently not programmed until later in this plan's timeframe. Due to the limited period of approval, an EIA Screening Opinion Request will not accompany this plan but will be submitted for consideration to Scottish Forestry separately, nearer the time. Any additional civil engineering works including harvesting infrastructure will likewise be submitted for approval separately. *Public Road (B839):* Argyll & Bute Council will be consulted to agree timing of works. This is a single track road with passing places; traffic control measures can be expected as a requirement to ensure safety to the public during felling operations.

C.2.13 Public Access
Public Access Management Plans *(PAMP)* accompany operational work plans where appropriate, including for tree felling, restocking and road construction. They may also include unplanned works or restrictions such as dangerous trees. Developed by our Visitor Services team, PAMPs outline the necessary steps to maintain Health & Safety with regards to public access, e.g. path diversions with communications and site signage. These also direct internal consultation and external consultation as appropriate, e.g. LLTNP and local groups (see also *Appendix 4*). Ref Map *M08 Recreation* for an indication of which routes or areas might be affected by the proposed operations. This map has been updated in light of comments received during this plan's consultation to show additional routes. Fencing will only be used where necessary and will not restrict access to walkers, either by route choice of fencelines and/or access infrastructure such as suitable gates. All forest roads and tracks are accessible under SOAS.

C.2.13 Public Access
For forestry works alongside the Riverside Walk, see *Section C 2.19 Specific Issues* and Appendices *4* and *5*. Where our proposed forestry operations may affect our neighbours and neighbouring landholdings, we will liaise with relevant parties to in advance of operations starting to discuss and agree mitigations. This will be managed throughout internal work planning process *(Appendix 4)*. Please also refer to Forestry Commission Practice Note FCPN104 *"Managing woodland access and forest operations in Scotland"* (2013). This guidance, and/or any relevant guidance and legislation that may update or replace this, will be followed when managing public access and all forestry operations.

C.2.14 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 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. It is acknowledged that there may be features within the forest that have not been identified that could be uncovered during forestry operations; site operatives will be made aware of this possibility and to report any such findings in order that appropriate mitigations can be put on place. The following table is taken from FLS' internal *Archaeology and the Historic Environment* Practice Guide:

C.2.14 Historic Environment

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 the UKFS.

C.2.15 Biodiversity

FLS' local Environment team maintains good records of biodiversity, including protected species, in the forest and surrounding landholding. This knowledge feeds into appropriate operational timing and other mitigation measures as required e.g. breeding seasons for birds and mammals; protected habitats. This is picked up at the operational work planning process *(Appendix 4)* well in advance of operations when detailed operational plans come together, followed by pre-operational site checks for conservation constraints nearer the time work is due to start, with ongoing site monitoring as necessary, should anything be present that was previously unrecorded.

Any operations that are planned near to Schedule A1 or 1A birds will be treated as sensitive sites and will be undertaken in such a way that potential disturbance is avoided or minimised. Any operations on sensitive sites will have a qualified Ecological Supervisor, and where required guidance will be sought from Argyll Raptor Study Group and/or NatureScot. FLS will comply with all relevant guidance and legislation, including FCS Guidance Note 32 and/or any that supersede this note.

Specific designations of Hell's Glen SSSI and Upper Loch Fyne and Loch Goil MPA will not be directly affected by any of the proposals in this plan. All hydrological catchments lead to Loch Goil which is part of the MPA; this will be protected by good work practices on site, with adherence to UKFS including Forest & Water Guidelines.

Open ground: The main areas of open land in the Loch Goil Forest plan area is on the high ground around Ben Donich in the northeast, Cruach nam Miseag in the southwest and around the multiple summits west of Drimsynie. Much of this high ground is under lease for sheep grazing. There may be potential in some locations for the expansion of native woodlands, including montane habitats, or peatland restoration, in line with Loch Lomond and the Trossachs National Park's Trees and Woodland Strategy; this has not been addressed in this plan but there may be scope for investigating this in the future and this will be reviewed in the next full Land Management Plan.

C.2.15 Biodiversity
The remaining open ground in the plan area is internal open space around crags and riparian areas. These will be managed as successional but where there is encroachment from invasive species such as Rhododendron ponticum, Sitka spruce or Western Hemlock, these will be managed to acceptable levels, particularly around watercourses and priority habitats. *INNS:* The principal Invasive Non-Native Species *(INNS)* present in the Loch Goil Forest is *Rhododendron ponticum*. FLS has prioritized landscape-scale control of R. ponticum; the Loch Goil and Ardgartan area has been identified as a Priority Rainforest Rhododendron Area *(PRRA),* where rhododendron control can make the biggest difference to landscape-scale conservation in the Rainforest Zone. The main focus in this area is on the east side of Loch Goil, which is adjacent to but outwith the Loch Goil Forest plan area within the Ardgartan Forest area. There is currently no planned programme of work to manage INNS specifically proposed in this Loch Goil Forest area, however all INNS will be managed as part of our normal programme of works including habitat management; tree felling; and the establishment of replanted sites following clearfell. All other INNS will be managed in accordance with UKFS and relevant legislation including Scottish Government's *Non-Native Species: Code of Practice*.

C.2.16 Tree Health
Principally *Phytophthora ramorum* in the Loch Goil forest *(Map M02)*. This is being addressed by this plan via targeted felling of Larch spp. Operations will be managed with strict biosecurity measures which are detailed in individual *SPHNs* and described on Scottish Forestry's website. Other pests and diseases are present in the forest environment across the United Kingdom. Should any of these, or any new ones, become an issue in the Loch Goil Forest, these will be dealt with in accordance with all relevant guidance and legislation. *Hylobius abietis* (large pine weevil) is a widespread problem for forest restock sites, particularly in the first five years of establishment, as the weevil damages or kills young plants. The *Hylobius Management Support System (HMSS)* is used to predict when the peak outbreaks of weevil will occur and helps plan timing of restocking to minimise weevil damage. A fallow period of up to 5 years may be imposed if required, but this will be on a site by site basis and in line with tolerances described in *Section C 4 Tolerance Table*. See also *Section C 2.7 Restocking*. Dangerous trees do occur in the forest environment, either by pests, diseases, physical damage or natural mortality. Tree safety is managed in line with FLS operational guidance. Regular inspections are undertaken where FLS' forest meets infrastructure or areas of high public activity. When hazardous trees are identified, action will be taken to reduce or remove the hazard e.g. by limbing or felling the dangerous tree. Before such remedial work takes place, and during the work itself, access may need to be restricted for reasons of safety (Section *C 2.13*).

C.2.17 Utilities
General: The utilities listed below are known and mapped; this information is fed through to FLS' work planning process *(Appendix 4)*. The relevant asset owner or operator will be liaised with where appropriate in advance of operations to agree working methods and mitigations, e.g. timing, safe working zones. Locations of utilities are shown in *Map M09 Utilities*. *Transmission Masts:* Should not be affected directly by the works proposed in this plan, but access will be managed in liaison with the mast operator(s) as necessary should forestry operations be taking place on access routes. *OHPL:* Affecting specifically the coupes adjacent to the B839, clearfell coupes 04032 & 04044 and thinning coupe 04578. Where tree felling is in proximity to OHPLs, *FISA 804 Electricity at Work: Forestry* must be adhered to; SSEN will be liaised with in advance to agree working parameters and timing. Where this affects the public road, Argyll & Bute Council will also be consulted. *Public Road (B839):* Argyll & Bute Council will be consulted to agree timing of works. This is a single track road with passing places; traffic control measures can be expected as a requirement to ensure safety to the public during felling operations.

C.2.18 Wildfire
FLS's approach to wildfire management can be viewed here - https://forestryandland.gov.scot/what-we-do/health-safety-wellbeing/wildfire-prevention At these particular sites there is not a history of wildfires however the design of the forest has been informed by the following guidance • Forestry Commission (2014) Practice Guide 22: Building Wildfire Resilience into Forest Management Planning - https://forestry.gov.scot/component/edocman/99-building-wildfire-resilience-into-forest-management-planning/download?Itemid=0 • Information Note: Forest Planning to minimise wildfire risk in Scotland - https://forestry.gov.scot/component/edocman/1427-forest-planning-to-minimise-wildfire-risk-in-scotland/download?Itemid=0

C.2.19 Specific Issues
This section refers to specific proposed felling coupes, which are illustrated with coupe reference numbers in *Map M04 Felling and Thinning*. *Roadside coupe 04044:* Adjacent to overhead powerlines and the B839, which is the only access road into the villages of Lochgoilhead and Carrick Castle. This coupe has been expanded since the consultation version of this plan in order to avoid leaving an unstable forest edge next to the road (see *Appendix 4*). Felling of this coupe will require liaison and co-ordination with the power company and Argyll & Bute Council, as well as regular communication with the local community and community groups. *Donich Glen coupe 04076:* In the southwest area of Donich Glen, this coupe contains Larch spp. and windblow. There is currently no operational access to this coupe for forestry machinery; the existing roads from the west are not suitable and become a footpath on entering the forest. Felling of this coupe relies on the construction of the Planned Forest Road in the south side of Donich Glen which is

C.2.19 Specific Issues
programmed towards the end of this plan period. Felling of this coupe will take place after road construction has been completed, which is likely to be outwith the period covered by this plan. See *Appendix 4*. *Riverside coupes 04087, 04194 & 04658:* These coupes are on the west side of Strath Goil in an area that is highly visible from the public road when travelling south towards village and is adjacent to The River Walk, an attractive footpath promoted by local community groups *(Map M08 Recreation)*. Larch in two of these coupes necessitates felling but there is a conflict with the footpath due to lack of options for operational access and timber extraction. Options for operational access in this area for tree felling are yet to be scoped out, but will require construction of some sort of roading infrastructure which will go through the planning process with Scottish Forestry and the planning authority, Loch Lomond and the Trossachs National Park. This planning process has external consultation built in, including with relevant stakeholders such including local community groups, before any work planning can be finalised and work can start. See *Appendix 5* for a further description.

C.3 Environmental Impact Assessment and Permitted Development Notifications

Please indicate the 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	0 %Con	0 %BL	0 ha
Deforestation	0 %Con	0 %BL	0 %Con	0 %BL	0 ha
Forest Roads		0 ha		0 ha	0 ha
Quarries		0 ha		0 ha	0 ha

Provide further details on your project if required.

One new forest road is illustrated on *Map M06 Roads, Access and Haulage*, in Donich Glen. As explained in section *C 2.12* above, this work is not planned until later in this plan's timeframe. Due to the limited time of approval for EIA SOR, a submission for this work will be submitted separately, nearer this time. This road was previously approved for construction in EIA-SOR 317 in 2018 as per the line marked in *Map M06*, however only part of the road was constructed, as illustrated on the accompanying maps, and approval has now expired.

There are three active quarries within the plan area. There is no plan to expand these quarries or develop new quarries as part of this plan. Should quarry development or expansion be required, an EIA Screening Opinion Request will be submitted separately.

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.

D. Production Forecast

N/A – FLS provide this nationally to Forest Research as per agreement with Scottish Forestry.

Appendices	
Item number	Title
Appendix 1	Deer Management Plans
Appendix 2	Landscape and Visualisations
Appendix 3	Heritage Features
Appendix 4	Consultation Record
Appendix 5	Specific Issues
Appendix 6	Comparison with Previous Plan

Maps	
Item number	Title
M01	Location and Viewpoints
M02	SPHNs and Larch
M03	Current species
M04	Felling and Thinning
M05	Future Habitats
M06	Roads, Access and Haulage
M07	Designations and Features
M08	Recreation
M09	Utilities
Map A	Analysis of Previous Plan
Map B	Concept, Issues and Opportunities