Forestry and Land Scotland
Coilltearachd agus Fearann Alba

Glen Roy

Land Management Plan 2025-2035 West Region

Plan Reference No: 030/519/443
Plan Approval Date: 2025
Plan Expiry Date: 2035

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

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

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

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

Contents

1 Regulatory Requirements

1.1 Summary of Proposals

Glen Roy forest is situated 12 miles North of Fort William, immediately to the North of the village of Roy Bridge. It lies at the southern end of Glen Roy, between 100 m and 350 m above sea level on a tributary valley of Glen Spean. *See Map 1: Location.*

Glen Roy LMP area extends to 1,984 ha and covers open ground and forest, of which 542 ha has tree cover (414 ha under conifers and 64 ha broadleaves). The open ground surrounding the woodland is owned by FLS but is crofted, and is grazed by two Crofting Associations (Inveroy Crofters' and Bohuntine Crofters'). The land was purchased in 1959 from two separate owners and the original planting took place between 1964 and 1977; some of the commercial planting is now second rotation.

This LMP revises the previous Forest Design Plan (03/07/2012 to 02/07/2022, extended to 31/03/2023).

The forest is primarily commercial conifers, with some extent of Ancient Semi Natural Woodland (ASNW) and Plantation on Ancient Woodland Sites (PAWS). It lies within the Parallel Roads of Lochaber SSSI. A major amendment was approved in 2021 for the eastern part of the main forest block. This covered a planned road and the felling of coupes that have suffered windblow and are ready for harvest, with restocking that better protects, and allows interpretation of, the Parallel Road features in the landscape. These proposals have not been started and are being carried into the revised LMP.

Approximately 73% of the land holding is open ground and under crofting tenure. The remaining land, which is forested, is dominated by Sitka spruce and Lodgepole pine, with 5% internal open space. There is a relatively small component of broadleaved species, most of which is ASNW or PAWS.

Commercial conifer production remains the prime objective in this forest but protection of ASNW; restoration of PAWS; establishment of riparian broadleaved woodland; creation of woodland edge habitat where possible; improvement of visual amenity where possible (through reprofiled upper margins); restoration and management of peatland; and protection of the designated Parallel Roads features, are also key objectives. Internal open space will increase from 5% to 18% during the Plan lifetime. Effective deer management and the exclusion of livestock will be crucial for the establishment of broadleaves and alternative conifers.

Objectives

- Maintain the productive timber potential of the forest, while improving diversity in species and age structure
- Protect the existing ASNW and minimise browsing pressure

- Restore high / medium ecological potential PAWS to native woodland; remove mature non-native conifers from the PAWS along the Roy River, through Fell to Recycle if necessary
- Where feasible, produce productive broadleaves from non-PAWS areas and PAWS of low ecological potential
- Encourage natural regeneration and successional development of native broadleaves in riparian zones
- Enhance habitat and landscape quality by diversifying the forest margin through restocking and allowing natural regeneration to develop softer margins
- Assess peat areas and undertake peatland restoration or development of peat edge broadleaved woodland where appropriate
- Construct an access road to the coupes in the NE of the forest, creating a road line that minimises gulley crossings and protects landscape and environmental features

Summaries of Management Proposals

The felling proposals for the first twenty years of the plan are summarised below:

Felling	Phase 1	Phase 2	Phase 3	Phase 4
Area in ha	145.52	37.59	29.48	67.63
% of area (not including other land)	7.3	1.9	1.5	3.4
Volume (Km3)	48,829	16,366	2,531	15,949

The species composition of the forested area over the first twenty years:

Species Group	Current – 2025		Year 10 – 2035		Year 20 – 2045	
	Area (ha)	%	Area (ha)	%	Area (ha)	%
Sitka Spruce	241.2	44.49	147.9	27.29	149.9	27.65
Norway Spruce	6.1	1.13	14.6	2.69	16.0	2.95
Larches	11.6	2.14	6.7	1.24	3.8	0.70
Mixed Conifers	155.4	28.67	143.8	26.53	66.1	12.19
Mixed Broadleaves	3.6	0.66	3.6	0.66	3.9	0.72
Native Broadleaves	60.63	11.18	91.13	16.81	120.73	22.27
Internal Open Space*	29.85	5.51	96.79	17.85	114.05	21.04
Felled	33.73	6.22	37.59	6.93	67.63	12.48
Restored Peatlands						
Forested Area Total	**542.11**	**100**	**542.11**	**100**	**542.11**	**100**

FLS ground that lies within the LMP area but is croft land and not under FLS management control						
Species group / land use	**Current - 2025**		**Year 10 - 2035**		**Year 20 - 2045**	
	Area (ha)	%	Area (ha)	%	Area	%
Agriculture	1442.47	72.68	1442.47	72.68	1442.47	72.68
Broadleaves on croft land	27.67	1.39	27.67	1.39	27.67	1.39
LMP area Total	**1984.58**		**1984.58**		**1984.58**	

* Included unplanted land & streamsides, archaeology, deer glades, linear features, recreational areas & quarries. In the first 10 years, the increase in internal open space reflects the restocking with open structured broadleaved woodland following felling of coupes in the eastern part of the forest (to protect and reveal the Parallel Road features). In the following 10 years, the increase reflects the planned peatland restoration

The age class composition over the first twenty years:

Age Class	Current – 2025		Year 10 – 2035		Year 20 – 2045	
	Area (ha)	%	Area (ha)	%	Area (ha)	%
0 – 10 yrs	74.4	15.93	150.2	37.40	54.9	15.23
11 – 20 yrs	63.6	13.62	45.5	11.33	150.1	41.64
21 – 40 yrs	0	0	60.6	15.09	103.5	28.72
40 – 60 yrs	196.3	42.03	125.4	31.23	0	0
60+ yrs	132.7	28.42	19.9	4.96	50.7	14.07
Total	467		401.6		360.43	

Productive Forest Area Statement

PHASE 1

FELLING AREA	*ha*	*ESTABLISHMENT AREA*	*ha*
Conifer	141.69	Conifer	23
Open Space	2.2	Open Space (including Peatland)	5.16
Broadleaves		Broadleaves – NR	2.17
		Broadleaves – native planting	5.3
		Broadleaves – non-native planting	0
Existing Broadleaves	1.63	Existing Broadleaves	1.63
TOTAL	**145.52**	**TOTAL**	**37.26**

PHASE 2

FELLING AREA	*ha*	*ESTABLISHMENT AREA*	*ha*
Conifer	37.32	Conifer	65.83
Open Space	0.27	Open Space	40.66
Broadleaves		Broadleaves – NR	5.31
		Broadleaves – native planting	33.72
		Broadleaves – non-native planting	0
Existing Broadleaves		Existing Broadleaves	
TOTAL	**37.59**	**TOTAL**	**145.52**

NB: In the PFAS tables, restocking in P1 is coupe 34123, which is already felled but not yet restocked. Restocking in P2 is the coupes felled in P1 (34715, 34284, 34822, 34151 and 34577). Because fell dates are set towards of each phase, P2 coupes will be restocked beyond the 10 year LMP period. The Activity Summary tables (section 1.2) outline restocking for both the P1 and P2 coupes.

UKWAS Summary

Description	% of LMP Area[1]
Total current woodland area	27.0
Natural Reserves - plantation	0
Natural Reserves – Semi Natural	0
Long Term Retention, LISS, Minimum Intervention	4.7
Area of Conservation value	80.43
Planned Open/Other	74.4

Notes

1. The % will total more than 100% as the species and management categories overlap.

Planned Roading Operations

Planned operations 10 year plan period
Road Construction Phase 1: 1,620 m new road including 2 bridges Road Construction Phase 2

The roads to be constructed in the next 10 years, as detailed on *Map 8b,* already have local authority Prior Notification (PN) approval and EIA screening, which expires in 2026. A screening request will be resubmitted for any sections to be constructed after the expiry date. A SSSI Consent was granted on 27/07/2021 and extended on 03/05/2023, to March 2027.

Any unexpired PN's and EIAs are listed in Appendix VIII and Approval documents are in Appendix X.

1.2 Activity Summary

	1.1 Table of Clearfelling (Phase 1)										
Coupe No.	**Total Area (Ha)**	**Spp by Ha (SS)**	**Spp by Ha (SP)**	**Spp by Ha (LP)**	**Spp by Ha (NS)**	**Spp by Ha (Larch)**	**Spp by Ha (MC)**	**Spp by Ha (BL)**	**Open Land by Ha**	**Restock Year**	**Monitoring Comments**
34715	14.83	11.42	0	1.78	0	0	0	1.63	0	2031	Restock with open grown native BLs.
34284	7.39	4.32	0	0	0	2.61	0	0	0.46	2031	
34822	59.79	49.03	0	10.76	0	0	0	0	0	2031	Also remove larch trees that fringe 34387 (minimum intervention) at same time. These are not shown on the SCDB. Restock part of coupe with open grown native BLs.
34151	30.26	13.94	0	13.68	0	0.9	0	0	1.74	2031	
34577	33.25	30.26	0	2.99	0	0	0	0	0	2031	
Totals	**145.52**	**108.97**	**0**	**29.21**	**0**	**3.51**	**0**	**1.63**	**2.2**		

1.2 Table of Clearfelling (Phase 2)											
Coupe No.	**Total Area (Ha)**	**Spp by Ha (SS)**	**Spp by Ha (SP)**	**Spp by Ha (LP)**	**Spp by Ha (NS)**	**Spp by Ha (Larch)**	**Spp by Ha (MC)**	**Spp by Ha (BL)**	**Open Land by Ha**	**Restock Year**	**Monitoring Comments**
34027	16.32	7.49	0	7.02	0	1.54	0	0	0.27	2036	
34156	14.78	14.78	0	0	0	0	0	0	0	2036	Stand-alone coupe surrounded by croft land. Haulage access along public road severely

1.2 Table of Clearfelling (Phase 2)											
											constrained. Area for timber stacking to be identified.
34300	6.49	6.49	0	0	0	0	0	0	0	2036	Coupe in River Roy riparian zone. Haulage access along public road severely constrained. Area for timber stacking to be identified.
Totals	**37.59**	**28.76**	**0**	**7.02**	**0**	**1.54**	**0**	**0**	**0.27**		
Totals P1 / P2	**183.10**	**137.73**	**0**	**36.23**	**0**	**5.05**	**0**	**1.63**	**2.47**		

1.3 Table of CCF Felling (Phase 1)											
Coupe No.	**Total Area (Ha)**	**Volume (M^3)**	**Spp by Ha (SS)**	**Spp by Ha (SP)**	**Spp by Ha (LP)**	**Spp by Ha (NS)**	**Spp by Ha (MC)**	**Spp by Ha (MBL)**	**Open Land by Ha**	**Silv.Method**	**Monitoring Comments**
Totals											

1.5 Table of Thinning, Selective Felling and LISS (Phase 1 & 2)							
Coupe No.	**Total Area (Ha)**	**Species**	**Thin-able Area (Ha)**	**Prescription for Thinning**	**Final Thinned Area (Ha)**	**Final Vol/Ha Removed**	**Monitoring Comments**
34835	2.15	MBLs	2.15	MBL planted 2006. Assess for thinning in 2025/26. Remove CON NR. Group selection. Thin to favour best stems.			

1.5 Table of Thinning, Selective Felling and LISS (Phase 1 & 2)							
34158	18.23	AH, OK, ELM, MBl, WCH, CAR, HAZ, ROW, HAW, BI	18.23	Irregular shelterwood. Planted 2009. Assess for thinning 2028/29 (top height approx. 10 m and basal area 20 – 30 m^2/ ha, or sooner if there is a market for smaller thinnings). Thin to favour best stems – OK, BI, AH.			
34122	3.42	DBI, GWIL, SS	3.18	3.42 ha BLs with 16% SS (2018). Clean and respace to remove any SS from 30 m buffer in riparian zone immediately (included any planted trees). Assess for thinning in 2033/34. Group selection, felling only small groups of trees at a time to create conditions suitable for natural regeneration. Thin out SS to favour BLs. Favour better stems, also promote and retain a diversity of BL species. Protect watercourse with minimum 10m buffer.			
34274	10.13	SS	8.7	Clean and respace. Assess in 2031/32 for suitability for thinning.			
34037	7.21	SS, NS	7.21	Assess in 2025 for suitability for thinning			

1.5 Table of Thinning, Selective Felling and LISS (Phase 1 & 2)							
34846	30.27	SS, NS, JL	30.27	Assess in 2030 for suitability for thinning			
34387	15.96	NBLs, larch	1.5	1964 BLs. Remove mature larch (approx. 1.5 ha) and CON NR from riparian zone.			Minimum intervention coupe – remove larch only
34388	1.22	NBLs, larch	0.2	Remove occasional larch trees (approx. 0.2 ha) from BLs stands			Minimum intervention coupe – remove larch only
Totals	88.59		71.44				

1.6 Table of Total Felling for Approved Plan Period										
Method	**Total Area (Ha)**	**Total Volume (M^3)**	**Spp by Ha (SS)**	**Spp by Ha (SP)**	**Spp by Ha (LP)**	**Spp by Ha (NS)**	**Spp by Ha (MC)**	**Spp by Ha (MBL)**	**Open Land by Ha**	**Comments**
Clearfell	183.10	65,195	137.73	0	36.23	0	5.05	1.63	2.47	**Retain BLs wherever possible**
Thinning	71.44	469	39.76			2.64	4.05	23.32	1.67	
CCF										
	254.54	**65,664**	**Grand Total of Felled Timber Proposed for Plan Period**							

1.7 Table of Restocking – including incomplete RS from previous plan												
Coupe No.	**Total Area (Ha)**	**SS (Ha)**	**LP (Ha)**	**SP (Ha)**	**NS (Ha)**	**Other Con. (Ha)**	**Native Mixed B/Leaf**	**Other B/Leaf**	**Open (Ha)**	**Year**	**Restock Method & Density (Restock/Nat Regen/Alt Area/Coppice/Open)**	**Monitoring Comments (Including any reason not to restock)**
34715	14.83	0	0	0	0	0	2.97	0	11.86	2034	Natural regeneration	20% Native BLs, 80% open ground to

1.7 Table of Restocking – including incomplete RS from previous plan												
												protect/ reveal PR features
34284	7.39	1.34	0	0.67	0.33	0	3.93	0	1.12	2031	planted	
34822	59.79	7.07	0	6.14	6.17	0	24.36	0	16.05	2031	Planted; 2.34 ha NR NBLs (20% BL : 80% open to protect PR)	NR monitoring at 5 years as per section 3.2
34151	30.26	12.5	1.5	0.08	0.08	1.57	6.44	0	8.09	2031	planted	
34577	33.25	19.93	7.12	0	1.33	0	1.33	0	3.54	2031	planted	
34123	35.63	12.91	7.25	0	1.11	1.73	7.47	0	5.16	2031	Planted; 2.17 ha NR NBLs	Previously felled; NR monitoring at 5 years as per section 3.2
34027	16.31	6.28	2.51	1.26	1.26		2.07		2.94	2036	Planted; 0.77 NR	NR monitoring at 5 years as per section 3.2
34156	14.78						8.87		5.91	2036	Planted	
34300	6.49						4.54		1.95	2036	Planted	

1.8 Table of New Planting												
Coupe No.	**Total Area (Ha)**	**SS (Ha)**	**LP (Ha)**	**SP (Ha)**	**NS (Ha)**	**Other Con. (Ha)**	**Native Mixed B/Leaf**	**Other MBL**	**Open (Ha)**	**Year**	**Planting Method & Density (Planting/Nat Regen)**	**Monitoring Comments**
N/A												

1.9 Table of Civil Engineering				
Proposed Activity (Road/Quarry)	**OS Grid Reference**	**Forest/Coupe**	**Description (Length/Area/Construction)**	**Monitoring Comments**
Road	NN 2745 8493	34027; 34284	1,110 m road in 2 sections (220 m including 2 bridges in 34027 and 890 m in 34284) – delivery by 2026/27. Construction to protect designated features, as per SSSI management plan.	EIA screening dated 23/09/2021 and expires 22/09/2026.
Road	NN 2684 8386	34822	510 m across open ground and coupe 34822. Delivery 2027/28. Construction to protect designated features, as per SSSI management plan.	EIA screening dated 23/09/2021 and expires 22/09/2026.

1.10 Table of Other Projects				
Proposed Activity	**OS Grid Reference**	**Forest/Coupe**	**Description (Length/Area/Construction)**	**Monitoring Comments**
Environment works		34161 (part)	Approx. 2.87 ha mature OK adjacent to coupe 34158. Remove any NN Regeneration and INNS.	

1.3 EIA Screening Determination

Unexpired EIA screening determination (EIA consent not required) for the planned road GLS ref: 030902466 dated 23/09/2021 and expires 22/09/2026.

A SSSI consent for the road construction and harvesting activity was extended on 3 May 2023 until the end of March 2027 (Ref: ALC163705).

1.4 Other Regulations

Standards and guidance

This land management 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:

Forestry and Land Scotland's list of standards and guidance

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 in 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, 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 is detailed below and will be considered during the five year Land Management Plan review.

Table of Other Felling				
Date	**Coupe/Area**	**OS NGR**	**Volume**	**Comments**

1.5 Tolerance Table

	Adjustment to felling coupe boundaries	Timing of restocking	Changes to species	Changes to road lines	Designed Open Ground	Wind blow clearance
Scottish Forestry Approval not normally required (record and notify SF)	10% of coupe size	Up to 5 planting seasons after felling (allowing for fallow periods for Hylobius)	Change within species group e.g. Native broadleaves Non-native conifers e.g Sitka spruce to Douglas fir Non-native to native species (allowing for changes to facilitate Ancient Woodland policy) For Caledonian pine woodland – SP to native BL to allow for disease issues	Departures of up to 60m from the centre of the roadline	Increase by up to 5% of coupe area	
Approval by exchange of emails and maps	10-15% of coupe size	5 years +	Change of coupe objective likely to be consistent with current policy e.g. from productive to open, open to native species	Departures of greater than 60m from the centre of the roadline	Increase between 5-10% coupe area. Any reduction in open ground within coupe area	Up to 5 ha
Approval by formal plan amendment may be required	> 15% of coupe size		Major change of objective likely to be contrary to policy e.g. native to non-native species, open to non-native	As above, depending on sensitivity	Increase >10% of coupe area	More than 5 ha

2 LMP ANALYSIS

2.1 Introduction

The LMP area extends to 1,984 ha but much of this is open ground under crofting tenancy. The forested area covers 542 ha comprising 414 ha under commercial conifers and 64 ha broadleaves. The original planting took place between 1964 and 1977, following purchase in 1959 from two separate owners and some of the commercial planting is now second rotation.

The main priorities are continued production of sawlogs; the development of riparian broadleaved woodland; the improvement of ASNW and restoration of PAWS; and protection of the Parallel Roads of Lochaber features where these lie within the forested area, as per the SSSI Management Plan. A major amendment was approved in 2021 for new roads that cross the Allt Lonndrainn river, to access coupes in the eastern part of the forest. Significant areas of these coupes will be restocked with broadleaves, to improve visual amenity and to protect the landforms and geological aspects, primarily the Parallel Road features.

All priorities will be dependent on reduction and management of herbivore browsing / grazing pressure through effective deer control and exclusion of livestock. New and replacement fences are required to exclude livestock and the complex network of existing internal fences, much of which will be redundant once the forest boundaries are secure, will require review and revision.

Landscape

The forest is not visible from surrounding settlements and there are only distant views from surrounding hills and from certain positions of the gondola at Nevis Range. Coupes in the eastern part of the main forest block will be felled in P1 and restocked with broadleaves (on higher slopes) and some conifers (lower down); these coupes were approved in the 2021 amendment. Felling has been delayed pending construction of the planned access road. The restock proposals will help protect and improve interpretation of key Parallel Road features. P1 coupes in the West of the forest will remove extensive windblow and stands that are past Maximum MAI. There are no adjacency issues during the 10 year Plan period.

2.2 Plan Objectives

- To maintain the productive timber potential of the forest, while improving diversity in species and age structure
- Protect the existing ASNW and minimise browsing pressure

- Restore high / medium ecological potential PAWS to native woodland; remove mature non-native conifers from the PAWS along the Roy River, through Fell to Recycle if necessary
- Where feasible, produce productive broadleaves from non-PAWS areas and PAWS of low ecological potential
- Encourage natural regeneration and successional development of native broadleaves in riparian zones
- Enhance habitat and landscape quality by diversifying the forest margin through restocking and allowing natural regeneration to develop softer margins
- Assess peat areas and undertake peatland restoration or development of peat edge broadleaved woodland where appropriate
- Construct an access road to the coupes in the NE of the forest, creating a road line that minimises gulley crossings and protects landscape and environmental features

Key challenges

- Deer management and exclusion of livestock, to reduce browsing pressure sufficient to allow successful establishment of young broadleaved and alternative conifer tree species; restoration of peat; and development of peatland edge woodland and riparian woodland habitat
- Protection of Parallel Road features during road construction and harvesting / restocking operations, as per the SSSI management plan
- Establishment of alternative conifers, to improve diversity of conifer species across the forest, which is dominated by wet soils with poor fertility
- Successful restoration of deep peat or establishment of peatland edge broadleaved woodland habitat
- Successful and timely thinning of broadleaved trees to produce stands of productive broadleaves
- Restoration of native woodland along the River Roy riparian zone, where possible including crofted land, working with the crofting community
- Adequate resolution of haulage issues for felling coupes in the eastern part of the LMP area – either extraction and haulage along the narrow and weight restricted Bohuntine road route or suitable alternative arrangements with the crofting community put in place
- Retaining and improving structural and age diversity where possible, through retention of veteran trees and management of LISS where feasible

2.3 Analysis and concept

Objective	Opportunity	Constraint	Concept
Maintain the productive timber potential of the forest, while improving diversity in species and age structure	Sitka spruce is suited to large areas of the site. A small selection of other species may be suitable where there are better soils and less exposure. Productive broadleaves may be an option where they have been planted in coupes 34158 and 34835, provided they are thinned and managed effectively. Climate change may expand the range of some species and enhance site conditions. This could facilitate a wider range of potential species with higher growth rates. Carbon sequestration and the creation of wood products contribute to climate change mitigation.	Much of the forest lies on exposed ground, wet soils with low nutrient content. Increased risk of climatic and disease impacts (e.g. larch) that may affect current crops and restock species choices. ESC modelling indicates declining range of suitable species for the site under present climate models, using generic soil data. Storm events of increasing intensity would limit the rotation length. The range of fast growing species is limited.	Restock with species best suited to the site, aiming to increase species diversity in the more sheltered locations on better soils. Areas of poor growth on wetter soil types have been identified on the upper slopes where deep peat restoration may be feasible. Where possible, age class diversity will be developed further through retention of some trees beyond Maximum MAI. Aim for productive use of most of the forest area, selecting species with high growth rates.
Protect the existing ASNW and minimise browsing pressure	The ASNW occurs along the riparian zones in the middle of the forest and along the River Roy in the eastern part of the LMP area. Strengthening broadleaves along the main watercourses will expand the ASNW; restore PAWS areas and protect freshwater habitat. Reducing	Much of the ASNW is on croft land and will require the collaboration of crofters for its management and protection. Effective deer management is dependent on the deer control on neighbouring ground. New fences are dependent on identifying a viable fence line on	Prepare DMP, consulting with neighbours. Establish programmes to control non-native regeneration. Construct new fences on the forest boundary and repair old fences. Over time, seek to work with crofters to reduce browsing

Objective	Opportunity	Constraint	Concept
	browsing pressure in these areas will allow the establishment of native tree species.	challenging terrain. Non-native regeneration (particularly SS) in riparian zones will outcompete native species.	pressure within riparian ASNW on the River Roy (excluding livestock or managing grazing) in return for other benefits (e.g. timber from 34156, 34300; land exchange etc). This will depend on the crofters' approval.
Restore high / medium ecological potential PAWS to native woodland; remove mature non-native conifers from the PAWS along the Roy River, possibly through Fell to Recycle.	Remove non-native conifers from riparian zones when coupes are clear-felled or when other operations are underway in adjacent coupes. Opportunity to work with crofting community on conifer removal along the River Roy that benefits wider management of the riparian zone	Access to conifer coupes in the East at Bohuntine involves narrow winding road with weight restrictions on bridge, which constrains haulage. Most of the River Roy riparian zone in FLS ownership is under crofting tenure and management is heavily dependent on crofters.	Liaise with crofting community to identify mutual benefits, potentially including exclusion of livestock from riparian zone in return for timber or land exchange involving the isolated coupe 34156. This may be for consideration in the long term.
Where feasible, produce productive broadleaves from non-PAWS areas and PAWS of low ecological potential	Coupes planted with mixed broadleaves in 2006 and 2009 are now ready for first thin. Growing conditions and access are suitable for productive stands. Also potential for small scale coppice where production of straight stems of suitable dimension are unlikely.	Potential deer browsing in coupe 34835 and 34158; deer control and livestock exclusion will be essential. Suitable markets for products need to be identified. Capacity (staff and contractors) required to work and manage these areas, which require high input (management time) / ha.	Clean where this will help the stand. Remove conifer regeneration. Assess for thinning in 2025/26 (34835) and 2028/29 (34158) or when top height 10 m / basal area is 10 – 20 m^2/ha. Thin and manage to favour best stems.

Objective	Opportunity	Constraint	Concept
Encourage natural regeneration and successional development of native broadleaves in riparian zones	Existing areas of ASNW; also PAWS, some of which is now under native broadleaves. Suitable seed sources to enable expansion of native woodland along the riparian zones.	High herbivore browsing pressure due to presence of deer and livestock incursion into the forest. Adequate fencing and deer management are required. Much of the ASNW along the River Roy is in crofting tenure and is currently grazed by livestock, inhibiting natural regeneration and the development of ground flora.	Livestock fences and deer control are essential to the successful establishment of native broadleaves. New livestock fences required on the eastern boundary of the forested area, to be constructed after the coupes in this section have been felled. Replacement livestock fences are also required elsewhere. Maintenance and repair to fence in coupe 34835. Deer cull as per the DMP.
Enhance habitat and landscape quality by diversifying the forest margin through restocking and allowing natural regeneration to develop softer margins	Varied planting patterns and using a mixture of species, where possible, including broadleaves, can help to develop softer margins that transition from forest to open ground and provide a better fit in the landscape, although the forest is not visible from surrounding settlements. Potential to work with crofting communities to provide mutual benefits.	The open hill is crofted, which requires agreement with the crofters for any changes that might encroach onto open land. Other potential changes would take priority under such an agreement. The forested zone is limited in scale, which constrains the area available to create woodland edge habitat without some expansion onto the open ground. Current edges are very straight, particularly on the western and northern sides, which would require more significant changes to make a difference.	Discuss options with crofting communities, as part of a package of potential land exchanges that include the River Roy riparian zone, coupe 34175 and coupe 34156. This will be a longer term process. Vary planting densities and species mixes in the upper margins of coupes along the forest boundaries, including native broadleaves where possible. This may be an option in future.

Objective	Opportunity	Constraint	Concept
Assess peat areas and undertake peatland restoration or development of peat edge broadleaved woodland where appropriate	Significant areas of deep peat occur, which may be suitable for restoration. A new road is required to access the area and adjacent coupes but construction is not planned to take place during the 10 year plan period. Open spaced broadleaved woodland will be established where peat restoration is not feasible.	Work is pending clear fell and road construction. Both successful restoration and development of peatland edge habitat are dependent on reduction of herbivore browsing pressure.	Following clear fell, 34910 and part of 34120 to be assessed for peatland restoration. Areas that may support suitable Yield Class will be restocked with commercial crops.
Construct an access road to the coupes in the NE of the forest, creating a road line that minimises gulley crossings and protects landscape and environmental features	The planned road line has been surveyed by the FLS Civil Engineers and a route that minimises gulley crossings and watercourses; provides a suitable gradient and protects key Parallel Road features has been identified. Road line already has planning and EIA approvals.	Moderately steep gradients in places; gulleys; riparian habitat and presence of Parallel Road features on which designation is based – all require careful planning and siting of the road line.	Road line sited to avoid key features. Construction operations will adhere to guidelines outlines in the SSSI management plan.

3 LMP Proposals

3.1 Management

(See Map 4a: Management Proposals and Map 4b: Felling P1 and P2)

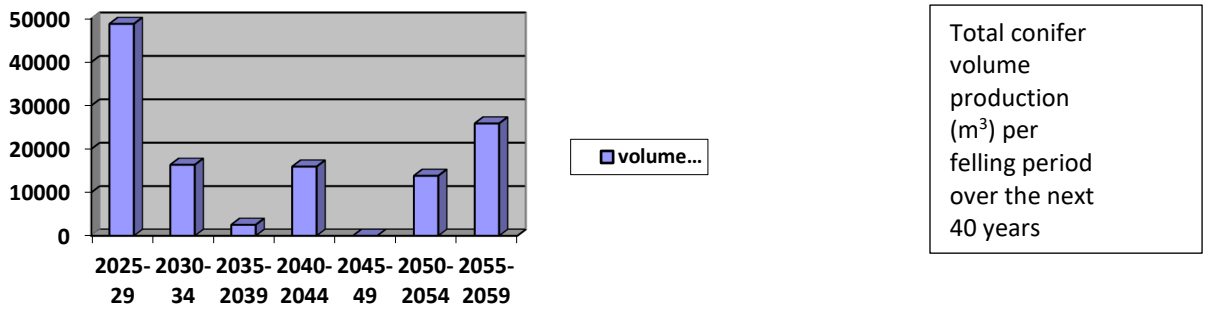
Clear Felling

Due to the age of the trees, exposure levels and windblow risk, clear felling will remain the predominant management type across the forest during the current rotation. Management (felling) coupes have been designed to provide the best possible fit in the landscape under the circumstances and to produce a steady production of timber volume across the rotation, as far as is possible. However, due to tree age and windblow risk (significant windblow has already occurred) a larger volume needs to be felled in P1. In the eastern part of the forest, this felling will create opportunities to reveal and protect the Parallel Road features. The ground is too wet and exposed for Continuous Cover Forestry of commercial conifers and clear felling will still be required for most of the coupes. However, about 20 ha will be managed for productive broadleaves.

All felling operations will comply with UKFS Forest and Water guidelines and Confor guidance, and will consider impacts on watercourses draining into the Allt Lonndrainn and the River Roy. During felling, precautions will be taken to minimise run-off, including use of buffer zones and avoiding felling during periods of extremely wet weather as far as possible. Forestry drains will be designed and maintained to avoid discharge direct into watercourses; silt traps will be deployed during harvesting.

Native broadleaves will be retained during felling operations and where possible, any standing dead trees will also be retained for their habitat value, where these do not present a hazard.

5.05 larch will be clear felled during the 10 year LMP lifespan. The remaining larch (6.55 ha) is either accessible or will be Fell–to-Recycle (small areas) in the event of a SPHN.



Thinning

Exposure levels and poor soils render stands generally unsuitable for thinning. However, thinning may be considered for the coupes at lower levels on better soils, where crops are still below the age and size suitable for first thinning. *See Map 4: Thinning*

Some areas of planted broadleaves have identified for productive forestry (see below).

Low Impact Silvicultural Systems (LISS)

Coupes identified for productive broadleaves will be managed as LISS. Coupe 34158 (18.23 ha of mixed broadleaves) will be managed as irregular shelterwood, taking account of the mixture of species across the coupe. Coupe 34835 will be managed as group selection, with removal of non-native conifer regeneration as an initial priority. Initially, coupe 34122 (3.42 ha) will be managed as LISS, to facilitate removal of SS (16% of the crop) but in the longer term, the expectation that this coupe, which lies in the riparian zone, will be managed as minimum intervention.

Natural Reserves (NR)

No Natural Reserves have been identified in Glen Roy. Natural Reserves are identified at a Regional level in FLS.

Long Term Retentions (LTR)

There are no areas of conifers suitable for LTR. Improving age diversity through retention of mature or veteran trees will be promoted using broadleaved species, other than occasional conifer trees that are windfirm.

Minimum intervention

Minimum intervention has been selected where there is ASNW or established native woodland and where minimal operations are anticipated. However, some works will still take place, such as removal of non-native regeneration or Invasive Non-Native Species (INNS); management of diseased trees (e.g. Ash infected with Chalara) and small - scale enhancement planting.

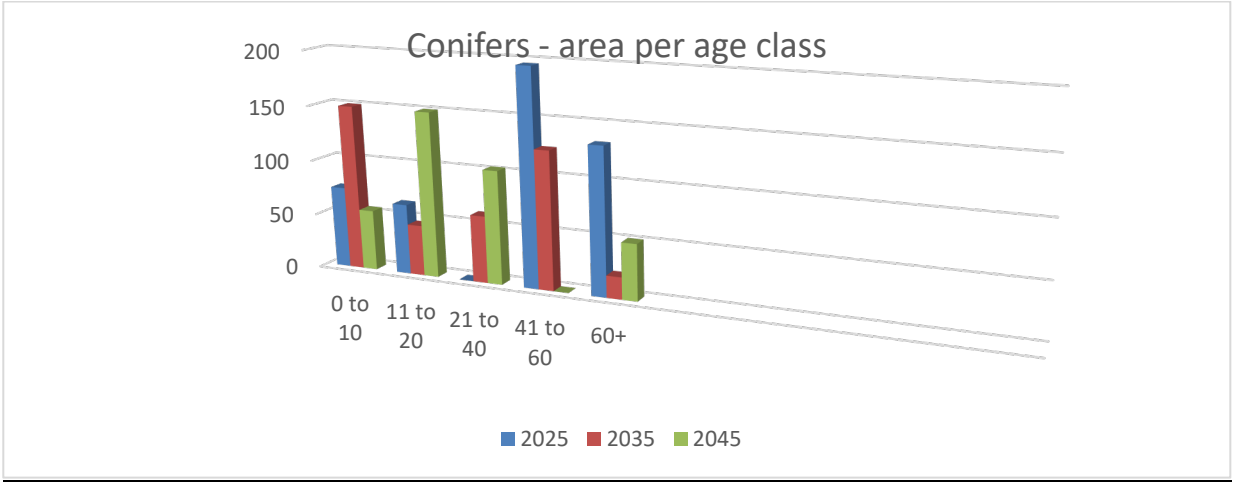
Resilience

RESTRUCTURING:

The main purpose of restructuring is to create truly multi-purpose forests meeting a wide range of objectives including enhancing landscape, biodiversity, productivity and community/recreational opportunities, while protecting and improving the setting of heritage features and restoring priority habitats. Increased species and age class diversity also increases the resilience of the forest. Soil type,

ground conditions and exposure levels limit the range of commercial conifer species that are suitable for restocking but maximum use will be made of sites that are feasible for alternative conifers, growing in mixtures and with nurse crops where appropriate. A variety of native broadleaves can be grown, including areas identified for productive forestry, which will further help to improve species diversity. Where possible, some trees may be retained for longer, to broaden the age range of commercial species but due to windthrow risk, this option is limited.

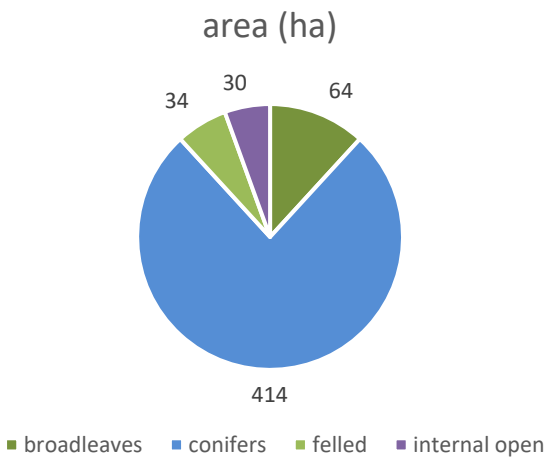
Expected change in age structure:



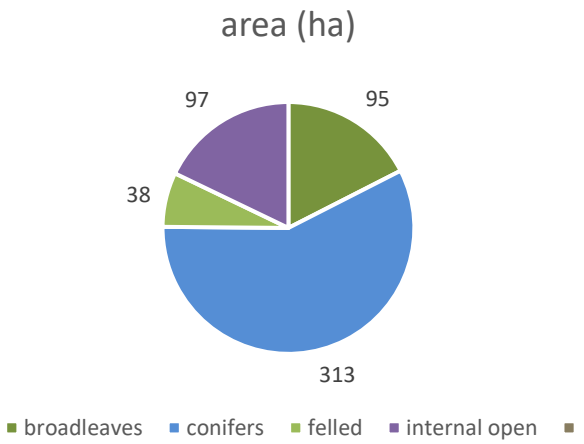
Over the next 20 or so years, species diversity will be improved gradually, through restocking more alternative conifers where growing conditions are suitable; establishing a range of native broadleaves in riparian zones and high ecological potential PAWS and by growing productive broadleaves in the areas identified, which are on lower, sheltered, accessible slopes on better soils. *See Maps 6a: Future Habitats and Species, and Map 6b: Restock P1 and P2)*

Changes in species composition over the next 25 years:

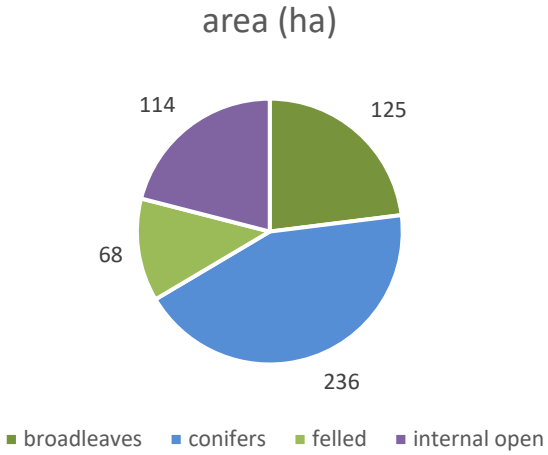
2025



2035



2045



The reduction in the area under conifers by 2045 reflects the areas that will be under open structured native broadleaved woodland around the Parallel Road features in the eastern part of the forested zone. Also, the area identified for peat restoration or peatland edge habitat in the western part of the forested zone, as well as an increase in the area felled awaiting restock.

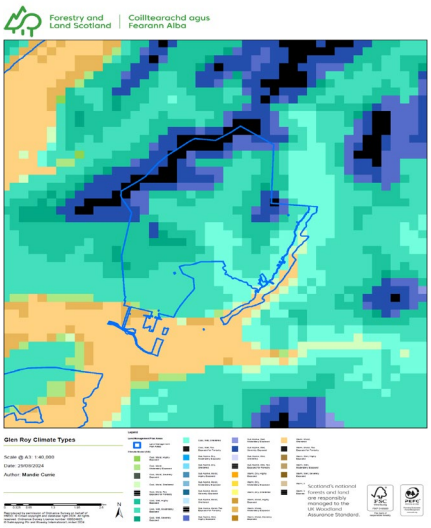
CLIMATE CHANGE:

Climate change models suggest that the general trend will be towards a significantly warmer climate with higher winter rainfall and lower rainfall in the summer, leading to a partial soil moisture deficit during the summer months. In terms of the next rotation, these figures have limited impact on species choice according to ESC models and the short rotation of SS across much of the site further reduces the risk of climatic impacts. However, this level of climatic change is likely to interact in the longer term with soil characteristics and in places, this may have a positive impact on soil structure and widen

the range of species potentially suitable for the site. In more sheltered areas, the effects may be positive, enabling a wider range of potentially suitable species. But in many parts of the forest, higher rainfall may lead to greater leaching and podsolization where soils are free draining and conversely, greater waterlogging where drainage is poor. There are also threats to the suitability of SS as a timber species if significant summer droughts become normal, although this is less likely in Glen Roy, where soils are generally wetter.

DAMS scores are generally between 12 (sheltered glen floor) and 14 -16 (on lower slopes) but rise to 17 to 20 on the more exposed upper slopes. Felling coupes need to take account of windblow risk, as exposed coupes will be vulnerable to winds that funnel down through the glen and the turbulence created by the wind passing over higher ground and ridges. Significant areas of windblow have occurred already.

Climate types across much of the forest range from Cool, Wet, Moderately Exposed on lower – mid slopes, to Cool, Wet, Highly Exposed on the higher slopes. Cool, Wet, Sheltered conditions are found along the Allt Lonndrainn and the River Roy riparian zones. The highest ground on the open hill is classed as Sub Alpine, Wet, Severely Exposed. Part of this area adjoins coupe 34052, which is identified for peat restoration.



TREE DISEASES AND PESTS

A rise in the type and scale of tree diseases and pests is, increasingly, impacting on species choice and forest management. The most serious disease currently in the region is Phytophthora ramorum on Larch (also found on Rhododendron) and the only one subject to Statutory Plant Health Notices (SPHN). Larch is no longer a viable tree species for forestry on the West coast. An accelerated programme to remove the existing stands of larch is underway and it is no longer being planted. Glen Roy LMP area lies within the Priority Action Zone. Here, the FLS Policy is to remove at least 20% of the larch by 2027 (against a 2021 baseline and focusing on areas close to the Risk Reduction Zone); fell

the “difficult and complex larch coupes” by April 2032 (starting with those most at risk to disease and maintaining a balanced annual programme) and construct access to at least 80% of all mature larch by April 2027.

Currently (summer 2024) larch comprises 11.6 ha by component, most of which was planted in 1976/66, with only 2.44 ha planted more recently, in 2011. Some 5.05 ha (by component) of the 9.16 ha of mature larch is planned for felling during the 10 year LMP period. Larch is present in mixtures as well as in discrete groups, so that is covers 45.11 ha by subcompartment, 14.59 ha of which includes mature larch. A much larger area would require to be felled in the event of a SPHN, considering the need for access and to fell to windfirm edges. All larch will be made accessible to facilitate extraction in the event of a SPHN, or otherwise will be Fell to Recycle (FTR).

Dothistroma needle blight (DNB) affects pine species. Scots pine has not been a component of the crop due to soil conditions but small areas will be planted in the eastern part of the forest on drier knolls. Lodgepole pine will form part of the restock, mainly in mixtures with Sitka spruce and other conifer species. Only the Alaskan lodgepole pine has resistance and Scots pine can only be planted away from the Caledonian pinewood inventory sites.

Ash Dieback is working its way through the Region with the expectation that 90% of the ash will be lost. Pre-emptive felling of Ash is not being undertaken in the hope of being able to identify some resistant trees. But trees will be monitored around roads, rides and other accessible areas and any diseased trees removed where necessary, to protect public safety. Currently, there is 15 ha of Ash in Glen Roy but this is likely to be replaced in the canopy by other broadleaved species over time. Ash is not being planted but any natural regeneration will be accepted in the hope that it has some resistance.

Ash trees have a unique biodiversity value, which is difficult to replicate or replace in a forest. *See Appendix X for more information.*

FIRE RESILIENCE

Due to climate change, there is an increasing risk of fires across the National Forest Estate (NFE) although the risk is lower in the generally wetter conditions of the West Highlands. The proposals within this plan aim to limit the risk in Glen Roy through improving species and age diversity where this is possible; increasing the proportion of broadleaved trees; creating broadleaved content along riparian areas and at the forest edge and by maintaining open rides and glades. The road network will also provide a barrier for fires and enable access to areas if a fire does occur.

FLOOD RISK

The SEPA flood maps indicate that any flood risk from the sections of the Allt lonndrainn or the River Roy that might be affected by operations within the forest would impact the immediate riparian zones only. There are no buildings or roads lying within these areas, other than where the river is intersected by the Trunk road. There are small areas of potential surface water flooding.

Clear felling operations in the forest will be managed to reduce any potential exacerbation of surface water run-off. This will be achieved by following Forest and Water Guidelines, including protection of riparian zones; avoiding drains running directly into water courses; coupe design to reduce catchment run-off; and avoiding harvesting operations during prolonged, extreme wet weather where possible.

Operational Access

Timber Haulage within the forest area is set out in the following protocols: The-design-and-use-of-the-structural-pavement-of-unsealed-roads-Revised-2020.pdf (timbertransportforum.org.uk)

The primary "in forest" route runs SW to NE *(see Maps 8 a & b: Roads and Access)*. New roads are planned, to serve the coupes in the eastern section of the forested area and one accessing coupes in the North and north-west of the forest. Both routes involve crossing large gulleys and require substantial bridges. The route in the north-west will not be undertaken during the life of the LMP while the route in the East / NE is scheduled to commence 2025/26. This roadline already has planning permission and a EIA scoping determination and was the subject of a significant amendment in 2021. The EIA scoping expires in 2026 and will be resubmitted for review as necessary.

The public road from the forest entrance to the A86 is a consultation route and therefore liaison with the Local Authority will be required prior to commencement of works; the A86 itself is an agreed route (Timber Transport Forum). The road up the glen through Bohuntine is an excluded route (narrow roads, tight bends and a weight restricted bridge). Timber haulage from the stand-alone coupes in the far eastern section of the forest will require much smaller vehicles and potentially, double handling and stacking outwith the area.

The design of the roads will conform to both the Timber Transport Forum document "The design and use of the structural pavement of unsealed roads 2020 (referred to previously) and "Constructed tracks in the Scottish uplands – revised Sept 2015" Constructed Tracks in the Scottish Uplands

3.2 Establishment

(*See Map 6a: Future Habitats and Species and 6b: Restocking P1 and P2*)

Restocking

Exposure, poor nutrient status and impeded drainage are factors limiting the choice of productive species across much of the forest and especially at higher elevations. Sitka spruce will remain the predominant commercial conifer, with limited areas of alternative conifers, including Norway spruce and Noble fir where conditions allow. Scots pine will be planted on drier knolls. On more challenging sites, Sitka spruce (SS) and Lodgepole Pine (Alaskan) mixtures can facilitate the establishment and

growth of a productive SS crop. Birch will also be used as a nurse species and to develop broadleaved woodland along forest margins, road and track edges and along riparian zones.

All coupes will be established within five years of clearfell. Conifers will be restocked to a minimum density of 2500/ha net plantable area. Broadleaves will be established mainly through planting, with natural regeneration where this is feasible. Minimum stocking density will be 1800/ha if planted and 1600/ha if stocked by natural regeneration, excepting riparian zones where open canopy broadleaves are desired. Coupe 34715 and part of coupe 34822, in the eastern part of the main forest block, will be restocked by natural regeneration at a very low stocking density, maintaining 80% open ground, to protect and reveal the designated Parallel Road features in this area.
The fallow period of restocking will generally be two years. Restock coupes will be monitored and maintained throughout the establishment phase, with losses being replaced to maintain the stocking density.

Cultivation methods in future rotations will be selected to aid the establishment of the trees while seeking to minimise soil disturbance and the need for herbicide treatment.

Fences

The success of future restocking will be dependent on the protection of young trees from browsing pressure. The external boundaries of the forested area in Glen Roy need to be protected from the adjacent grazing croft land with livestock fencing but currently, many of the fences are in very poor condition or are absent entirely. New livestock fences will be constructed along the western boundary and parts of the eastern and southern boundaries. Some sections require repair and in places, replacement of fence posts may suffice. In total, an estimated 24.33 km of fences are required to protect the forest, of which 10.61 km will be replaced or repaired because it is in poor condition or absent entirely. An estimated 2.301 km of this length may just require replacement of wooden fence posts. Approximately 1.67 km of the fencing requirement is a new fence along sections that do not appear to have any fence currently. *See Map 16: fences and Appendix IX Fence details.*

Natural Regeneration

Native broadleaved woodland will be strengthened and expanded along the riparian zone of the Allt Lonndrainn, primarily by natural regeneration. Permanent native woodland habitat will also be established in the eastern part of the forest following felling operations, using a combination of planting and natural regeneration. These areas will include open space as well as native broadleaved woodland and on the upper slopes, the objective over time is to achieve a very open canopy with only a scattering of broadleaved trees, which will better reveal and protect the Parallel Road features. An assessment will be made post-felling to confirm the viability of regeneration, but areas that tend to be within 75m of a viable seed source (usually of at least two different species) may be identified as suitable for natural regeneration. This is dependent on browsing pressure being reduced to ensure the successful regeneration of trees, which is addressed in the Deer Management Plan.

Natural Regeneration is a priority theme promoted in the Scottish Forestry Strategy and where feasible is seen as preferable to planting for several reasons: it offers greater biological and genetic diversity compared to planting; landscape scale natural regeneration provide less segregated landscapes; less GHG emissions without the requirement for ground preparation; and there is no plastic pollution compared to the use of tree guards with planting.

Compartments being restocked through Natural Regeneration will be monitored and maintained throughout the establishment phase. Minimum stocking densities will be 2500 per ha for conifer and 1600 per ha for broadleaves, except for riparian zones and upper margins where open broadleaved canopy is desirable. Coupe 34715 and the upper 11.72 ha of coupe 34822 will be restocked with 20% native broadleaves to protect and reveal the Parallel Road features.

Should required densities not be met by year 5, a beat-up operation will be carried out to achieve the required stocking density and species or, if a further period of regeneration monitoring is proposed beyond year 5 then Scottish Forestry will be notified. The monitoring for regeneration will run concurrently with any stated Fallow periods to avoid an additional 3-5 years period in advance of monitoring. The aim will be to achieve 50% canopy cover in riparian zones, to create optimum conditions for freshwater habitat.

On an annual basis, Scottish Forestry will be notified of regeneration coupes that are at year 5 and the outcome or proposed future management (i.e. achieved objective/further monitoring required due to evidence of extensive regeneration/insufficient regeneration present and planting required). This report will utilise an extract of the annual regeneration monitoring programme.

The long term ambition is to reduce browsing pressure in the riparian broadleaved woodland along the River Roy, much of which is ASNW, to enable sufficient recruitment of young native trees and development of a diverse ground flora. This will be dependent on both adequate deer control and exclusion of livestock, or alternatively, grazing management for conservation. This might include a reduction in grazing animals within the woodland or grazing within specific time periods and / or with specific species. Most of the upper part of the western bank of the river is under crofting tenure, so grazing and browsing control will depend on the crofting community's plans.

PAWS restoration

There is 8.7 ha of PAWS that has high ecological value and will be restored to native woodland; all such areas lie in riparian zones. Much of this is within commercial felling coupes and restoration will be achieved through natural regeneration with enhancement planting. Coupe 34300, adjacent to the River Roy, is under Sitka spruce, which will be harvested and restocked with native species. Adequate fences, which will protect establishing trees from livestock browsing, will be essential as the surrounding croft ground is grazed. Deer control will also be needed. *See Map 7: Conservation & Heritage*

Riparian Management

Natural regeneration of native woodland along the riparian corridors will help to alleviate flood risk by reducing the speed of run-off. Riparian broadleaved woodland is valuable habitat and creates

conditions suitable for freshwater species, such as invertebrates, amphibians and fish, through provision of shade; important nutrient and organic input from leave litter, tree roots etc. and by providing buffers that help protect water quality. The aim will be to achieve about 50% canopy cover in the riparian zone, to create dappled shade. Most of the ASNW and PAWS are in the riparian zones and will be monitored through natural regeneration surveys (see earlier) where regeneration is expected and Herbivore Impact Assessments (see DMP). An ASNW survey was conducted in 2020, there are no current plans to conduct a full survey during the LMP lifetime. Agreement from the crofters would be required for any operations along the River Roy.

There is the potential for natural regeneration of conifer species within the riparian corridor. Ideally this would all be removed but in practice, up to 15% conifer regeneration will be accepted in the corridor before intervention to remove it. INNS will be removed as required.

Deadwood

Deadwood, both fallen and standing, provides important habitat for a wide range of species, for example of invertebrates, fungi, birds and mammals. As a rule, the aim is to retain at least 10% of the deadwood (in some forests, it may be appropriate to retain more than this). A proportion of woodland in Glen Roy will be managed to provide deadwood habitat where it provides the greatest environmental benefit. Here, the highest ecological potential for deadwood is found in the established woodland within PAWS and riparian areas and particularly, within the minimum intervention areas. There is lower potential for deadwood in the higher, more exposed areas of conifer crop.

3.3 Open Land

Integral open ground within the forest area delivers a significant part of the forest's ecological value. This is quite distinct from the open hill habitats – and in Glen Roy, the open hill is all croft land and FLS is not involved in its management. Within the forest, significant areas of open ground will be created in specific parts of the forest. In the eastern forested zone, restocking following felling is designed to better protect and reveal the Parallel Road features and to allow these to be better interpreted within the landscape. This incorporates more open land than at present as well as some very open structured broadleaved woodland that includes scattered trees on essentially open ground.

In the western part of the forest, an area of deep peat will eventually be restored, with peatland edge woodland habitat created around the margin. This will not be done during the lifetime of this Plan as harvesting is scheduled for P4 (20 years from now). When peatland restoration does eventually occur, it will require an EIA screening for deforestation.

3.4 Deer Management

(see Appendix V: Deer Management Plan)

3.5 Visitor Zones and Public Access

The forest road network provides cyclists and walkers opportunities to enjoy and explore the wider area, offering views as you climb the hillside, and is popular with nearby residents for dog walking. This informal access is managed under the Scottish Outdoor Access Code (SOAC). There are no core paths or long distance footpaths recorded within the LMP area and the Strava Heatmap indicates that use is mainly along the forest road, with no circular routes being created. *See Map 8a: Roads & Access.*

Due to budget constraints, there are limited opportunities to create new formal paths but in appropriate places, rides and racks will be left unplanted at restocking where possible, to facilitate access from nearby settlements into the forest and through to the open hill.

3.6 Heritage Features

Coupes in the lower (southern) part of the forest – 34577, 34274, 34835 and 34158 – lie within The Battle of Mulroy Designated Battlefield area, although most of the designation covers the open ground outwith the LMP area. *See Map 7: Conservation and Heritage*

The Battle of Mulroy is known as the last clan battle, fought between Highlanders from the MacDonalds of Keppoch with Camerons, Macmartins and other allies, against the army of Lachlan Mackintosh, with Clan Chattan allies and several hundred Government infantry. No permanent features are likely but archaeological remains in terms of ammunition, weapons, personal accoutrements, and other physical remains may have been deposited in the area.

Several other heritage features associated with habitation are present, including five unlined circular pits at Allt a Bo-Loin, which lies in the middle of commercial conifer crops and an old sheep fank and sheiling huts on the open croft land. The inbye crofting township is listed as an archaeological feature in itself: a crofting township comprising one unroofed, fifty-nine roofed buildings and a head-dyke is depicted on the first edition of the OS 6-inch map (Inverness-shire 1873, sheet cxxvii). There is also an historic graveyard, a bridge (possibly part of a miliary road) and small enclosures.

Key features will be protected during forestry operations as far as possible, in line with UKFS and managed in accordance with the Forests & the Historic Environment Guidelines. If new sites are found these will be mapped, recorded and protected from operations. The FLS Environment team or an appropriate Environmental Clerk of Works will conduct on-site checks prior to operations, as required. Detailed operational workplans will be drafted nearer the period of felling and will include a full range of mitigation measures to safeguard archaeological features. These work plans include input from all disciplines and are signed-off by senior management. Protective buffers will be maintained during felling. The restocking proposals include provision for open space where appropriate and are sympathetic to both the features and their immediate environs. Further advice will obtained from the FLS Archaeologist if required. FLS will liaise with the Highland Council Archaeologist prior to operations, where necessary.

Crofting tradition is an important aspect of the culture of this area. The land subject to crofting legislation lies around the fringes of the wooded areas and in some cases, this has led to hard forest edges running perpendicular to the contour, where trees have been planted, or have infilled, right up to fence lines.

3.7 Habitats & Species

At least 83% of the LMP area is a designated SSSI (part of the Parallel Roads of Lochaber SSSI). The landforms and deposits in Glen Roy, Glen Gloy and Glen Spean are an internationally important part of Scotland's Earth heritage. They provide the clearest evidence in Britain for the formation and catastrophic drainage of a series of ice dammed lakes at the end of the last glaciation. Activities such as construction of roads or tracks can have a locally damaging impact that can be cumulative over time. FLS has agreed a Designated Sites Management Plan with NatureScot, which covers the entire SSSI area and informs the LMP. Where feasible, tree or shrub regeneration will be managed where it is likely to reduce visibility of, or physically disturb, the geomorphological features.

The Glen Roy National Nature Reserve (designated for the Parallel Road features) lies immediately North of the LMP boundary. The Parallel Roads of Glen Roy is designated as a Geoheritage site (International Commission on Geoheritage). The area is a core part of the Lochaber Geopark.

The Braeroy – Glenshirra – Creag Meagaidh Wild Land Area designation covers part of the open hill at Glen Roy, just North of the forested area.

ASNW covers approximately 63ha, most of which is concentrated on the riparian zones (where there is extensive upland oakwood) lower valleys and wetter parts of the crofts. At least 65% of the ASNW is on croft ground and forms wood pasture, much of which is on the riparian zone of the River Roy and is currently grazed by livestock. Management of ASNW under crofting will be dependent on agreement with the crofters. ASNW under FLS management will be protected and expanded where possible, through control of grazing / browsing pressure, promotion of natural regeneration and enhancement planting where this is appropriate and feasible. PAWS of high ecological potential will be restored during the forest rotation, as described elsewhere. *See Map 7: Conservation & Heritage*

Much of the riparian oak-birch-alder woodlands along the River Roy, Allt Ionndrainn and its tributaries are of high nature conservation value with a rich flora of flowering plants and ferns, bryophytes and lichens including good representation of 'Lobarion' species. The Allt Bo-loin gorge at NN262831 has locally notable plants such as Stone Bramble *Rubus saxatlis;* Tea-leaved Willow *Salix phylicifolia;* Dog's Mercury *Mercurialis perennis;* Woodruff *Galium odoratum* and Sanicle *Sanicula europaea.* Wood Fescue *Drymochloa sylvatica (Festuca altissima)* which is scarce in northern Scotland, occurs on the west bank of the River Roy at Poll na Drochaide (NN29698466).

Much of the open ground supports peatland that is eroding and hagged in places. Opportunities could be explored to restore areas of peat where possible in future, working with the crofting community.

The woodland is an important component for the crofting townships and management of the woodlands must reflect this. One of the commercial coupes to the East of the LMP area lies isolated from the rest of the woodland, surrounded entirely by grazing land. There may be opportunities to rationalize some of these areas to benefit both crofters and FLS operations, with the agreement of the township.

Black grouse are found on the open ground outwith the forested area – creating a more diverse woodland margin will improve habitat for this species, as will the establishment of more broadleaved restocking on the eastern side of the forest and restoring open ground habitats. No forestry operations are planned near lek sites and no peatland restoration is planned for the lifetime of this LMP and in any case would be in coupes currently under commercial conifers, to be clear felled in P4. The leks are on FLS ground in crofting tenancy. FLS will continue to work with the crofting community on management of these areas.

Barn owls have been recorded in the forest and there are signs of Red squirrels feeding in the eastern part of the LMP area. Badgers are also present. There are salmon in the River Roy, which runs along the eastern boundary of the LMP area.

The open hill land supports a range of priority species, many of which are included in the Scottish Biodiversity List. Inbye species-rich neutral grasslands at Bohuntine and Inverroy were surveyed in 2020-21 by NatureScot and found to be rich in orchids including Greater Butterfly-orchid *Platanthera chlorantha,* Lesser Butterfly-orchid *P. bifolia,* Northern Marsh-orchid *Dactylorhiza purpurella* and Common Twayblade *Neottia ovata*.

The area of common grazings west of the forest plantation above Inverroy comprises a diverse mosaic of wet heath, grassland, bog and flush, birch woodland and scrub. Birds of note include Black Grouse and Grasshopper Warbler, and Red Squirrels are often seen in the woodland. The lower section east of Tom an Aoil is extensively flushed by limestone and supports one of the largest populations of Lesser Butterfly-orchid *Platanthera bifolia* in Scotland. Also recorded are Fragrant Orchid *Gymnadenia borealis;* Early Marsh-orchid *Dactylorhiza incarnata;* Broad-leaved Cottongrass *Eriophorum latifolium;* Wood Cranesbill *Geranium sylvaticum;* Globeflower *Trollius europaeus;* Slender Stonewort *Chara virgata;* Long-stalked Yellow-sedge *Carex lepidocarpa* and Scottish Asphodel *Tofieldia pusilla.* There is also a population of the locally scarce Rough Horsetail *Equisetum hyemale* on either side of the forest access track at NN25908208.

FLS does not have locus to protect / enhance the features found on croft land and common grazings, although in the longer term, we are keen to work with the crofting community to improve their management.

Within the forested area, prior to any harvesting operations, FLS will ensures that an appropriate pre-commencement survey is undertaken in the coupe to check for the presence of any protected species. The relevant FCS guidance notes: Wildlife and Forest. Operations 31- 35d will be adhered to if protected species are found to be present.

3.8 Invasive Species

No significant areas of invasive plant species have been recorded but monitoring of priority habitats will continue. The main threat (other than herbivore impacts) to ASNW, PAWS and other priority areas is from non-native regeneration such as Sitka spruce.

Sika deer ingress the forest from neighbouring ground and will be removed through deer culling as best as is feasible to achieve. Deer fencing repairs and replacement, as outlined in section 3.2 and Appendix IX, together with implementation of the DMP will aim to maintain Sika numbers at zero or as close to it as possible.

3.9 Water Supplies

Public Water Supplies

Part of the Glen Roy LMP area lies within the catchment of a Drinking Water Protected Area and a Scottish Water pipeline runs through the southern part of the forest. Harvesting operations, road construction and any alterations to drainage in the commercial forest will be notified to Scottish Water ahead of any operations commencing on site. SW assets are recorded in the FLS GIS and will be protected during operations. The UK Forest Standard and the Forest and Water Guidelines will be always met. In addition, the Guidance on Forestry Activities Near SW Assets will be considered. *See Map 9: Water and Water Supplies*

Much of the LMP area within the DWPA catchment is open crofted ground and not under FLS management. Coupes in the far West and East of the forest will be felled during the first five years of the Plan. The coupes in the West may potentially impact on the Scottish Water catchment. Protective buffers will be maintained along watercourses during felling and restocking will be avoided within a minimum 10 m of the watercourses (20m for larger watercourses). Drains will not link directly into watercourses and adequate silt traps and other mitigation measures will be deployed as required. FLS operates a work plan process that all teams input to, with sign-off by senior management prior to commencement. Planned operations will be notified to Scottish Water at an early stage of the process, as required. Work Plans and other operational plans will make provision for suitable storage of fuel and materials and will identify suitable locations for refuelling, which will be outwith the catchment area affected. A new road is planned in the eastern part of the forest; no new ATV tracks are planned.

Private Water Supplies

Private Water Supplies (PWS) can be abstracted from a stream, spring, well or borehole, and usually consist of a series of pipes and tanks feeding one or more properties. All known supplies within FLS land are mapped and this information is fed into all worksite planning well in advance of any operations to ensure there is no detrimental impact on the water supply. In addition to the individual

supplies, the water catchments feeding into these abstraction points are identified and mapped for use at an operational level.

Following investigation, no PWS have been identified in the forested area. There are some supply points on open ground but these drain from areas outwith the forest. FLS continually endeavor to identify all supplies and any further points found will be added to the database, to give a comprehensive coverage. Any PWS abstraction points will be protected during operations. Best practice Forest and Water Guidance will be followed rigorously, to protect supplies and catchments. *See Map 9: Water and Water Supplies.*

3.10 Critical Success Factors

- Successful reduction in browsing pressure through a combination of deer control and preventing livestock incursion is a business critical requirement
- Secure livestock fences along forest boundaries, which will require successful co-operation with crofters, to achieve a feasible fence line that enables improvements to woodland edges
- Road construction to reach the badly windblown coupes in the eastern part of the forest, which requires agreement from the crofters regarding the roadline that will extend South from the new bridge that will cross the gulley
- Removal of all conifer seed trees from ASNW and from the riparian zone along the Allt Lonndrainn when coupes are harvested, or where they have been left behind in coupes that have already been felled; using suitable Fell to Recycle methods if extraction is not possible
- Removal of non-native regeneration in riparian zones and PAWS areas of medium – high ecological value
- Relationships and where appropriate, partnerships, with key stakeholders and forest users, to co-ordinate management of grazing pressure