Forestry and Land Scotland
Coilltearachd agus Fearann Alba

West Region

North Mull

Land Management Plan

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

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

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Plan Reference No: ******

Plan Approval Date: ******

Plan Expiry Date: ******

Forestry and Land Scotland
Coilltearachd agus Fearann Alba

FORESTRY AND LAND SCOTLAND
Application for Land Management Plan Approvals in Scotland

Forestry and Land Scotland - Property

Region:	West
Woodland or property name:	North Mull
Nearest town, village or locality:	Tobermory
OS Grid reference:	NM 480 530
Local Authority district/unitary Authority:	Argyll & Bute

Areas for Approval in Ha	*Conifer*	*Broadleaf*	*Peatland Restoration*
Clear felling	*479*		
Restocking (including legacy RS)	*416*	*29*	*305*
Natural Regeneration		*108*	
Selective Fell (CCF)			
Thinning (amenity)	*654*	*436*	

Note: restock includes areas felled under previous Plan

1. I apply for **Land Management Plan** approval for the property described above and in the enclosed Forest Plan.
2. * I apply for an opinion under the terms of the **Environmental Impact Assessment (Forestry) (Scotland) Regulations 1999 for road building /deforestation** as detailed in my application.
3. I confirm that the initial scoping of the plan was carried out with FLS and SF staff in 22/03/21.
4. I confirm that the proposals contained in this plan comply with the UK Forestry Standard.
5. I confirm that the scoping, carried out and documented in the Consultation Record attached, incorporated those stakeholders which the SF agreed must be included.
6. I confirm that agreement has been reached with all of the stakeholders over the content of the forest plan and that there are no outstanding issues to be addressed. Copies of consultee endorsements of the plan are attached.
7. I undertake to obtain any permissions necessary for the implementation of the approved Plan.

Signed …… Regional Manager

Signed …… Conservator

Region: West

Conservancy: Perth & Argyll

Date :

Date of Approval: ……

Date approval ends: ……

Contents

1 Regulatory Requirements

1.1 Summary of Proposals

North Mull Land Management Plan (LMP) comprises three forests: Quinish, Aros and Ardmore at a landscape scale unit of 3089 ha. North Mull stretches from Dervaig in the west across to Tobermory and its environs in the east. Two of the forests are adjacent (Aros and Ardmore), but Quinish forest sits alone to the east of Dervaig village. The forest of Aros adjoins the forests of Central Mull LMP (Lettermore, Aintuim, Crannich and Salen – 4805 ha total) bringing the total FLS land holding here on Mull to 7894 ha. However, these have been separated into the Central and North Mull LMPs due to the large areas involved. The smaller recreationally based forest of Aros Park (190 ha) is its own discrete LMP.

There are no National Scenic Area or local authority landscape designations on FLS land within the north. Within the landscape lies a mixture of productive non-native conifers and native woodland, as well as large areas of open land especially on higher ground. These latter include a variety of priority open habitats including Blanket Bog and Upland Heathland. Visualisations showing the impact the changing forest will have over the next twenty years on a series of prominent views can be seen in Map 18.

The area is home to a large number of raptors, including the island's iconic eagle populations of both white tailed eagles and golden eagles which hunt and nest amongst the forests and open land. Large areas of Ancient Woodland Sites exist predominantly up the burnsides and gullies, especially in Aros Forest which has an extensive area of Atlantic rainforest woodland both in the east and along the shores of the Mishnish Lochs. Quinish forest is also home to a number of ancient woodland sites in close proximity to the SAC designated Mingary burn. Mull is also designated as an Environmentally Sensitive Area (ESA).

North Mull has a variety of heritage features across the land which includes four scheduled monuments: two sets of standing stone rows (Cnoc Fada and Maol Mor in Quinish forest), a medieval chapel at Baliscate (Aros) and the prehistoric Dun Urgadul (Ardmore). Whilst there is only one formal recreation facility within the land holding, the Wildlife hide at Loch Tòrr, Mull is a popular destination for nature lovers and a variety of wild trails are well used across the area. Informal recreation facilities of car park and trails at Ardmore are well used by the local population and visitors; also within Quinish forest starting at the wildlife hide car park. Well attended 'drop-in' public consultations at the start of the Land Management Process (2021) and again towards the end (2023) demonstrate the interest that islanders have in their local forests. A scoping report is available to Scottish Forestry detailing engagement with stakeholders, see Appendix XII. Argyll and the Isles is an increasingly important

tourist destination for both domestic and international visitors, and the prominence of Mull as a prime wildlife destination has led to increasingly higher numbers, especially post -Covid restrictions.

There are a variety of private water supplies fed from the land within North Mull and in addition, the island's water catchment for the Public Water supply at the Mishnish Lochs (providing water to the majority of the whole island) is at the southern end of Ardmore forest and the north of Aros; Dervaig village has a separate supply but this catchment is to the south outwith this Land Management plan area. The Tobermory distillery is fed from the distillery loch within Ardmore forest. Flooding is not considered an issue and there are no Potentially vulnerable areas in the vicinity.

The forests vary in their degree of roading: Quinish has a nearly complete roading structure whilst Aros has a large area of first rotation forest and thus an initial road structure still to be constructed. Ardmore has very poor access in the southern section (Erray). Some areas such as these with poor access have not yet reached economic maturity so there is a minimal programme of new road building, with a focus on Aros forest for peatland restoration and access to larch. A glossary of all acronyms used within this plan can be found in Appendix VIII and Map 9 shows the context of the forests.

Objectives

- Develop a strategy for the future management of existing poor quality crops in current rotation and increase rotation length where appropriate.
- Improve the long term sustainability of timber production by exploring opportunities for crops of varying quality into the next rotation and increasing resilience to future threats of climate change and disease; this will work towards future smoothing of the production forecast whilst incorporating the impact of peat restoration work on age restructuring.
- Work towards removing all larch from Mull within the next ten years by managed removal of prioritised larch areas, especially in Quinish and Aros, minimising the impact of future SPHNs on the sustainable management of the forest (Mull sits in Scottish Forestry's '**Risk Reduction Zone')**
- Review and improve both the choice of species and their provenance (in conjunction with ground condition suitability) and also diversification of species (within the constraints of high wind hazard classes impacting on the thinning potential of species other than SS/LP), to ensure sustainable timber production as the forests move into their next rotation.
- Ensure both forest road network and provision of quarries is suitable for future management via an achievable road programme, especially in Aros.
- Develop a strategy to reduce herbivore impact across the FLS estate.
- Develop large scale Peat Restoration projects in Ardmore and also Aros.
- Develop PAWS restoration in Aros and Quinish forests to enhance temperate Atlantic Rainforest areas; also develop habitat networks within FLS land and our neighbours where

identified via woodland expansion (including control of exotic Invasive species at Aros). This will increase the percentage of broadleaves and subsequent biodiversity.

- Management and protection of key species including the considerable raptor interests across Mull ("Eagle Island" draws in high tourist numbers), and in addition the archaeological heritage of the area.
- Ensure water quality maintained in Mingary Burn water catchment (Quinish) for highly protected endangered priority species and also around the Mishnish Lochs public water supply.
- Maintain & enhance both views and existing recreation provision for the benefit of locals and increasingly large visitor numbers to Mull; this is mostly focussed around Ardmore but is also around Quinish and Aros.
- Work with local communities and Mull and Iona Community Trust (MICT), especially around Dervaig and Tobermory, supporting the large-scale tourism now dominating the local economy with subsequent high nature visitor numbers.

Summaries of Management Proposals

The species composition over the first twenty years is as follows:

Species Group	Current – 2024		Year 10 – 2034		Year 20 – 2044	
	Area (ha)	%	Area (ha)	%	Area (ha)	%
Sitka Spruce	842	30	765	27	874	31
Norway Spruce	29	1	53	2	61	2
Larches	75	2.5	46	2	10	0.5
Mixed Conifers	672	24	453	16	246	8
Mixed Broadleaves	8	0.5	8	0.5	8	0.5
Native Broadleaves	221	8	237	8.5	385	14
Internal Open Space*	957	34	937	33	850	31
Additional Peatlands	0	0	305	11	370	13
Forested Area Total	**2804**	**100**	**2804**	**100**	**2804**	**100**
Open Hill	152	53	152	53	152	53
Agriculture	115	40	115	40	115	40
Open Water	18	7	18	7	18	7
Open Habitat Total	**285**	**100**	**285**	**100**	**285**	**100**
LMP area Total	**3089**	**100**	**3089**	**100**	**3089**	**100**

* Includes unplanted land & streamsides, archaeology, deer glades, linear features, recreational areas & quarries

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

Felling	Phase 1	Phase 2	Phase 3	Phase 4
Area in ha	359	120	240	145
% of area (not including other land)	13	4	9	5
Volume (m^3)	120,200	79,600	108,300	58,400

The age class composition over the first twenty years is as follows:

Age Class	Current – 2024		Year 10 – 2034		Year 20 – 2044	
	Area (ha)	%	Area (ha)	%	Area (ha)	%
0 – 10 yrs	236	5	553	14	512	12
11 – 20yrs	130	3	236	6	553	13
21 – 40 yrs	807	23	243	6	366	9
40 – 60yrs	2189	59	1750	46	807	19
60+ yrs	378	10	1038	28	1978	47
Total	**3740**	**100**	**3820**	**100**	**4216**	**100**

Productive Forest Area Statement

PHASE 1

FELLING AREA	*ha*	*ESTABLISHMENT AREA*	*ha*
Conifer	359	Conifer	250
Open Space	50	Open Space	106
Broadleaves	-	Broadleaves – NR	93
		Broadleaves – native planting	28
		Broadleaves – non-native planting	-
Existing Broadleaves	0	Existing Broadleaves	20
TOTAL	**403**	**TOTAL**	**497**

PHASE 2

FELLING AREA	*ha*	*ESTABLISHMENT AREA*	*ha*
Conifer	120	Conifer	166
Open Space	56	Open Space	206
Broadleaves	-	Broadleaves – NR	15
		Broadleaves – native planting	1
		Broadleaves – non-native planting	-
Existing Broadleaves	7	Existing Broadleaves	-
TOTAL	**183**	**TOTAL**	**388**

UKWAS Summary for Year 50

Description	% of LMP Area[1]
Total current woodland area	68
Natural reserves – Plantation	0
Natural reserves – Semi natural	0
Long Term Retention, LISS, Minimum Intervention	6
Area of Conservation value: designations, AW	6
Planned Open/Other	52

Notes

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

Planned Roading Operations

Planned operations, 2024-2034 **10 year plan period**
Road Construction Phase 1 AM11 0.5 km (including bridge) AR10 0.4 km (phase 1) AR10 0.5 km (phase 2) AR1 0.4 km AR13 0.8 km (including bridge) AR12 1.0 km Road Construction Phase 2 AR130 0.2 km Quarry Lochnameal 2 (NM 501 527) Dam Loch an Tòrr (NM 446 533)

The roads to be constructed, as detailed on Map 1 will require local authority Prior Notification (PN) approval. This will be submitted prior to construction following EIA determination approval by Conservancy as included in this plan – see Map 2.

The forwarder/ATV tracks to be constructed will also require local authority Prior Notification (PN) approval and will likewise be submitted to the local authority.

Any unexpired PN's and EIAs are listed in Appendix IX and approval documents are in Appendix X.

1.2 Activity Summary

1.1 Table of Clearfelling (Phase 1 & 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**
69007	36.2	17.3		10.2		6.8			1.9		Part-programmed: larch
69016	195.0	50.1		82.1		0.5			62.6		Peatland restoration
69043	21.1	6.2		8.7					6.2		
69020	*10.7*	*6.2*		*0.4*				*1.9*	*2.2*		
69023	*30.8*	*3.6*		*5.4*		*8.2*		*1.6*	*12.0*		*Larch: needs road access*
69013	*51.9*	*13.0*		*15.9*		*2.5*			*20.5*		*Productive coupe*
69014	*14.0*	*3.6*		*7.0*					*3.4*		*Peatland restoration*
69047	*31.2*	*9.3*		*9.4*				*3.3*	*9.2*		
72008	13.4										
72048	42.4	16.2			3.8	2.4	7.0		13.0		Larch SPHN coupe
72016	34.6	7.3					12.7				Larch SPHN coupe
72020	25.4	14.3				3.8	5.6		1.7		Larch SPHN coupe
72021	11.2										Larch SPHN coupe
72037	16.5	12.0				1.7	0.1		2.7		
72041	*30.7*										
72038	*31.7*										
72002	*6.3*										
71040	21.4	1.7		5.3		0.9	0.3		13.2		'mop up' multi part coupe
71503	95.7	10.3		70.2		1.5			10.1		Peatland restoration
71555	*27.2*	*14.7*		*9.1*					*3.4*		
71061	*6.5*	*2.8*		*0.8*					*2.9*		

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**
NIL											

1.5 Table of Thinning (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**
NIL							

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	**479**	**199,800**	**189**		**225**	**4**	**54**	**7**		
Thinning	Nil									
CCF	nil									
			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/Open)**	**Monitoring Comments (Including any reason not to restock)**
69011	27.5						1.0 PL 15.5 NR	(9.8 exist BL)	1.7		Planted; 2500 approx. 100m enclosure	(FE) remainder NR 90% BL and 10% Open
69046	22.8						1.0 PL 14.2 NR	(6.0 exist BL)	1.6		Planted; 2500 approx. 100m enclosure	(FE) remainder NR 90% BL and 10% Open
69053	45.2						1.0 PL 27.0 NR	(3.0 exist BL)	14.2		Planted; 2500 approx. 100m enclosure	(FE) remainder NR 3.3ha open is peatland
69008	9.5						1.0 PL 6.8 NR		1.7		Planted; 2500 approx. 100m enclosure	(FE) remainder NR 0.9ha of open is heritage
69018	10.0	4.8				4.2			1.0		*2500/ha for conifers*	(FE) planted
69007	*36.2*	*28.5*				*3.9*	*0.9 PL*		*2.9*		*2500/ha for conifers* *1600/ha for BL*	*(FP)*
69043	*21.2*	*16.8*							*4.4*		*2500/ha for conifers* *1600/ha for BL*	*(FP)*
69016	*195.0*	*5.9*				*11.8*			*177.3*		*2500/ha for conifers*	*(FP) 176ha of open is peatland restoration*
72043	19.9	15.4							4.5		2500/ha for conifers	(FE)
72505	4.7						4.7 NR				2500/ha for conifers 1600/ha for BL	(FE)
72035	23.0				0.5	0.5	17.2 NR		4.8		2500/ha for conifers 1600/ha for BL	(FE)
72013	18.7				7.7	7.7	0.6 NR		2.7		2500/ha for conifers 1600/ha for BL	(FE)

1.7 Table of Restocking – including incomplete RS from previous plan												
72012	28.0				9.5	9.5	1.6 NR		7.4		2500/ha for conifers 1600/ha for BL	(FE)
72003	35.8	33.5							2.3		2500/ha for conifers	(FE)
72505	2.6						2.6 NR				*1600/ha for BL*	(FE)
72008	*11.6*	*11.6*									*2500/ha for conifers*	*(FP)*
72048	*42.4*	*19.3*			*5.2*		*11.3 NR*		*6.6*		*2500/ha for conifers* *1600/ha for BL*	*(FP)*
72016	*34.7*	*27.9*					*1.0 NR*		*5.8*		*2500/ha for conifers*	*(FP)*
72020	25.4	10.7		0.6	8.3		0.8 NR		5.0		*2500/ha for conifers* *1600/ha for BL*	*(FP)*
72021	11.3				3.4	3.4	2.2 NR		2.3		*2500/ha for conifers* *1600/ha for BL*	*(FP)*
72037	*10.5*	*7.0*				*1.8*			*1.7*		*2500/ha for conifers*	
71024 (71523)	19.0	13.8							5.2		2500/ha for conifers	(FE)
71022 (71533)	12.7	8.6							4.1		2500/ha for conifers	(FE)
71029 (71524)	14.6	12.8							1.8		2500/ha for conifers	(FE)
71033	5.7	4.0							1.7		2500/ha for conifers	(FE)
71549	3.4	1.8							1.6		2500/ha for conifers	
71069 (71534)	13.9	9.0					2.1 PL		2.8		2500/ha for conifers 1600/ha for BL	(FE)
71043 (71635)	15.5	15.5									2500/ha for conifers	(FE)
71054 (71743)	33.0	17.2					9.5 PL		6.3		2500/ha for conifers 1600/ha for BL	(FE)

1.7 Table of Restocking – including incomplete RS from previous plan												
71568	11.7						10.7 PL		1.0		1600/ha for BL	(FE)
71655	9.3	2.6							6.7		2500/ha for conifers	Some areas of peatland in open part.
71060	22.4	15.1					2.5 NR		4.8		2500/ha for conifers 1600/ha for BL	(FE)
71040	21.4	12.8					3.3 PL		5.3		2500/ha for conifers 1600/ha for BL	(FP) multipart
71521	66.5	43.6							22.9		2500/ha for conifers	Planting starting (71969, 71521, 71513)

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**

1.9 Table of Civil Engineering				
Proposed Activity (Road/Quarry)	**OS Grid Reference**	**Forest/Coupe**	**Description (Length/Area/Construction)**	**Monitoring Comments**
Phase 1 of plan				
AM11			0.5	Includes bridge
AR10			0.9	
AR1			0.4	
AR13			0.8	Includes bridge
AR12			1.0	

1.9 Table of Civil Engineering				
Phase 2 of plan				
AR130			0.2	

1.10 Table of Other Projects				
Proposed Activity	**OS Grid Reference**	**Forest/Coupe**	**Description (Length/Area)**	**Monitoring Comments**
Forwarder Tracks Phase 1 AR101T1 AR1T1 Phase 2			 500m 600m	 Deer extraction/planting Deer extraction
Temporary Fencing: Aros 69008 69011 69046 69053			 10 ha 19 ha 19 ha 40 ha	 10x10 and 20x20 temporary fencing enclosures to be built across these areas to allow regeneration; successful planting.

1.10 Table of Other Projects				
Heritage works: Maol Mor standing stones				Conifer trees at the edge of this important heritage feature to be felled away from the monument and by hand. The stumps should be left to rot in situ. (clarification as to the requirement of SMC required will be obtained by the Environment team but it is unlikely if the practice described above this adhered to).
Environment: **Peat forest to bog** Ardmore 71503 Aros 69016 Aros 69014 **Environment:** **Rainforest** Aros Quinish		Gearr Abhainn Allt nan Torc Loch nam Miol	86 ha 180 ha 10 ha	Continuation of previous restoration Large area of peatland Smaller area near loch Exotic removal from rainforest Exotic removal from enclosure for Mingary Burn

1.3 EIA Screening Determination

Scottish Forestry
Coilltearachd na h-Alba

Environmental Impact Assessment
Screening Opinion Request Form

Please complete this form to find out if you need consent from Scottish Forestry, under the **Forestry (Environmental Impact Assessment) (Scotland) Regulations 2017**, to carry out your proposed forestry project. Please refer to Schedule 2 Selection Criteria for Screening Forestry Projects under Applying for an opinion. If you are not sure about what information to include on this form please contact your local Conservancy office.

Proposed Work							
Please put a cross in the box to indicate the type of work you are proposing to carry out. Give the area in hectares and where appropriate the percentage of conifers and broadleaves							
Proposed Work	select	Area in hectares	% Conifer	% Broad-leaves	Proposed work	select	Area in hectares
Afforestation	☐				Forest roads	☐	
Deforestation	☒	212	100	0	Forest quarry	☐	
Location of work		North Mull					

Description of Forestry Project and Location
Provide details of the forestry project (size, design, use of natural resources such as soil, and the cumulative effect if relevant). Please attach map(s) showing the boundary of the proposed work and other known details.
Use this form in consultation with the "Peatland Appendices" within the LMP, which include the types of restoration methods, maps and site details. Ardmore: Gearr Abhainn Coupe 71503 - total peatland restoration area is 76ha (10ha is exisiting open land - Blanket bog within the 86ha area) Soils comprise peat types: 9b, 9b, 9e, 11c (all Assessed deep peat soil types) Of this, all 76ha will not achieve YC8 at restocking This area is adjacent to a previously restored peatland area to the north which is hydrologically connected to Gearr Abhainn. Aros: Allt nan Torc Coupe 69016 - total peatland restoration area is 126ha (49ha is existing open land within the 180ha area) Soils comprise peat types: 10b, 14w (Potential to Restore deep peat soils) - 41ha 9b, 9c, 9d, 9e, 11b (Assessed deep peat soils) - 85ha Of this, 8ha is assessed as being able to achieve more than YC8 at restocking and 77ha is assessed as not achieving YC8 at restocking. However, as these 8ha are hydrologically connected to the peatland restoration area they will not be restocked.

Scottish Forestry
Coilltearachd na h-Alba

Environmental Impact Assessment
Screening Opinion Request Form

Aros: Loch nam Mìol
Coupe 69014 - total peatland restoration area is 10ha
(7ha is existing open land within the 17ha area)

Soils comprise peat types:
10b Potential to Restore: 8ha
9e Assessed: 2ha
Of this, the 2ha has been assessed and will not achieve YC8 at restocking

All the above peatland restoration areas link with adjacent peatland habitats.

Provide details on the existing land use and the environmental sensitivity of the area that is likely to be affected by the forestry project.
Existing land use is forestry but there are no designations on any of the sites.

Description of Likely Significant Effects
Provide details on any likely significant effects that the project will have on the environment (resulting from the project itself or the use of natural resources) and the extent of the information available to assist you with this assessment.

Population and Human Health - No impact.
There are no rights of way impacted by these peatland areas

Private water supplies are located within Aros forest and all guidelines will be carefully followed throughout the restoration process. The water supply for the Tobermory distillery is located in Ardmore forest downstream of the peatland restoration area. No public water supplies are within the catchments for these peatland restoration areas.

Restoration will not significantly change net volume of runoff (catchment area will be unaltered and any effects of evapotranspiration changes due to deforestation negligible in context of Scottish West coast). No impact on PWS. Howson et al 2021 reported substantial increases in the annual runoff to rainfall coefficient resulting from forest-to-bog restoration at a blanket bog in the Flow Country (Forsinain), implying an increase in the volume of water available annually from any affected public water supplies. This can be beneficial in maintaining supplies during the summer, especially during any prolonged dry weather spells but maybe those are so rare on our hyperoceanic west coast that the beneficial impact is negligible.

Restoration will reduce likelihood of extreme low flow events and extreme high flow events due to improved capacity for retention and slower release of water by restored peatland. Beneficial for PWS. Howson et al 2021 reported that for the blanket bog, storm peak discharge (i.e. high flow events) were similar after forest-to-bog restoration to that of sites still under high forest. Further rewetting by additional drain blocking at one of the sites reduced peak discharge compared to that from a sub-catchment under high forest. The baseflow index is a measure of the proportion of the runoff that derives from stored sources; the higher the baseflow, the more sustained the flow during periods of dry weather. At Howson's blanket bog site, the baseflow index was higher from forest-to-bog restored areas than from high forest.

Biodiversity (habitats, species) - Positive.
Restoration of a degraded peatland will restore a priority open habitat, benefitting both habitat and its associated species. Pre-operational surveys will identify any protected or breeding species to ensure suitable mitigation is in place to avoid any disturbance.

Land - No impact.
Where the restoration project is adjacent to agricultural land, boundary drains will not be blocked to ensure neighbouring land is not compromised by re-wetting and increased potential to flooding.

Soil and geology, geomorphology - Positive.
Re-wetting the site will benefit the peat soils as forestry modifications will be reversed to stop oxidisation and further degradation and erosion of the peat.

Air - No impact.

Climate - Positive.
Afforested peatlands have the potential to emit more GHG emissions than can be absorbed by a growing woodland. Restoration of afforested peatlands, especially Presumption to restore peatlands, will prevent the significant net release of greenhouse gases, ultimately benefitting the local climate.

Material Assets - No impact.

Cultural Heritage - No impact.
Pre-operational surveys will identify any cultural heritage features to ensure suitable mitigation is in place to avoid any disturbance.

Landscape - Positive.
Peatland restoration will create more open space within the LMP forest blocks and their local area. This will add more diversity to the forest structure by creating open and associated native woodland habitats.

Water - Positive & Negative:
Reduced risk of flooding downstream through the creation of water holding areas.
Improved water quality resulting in added resilience for the salmonid habitat and drinking water quality by reducing the run-off from the exposed peat and degraded peatland.
Re-wetting techniques have shown to have no significant adverse effect on water quality.
Ultimately, the water quality of the local area will be improved by reducing run-off from the exposed peat and degraded peatland.
But organic material and machine pollution potentially entering watercourses affecting salmonid habitat and drinking water quality during restoration.

Priority Species - Positive & Negative
Improved habitats for hunting raptors.
But potential noise and physical disturbance to hunting raptors during restoration.

Priority Habitats - Positive:

Reinstating the peatland priority habitat and increasing carbon in soils in the forest. Improved water quality resulting in added resilience for the salmonid habitat and drinking water quality by reducing the run-off from the exposed peat and degraded peatland. Improved biodiversity connectivity between native/natural habitats, and improved riparian habitats within the forest area. Although FWPM populations are present within the forests of North Mull, the catchment areas are not affected by these peatland restoration areas.

Include details of any consultees or stakeholders that you have contacted in order to make this assessment. Please include any relevant correspondence you have received from them.
Consultees: FLS National Peatland team FLS Peatland team (West region) - site visits and peat probing where required, working together with FLS Environment team NatureScot and Argyll & Bute Council as part of LMP process RSPB - consultation in person of draft plans (Sept. 2023)

Mitigation of Likely Significant Effects
If you believe there are likely significant effects that the project will have on the environment, provide information on the opportunities you have taken to mitigate these effects.
Likely Significant Effects identified as having a negative impact are discussed below: Water & Priority Species: Silt management will be carefully controlled as per Forest Water Guidelines which will be strictly adhered to, minimising any significant effects on Private Water Supplies (Aros and Ardmore). Priority Species Noise and physical disturbance to hunting eagles during restoration will be minimised by adhering to all timing constraints for raptors and where necessary liaising with RSPB regarding any specific sites. The restoration of the peatland is in line with Scottish Government objectives and FLS objectives.The peatland restoration operations will comply with the UK Forestry Standard 2017, in particular Sections: 6.6 - Forests and Soils, and 6.7 - Forests and Water. This includes SEPA General Binding Rules. Prior to operations commencing the FLS Environment team will assess the sites for protected or breeding species (such as FWPM, otter, eagles, other raptors etc), and for heritage features. They will provide guidance which must be followed by FLS staff and contractors. These measures can include: restricting the timing of operations and stipulating protective buffer zones. Noise and disturbance to any protected raptor species will be mitigated by following Guidelines in respect to timing of operations and continued close liaison with RSPB in relevant areas.

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Sensitive Areas	
Please indicate if any of the proposed forestry project is within a sensitive area. Choose the sensitive area from the drop down below and give the area of the proposal within it.	
Sensitive Area	Area
Deep peat soil	100
Select...	
Select...	
Select...	
Select...	

Property Details			
Property Name:	North Mull LMP		
Business Reference Number:		Main Location Code:	
Grid Reference: (e.g. NH 234 567)	NM 506 522	Nearest town or locality:	Tobermory
Local Authority:		Argyll & Bute	

Owner's Details				
Title:	Mr	Forename:	Andrew	
Surname:	Hunt			
Organisation:	FLS		Position:	Regional Manager - West Region
Primary Contact Number:	07881 490694		Alternative Contact Number:	
Email:	andrew.hunt@forestryandland.gov.scot			
Address:	Forestry and Land Scotland, Millpark Road, Oban			
Postcode:	PA34 4NH		Country:	UK
Is this the correspondence address?	No			

Agent's Details				
Title:	Mrs	Forename:	Susannah	
Surname:	Hughes			
Organisation:	FLS		Position:	Planning Forester
Primary Contact Number:	07827 239056		Alternative Contact Number:	
Email:	susannah.hughes@forestryandland.go.scot			
Address:	Forestry and Land Scotland, Millpark Road, Oban			
Postcode:	PA34 4NH		Country:	UK
Is this the correspondence address?	Yes			

Office Use Only	
GLS Ref number:	

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Please complete this form to find out if you need consent from Scottish Forestry, under the **Forestry (Environmental Impact Assessment) (Scotland) Regulations 2017**, to carry out your proposed forestry project. Please refer to Schedule 2 Selection Criteria for Screening Forestry Projects under Applying for an opinion. If you are not sure about what information to include on this form please contact your local Conservancy office.

Proposed Work							
Please put a cross in the box to indicate the type of work you are proposing to carry out. Give the area in hectares and where appropriate the percentage of conifers and broadleaves							
Proposed Work	select	Area in hectares	% Conifer	% Broad-leaves	Proposed work	select	Area in hectares
Afforestation	☐				Forest roads	☒	3.6
Deforestation	☐				Forest quarry	☐	
Location of work		North Mull					

Description of Forestry Project and Location
Provide details of the forestry project (size, design, use of natural resources such as soil, and the cumulative effect if relevant). Please attach map(s) showing the boundary of the proposed work and other known details.

A total of 3600m of forest road are proposed as the Central Mull road project within the plan period (see map). The construction of these roads will enable suitable access into block areas.

The total road footprint of the project area is 3.6 ha and comprises the following roads:

Forest block	Road Name	Road Length (m)
Ardmore	AM11	500
Aros	AR10	900
Aros	AR1	400
Aros	AR13	800
Aros	AR12	1000
	Totals	3600

The road footprint hectarage of 3.6 ha has been calculated assuming a10m wide permanent area of which 3.5m is the running surface, the remainder comprising ditches and verges.

In addition, a felling corrridor of 30m width, totalling 10.8 ha will be required for road construction. The proposed roadlines also include a 50 metre buffer, which will allow for movement of the exact line of the road depending on ground conditions after felling and during construction.

Felling Corridor comprises - 30% SS; 12% Larch; 30% LP; 28% Open

All road construction will be UK Forest Standard compliant and follow the Forest and Water Guidelines (5th Edition). The roads will be constructed in compliance with SEPA CAR

Environmental Impact Assessment
Screening Opinion Request Form

regulations in advance of operational activity. the design of the roads will conform to both the Timber Transport Forum document "The deisgn and use of the structural pavement of unsealed roads 2014" and SNHs "Constructured tracks in the Scottish uplands - Revised Sept 2015". Soil will be excavated down to a base layer and stone used to construct the base and complete the road surface. All water crossings will be of bottomless or arched culverts (or bridges) sized to accommodate the 1 in 200 year flood event.
Prior Notification approval through Argyll & Bute Council will be required following EIA determination by Perth and Argyll Conservancy, following the approval of this Land Management Plan submission, although all road applications within the NSA designation will be via Planning Permission rather than Prior Notification.

Provide details on the existing land use and the environmental sensitivity of the area that is likely to be affected by the forestry project.
The proposed roads fall within the forests of North Mull. All the blocks contain commercial crop as well as large areas of ancient woodland, priority habitats and open hill. There are no particular environmental sensitivies or designations identified for these roads.

Description of Likely Significant Effects
Provide details on any likely significant effects that the project will have on the environment (resulting from the project itself or the use of natural resources) and the extent of the information available to assist you with this assessment.
Private water supplies identified downstream of AR10 road proposal (campsite) and Tobermory distillery feeder loch in Ardmore. Where road proposals have to cross deep peat soils, are civil engineering guidance 'New forest road on peat' will be followed. It is anticipated that although there may be localised impacts affecting the water table, there will be no change to the net runoff into water supplies. As works will not be taking place within a buffer zone of the water supply, any localised impacts will not be felt at the water supply itself. FLS Water supplies routemap, site visits and advice from FLS specialist (A.Gale) identified supply as a groundwater fed spring. All appropriate UKFS guidance to be carefully followed to ensure no impact on water supply. .

Include details of any consultees or stakeholders that you have contacted in order to make this assessment. Please include any relevant correspondence you have received from them.
Consultees: FLS Environment team - site visits to check no environmental constraints of proposed roadlines. No issues on location for construction, some timing contraints due to prioirty species. FLS Civils team - site visits to mark location of proposed roadlines. FLS Delivery team - confirmation of requirements for road access into coupes, with proposals deemed appropriate. NatureScot and Argyll & Bute Council as part of LMP process

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RSPB - consultation in person of draft plans (Sept 2023) Scottish Water - consultation and further correspondence of draft plans (Oct 2023) Site visits: private water supply

Mitigation of Likely Significant Effects
If you believe there are likely significant effects that the project will have on the environment, provide information on the opportunities you have taken to mitigate these effects.
Prior to operations commencing the FLS Environment team will assess the sites for protected or breeding species (such as FWPM, otter, eagles, hen harriers, other raptors etc), and for heritage features. They will provide guidance which must be followed by FLS staff and contractors. These measures can include: restricting the timing of operations and stipulating protective buffer zones. Careful site prescriptions will continue to be strictly observed as per Forest Water Guidelines minimising any significant effects on Private Water Supplies potentially affected by restoration (Aros) and the distillery loch (Ardmore). Noise and disturbance to any protected raptor species will be mitigated by following Guidelines in respect to timing of operations and continued close liaison with RSPB in relevant areas. The best roadline has been taken to balance the varying requirements of peat and water quality, minimising any adverse impact on water flows. Choice of road type is determined as per the Civil Engineers specifications on "New forest road on Peat" (see Appendix V Peatland). Private water supplies: 50m buffer exclusion zone to be maintained around Campsite supply (Aros) and liaison with owners at workplan stage prior to any works commencing. Restocking adjusted to remove any planting within exclusion zone.

Sensitive Areas	
Please indicate if any of the proposed forestry project is within a sensitive area. Choose the sensitive area from the drop down below and give the area of the proposal within it.	
Sensitive Area	Area
Select...	
Select...	
Select...	
Select...	
Select...	

Property Details

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Screening Opinion Request Form

Property Name:	North Mull, Argyll		
Business Reference Number:	-	Main Location Code:	-
Grid Reference: (e.g. NH 234 567)	NM 481 545	Nearest town or locality:	Tobermory
Local Authority:		Argyll & Bute Council	

Owner's Details				
Title:	Mr	Forename:	Andrew	
Surname:	Hunt			
Organisation:	Forestry and Land Scotland		Position:	Regional Manager
Primary Contact Number:			Alternative Contact Number:	07881 490694
Email:	andrew.hunt@forestryandland.gov.scot			
Address:	West Region, Millpark Road, Oban			
Postcode:	PA34 4NH		Country:	Scotland
Is this the correspondence address?	No			

Agent's Details				
Title:	Mrs	Forename:	Susannah	
Surname:	Hughes			
Organisation:	FLS		Position:	Planning Forester
Primary Contact Number:	07827 239056		Alternative Contact Number:	
Email:	susannah.hughes@forestryandland.gov.scot			
Address:	Millpark Road, Oban, Argyll			
Postcode:	PA34 4NH		Country:	UK
Is this the correspondence address?	Yes			

Office Use Only	
GLS Ref number:	

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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 including those below:

“Securing a green recovery on a path to net zero: climate change plan 2018–2032” (Scottish Government)

“Protecting private water supplies during forestry activities” (Confor); this includes observing the UKFS 50m buffer around abstraction points.

“River Basin Management Plan for Scotland 2021 – 2027” (SEPA)

“Deadwood Management Guidance” (FLS) - supplement to Scottish Forestry Practice Guide: ”Managing deadwood in forest and woodlands”.

“Managing forest operations to protect the water environment” (Forest Research Practice Guide)

“Building wildfire resilience into forest management planning” (FC Practice Guide).

“Strategic guide for the conservation management of open habitats on Scotland’s national forest estate.” (FLS)

“The state of Scotland’s rainforest – research report 2019.”

“Deciding Future Management Options for Afforested Deep Peatland” (FCS Practice Guide 2015)

“Planting and restocking on peat soils” (Standard Operating Procedure, FLS 2021)

“PAWS Guidance” (FLS)

“An approach to prioritising control of rhododendron” (FLS)

“Managing and controlling invasive rhododendron” (FC Practice Guide 017)

“Managing invasive and non-native forestry species” (FCS)

“Priorities for rhododendron control” (FLS)

“Deadwood Guidance” (FLS)

“Forest operations and wildlife in Scottish Forests” (FCS Guidance Notes 31)

“Forest operations and birds in Scottish Forests” (FCS Guidance Notes 32)

“Forest operations and European protected species in Scottish Forests” (FCS Guidance Note34)

“Forest operations and bats in Scotland” (FCS Guidance Notes 35a)

“Forest operations and otters in Scotland” (FCS Guidance Notes 35c)

“Managing forests for white-tailed eagles” (FCS Practice Notes 101)

“Forest operations and badger setts” (FCS Practice Guide 9)

UK Forestry Standard: including Section 6.7 – Forests and Water Guidelines and section: 6.2 – Forests and Climate Change (mitigation and adaptation to improve forest resilience, including risks from wildfire.)

“FLS Larch Strategy”

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 meters 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

North Mull LMP covers three forests; two adjacent areas around Tobermory (Ardmore and Aros) and an isolated forest at Quinish. The areas in the vicinity of Ardmore can be seen by sea when travelling by ferry to and around the island. The internal areas of forest are less visible, except when driving between Tobermory and the village of Dervaig in the north-west where the view across the Mishinish lochs is well publicised. The area abounds the Central Mull LMP at An Speinne and whilst there is only one formal recreation provision by FLS, there is a network of informal routes across the area, including a popular path at Ardmore enjoyed by locals and visitors alike.

We help deliver the Scottish Government's National Island Plan focusing on areas such as: the Mull pier (enabling timber and freight operations off the island); Community Benefits such as Community Asset Transfer (CATS) opportunities and enabling partnerships for different projects; investigating future operations for partnership working to further any aspirations communities have to grow or expand; and also significant contract opportunities across our various work areas, many of which are now delivered by an island resource. A plan brief was drawn up (Appendix I) on analysing the previous plan (Appendix II) including the full Concept Table (Appendix IV).

Landscape

In general, North Mull forests are not highly visible in the landscape, which is reflected in the relatively low number of viewpoints (an exception being travelling from Tobermory to Dervaig, see Section 3.5 and map 18). A Landscape Analysis was undertaken which highlighted areas of steep ground in Aros alongside the Mishnish Lochs, parts of Quinish and the top end of Ardmore. Planned felling is not anticipated to cause an issue with adjacency in Aros or Ardmore forests; areas with large felling coupes are mostly being restored to peatland with any adjacent felling in the process of being established. However in the northern sections of Ardmore and in Quinsh forests, repeated SPHNs have resulted in the unavoidable situation of more felling than would have been preferred. An ambitious establishment programme aims to address this ongoing legacy and once all larch is removed it is hoped this will not be an issue going into the new planned felling.

2.2 Plan Objectives

- Develop a strategy for the future management of existing poor quality crops in current rotation and increase rotation length where appropriate.
- Improve the long term sustainability of timber production by exploring opportunities for crops of varying quality into the next rotation; this will work towards future smoothing of the production forecast whilst incorporating the impact of peat restoration work on age restructuring.
- Work towards removing all larch from Mull within the next ten years by managed removal of prioritised larch areas, especially in Ardmore and Aros, minimising the impact of future SPHNs on the sustainable management of the forest.
- Review and improve both the choice of species and their provenance (in conjunction with ground condition suitability) and also diversification of species (within the constraints of high wind hazard classes impacting on the thinning potential of species other than SS/LP), to ensure sustainable timber production as the forests move into their next rotation.
- Ensure both forest road network and provision of quarries is suitable for future management via an achievable road programme, especially in Aros and Ardmore.
- Develop a strategy to reduce herbivore impact across the FLS estate.
- Develop large scale Peat Restoration project in Aros and Ardmore and enhance Open Habitats.
- Develop PAWS restoration in Aros and Quinish blocks, and develop habitat networks via woodland expansion to increase the percentage of broadleaves and subsequent biodiversity (including control of Exotic Invasive species in Aros).
- Management and protection of key species including considerable raptor interests across Mull ("Eagle Island" draws in high tourist numbers), and in addition the archaeological heritage of the area.
- Ensure water quality maintained in Mingary Burn water catchment (Quinish), the Mishnish Lochs catchment (Aros and Ardmore: the island's drinking water supply) and the Tobermory Distillery (Ardmore).
- Maintain & enhance both views and existing recreation provision for the benefit of locals and increasingly large visitor numbers to Mull; focussed in Ardmore.
- Work with local communities and MICT, especially around Dervaig and Tobermory, supporting the large-scale tourism now dominating the local economy with subsequent high nature visitor numbers.

Key challenges

- Elevated operating costs, increased logistical constraints and reduced contractor resources associated with island operations: operating within the restrictions of an ageing ferry fleet has presented additional challenges as the unreliability of access to the island increases.
- Browsing Pressures: the high number of deer across Central and Northern Mull creates problematic conditions for re-establishing woodland across areas of the forests. Whilst culls continue to be met on FLS land, until changes can be effected at a landscape scale with neighbouring land owners, it is very challenging to effectively establish both broadleaf and mixed conifer woodlands.
- Coupe size/structure and road infrastructure need further assessment and consideration in order to improve the economics; some areas are with no access due to limitations of road infrastructure.
- Infectious diseases: Statutory Plant Health Notices (SPHN)s continue to be served in Quinish forest; larch will be prioritised for removal as soon as possible, based on the FLS Larch Strategy.
- Climate: windiness and exposure scores (DAMS) range from small pockets in the north of Ardmore and the Mingary burn at Quinish being 14 to the majority of Aros and all other parts of the forest being over 16. Thus there are few areas which fit the following conditions suitable for thinning: high forest, crops between 18 and 25 years old, Yield Class ≥ 12, DAMS score ≤ 17, forest road within 200 metres and slope < 33%.
- Steep Slopes: due to the underlying volcanic geology resulting in an unusual topography, there are some very steep areas with limited access e.g. the area surrounding the southern shores of the Mishnish lochs which have a very challenging topography.
- Power lines: ranging from local lines to power villages to regional lines supplying the islands (eg Coll), resilience of powerlines is an important consideration across the plan area due to the difficulties of obtaining power shutdowns for any felling work.
- Atlantic Rainforests & PAWS: Rainforest and PAWS restoration is hampered in places with exotic regeneration, primarily Rhododendron ponticum, in the east of Aros.
- Peatland restoration: large areas previously afforested on Mull are now considered unsuitable for tree growth and should be restored back to peatland which provides a greater carbon sink than allowing trees to remain; this reduces the land bank available for tree growth but forms a central part of the Scottish Government's peatland strategy towards combating climate change.
- Priority species: Mull's reputation as 'Eagle Island' can add logistical complexity to delivering operations across the island with multiple nesting sites for raptors including Golden Eagles, White Tailed Eagles and Hen Harriers. The presence of Fresh Water Pearl Mussels also highlights the need to strictly comply with all relevant guidance at all times and close liaison with statutory bodies.
- Resilience in the face of climate change: poor species choice in the past, especially in respect to Lodgepole Pine, has left a challenging situation of poor quality crops. Consideration must be given to allowing species choice to change towards those crops recommended by Environment

Site Classification (ESC) 2080 although this will not necessarily take effect immediately until nursery supplies start to provide more alternative species with better provenance.

2.3 Analysis and concept

See Map 9 and Appendix IV for tables and maps showing how concepts were derived, through analysing Objectives, Opportunities and Constraints for each area.

3 LMP Proposals

3.1 Management

(See Map 5 for Management Proposals)

Clear Felling

There is a considerable amount of felling proposed within this Land management plan. This is driven by the two major policies affecting our forests on Mull at the moment:

- the need to remove mature larch due to the ongoing threat of larch infection by Phytophthera Ramorum; our forests have already been subject to a number of Statutory Plant Health Notices and we must carefully the plan for the removal of the remaining larch, see Map 16.
- The need to restore peatland areas as part of Scottish Government policy (see Map 4).

There are large quantities of both mature larch and areas identified as deep peatland for restoration within the plan area.

QUINISH:
Quinish forest has had a high volume of larch which continues to be heavily impacted by SPHNs and has been the major driver for felling. Two coupes were identified for Phase 1 felling to remove larch and, given three new SPHNs were issued in early 2024, this has been increased to five coupes. Wherever it was felt the crop would still stand, coupes have been retained with infected larch keyholed out of the rest of the crop. This has resulted in a further four coupes being scheduled as Phase 2 with any infected larch being removed earlier in line with SPHN timescales. One small area within the timescale of this plan and others are within the catchment immediately adjacent to the Mingary burn SAC. The small 6ha area adjacent to the Mingary burn has been brought forward for felling to enable the successful establishment and PAWS restoration of the area abounding the SAC. The Phase 1 coupes have been applied for under separate felling licence and are already approved apart from this additional small PAWS area. The number of felling coupes are higher than originally envisaged given that a lot of felling has had to take place during the period of the previous plan; this is entirely due to the ongoing and unavoidable problem of infected larch.

ARDMORE:
This forest has one large coupe identified for the first phase of the plan, a large peatland restoration area at Geàrr Abhainn expanding a previous successful peatland restoration to the north. Once a bridge is installed at the end of the forest road, this site will be accessible for restoration. In the north the second phase 1 multi-part coupe is a more bespoke operation with removal of pockets of larch and other mature conifers not removed at the time of previous felling operations. In addition there are

two phase 2 coupes with timber having reached maturity bounded by newly planted sites which are not considered to pose any adjacency or roading issues.

AROS:
Aros forest has one Phase 1 coupe carried over from the previous plan as part of larch removal within the forest, and also a large peatland restoration coupe in the south. There are several Phase 2 coupes identified to continue the larch removal, especially around the Mishnish lochs.

FIREWOOD:
FLS are working to get through the backlog on our waiting lists for firewood but are hampered by lack of staff resource and also the restrictions placed on us in selling on infected wood from larch felling. Unfortunately FLS were unable to successfully negotiate a change in policy for Mull to allow infected wood to be sold on the island. However, improvements are being made working with Standing Sales merchants who undertake all our felling on the island.

Thinning

There are not many opportunities for successful thinning interventions on Mull due to the access issues, Mull's unusual island setting and the challenges of wind impacts on the crop (see DAMS maps in Appendices). Amenity thinning may take place as required around thoroughfares in the forest (forest roads/tracks/recreational trails both formal and informal); see Map 6. These selective fellings are focused on the removal of essentially problem trees that are impacting adversely on site infrastructure, recreation areas, ecologically sensitive open ground and native woodland areas. This would allow for example halo thinning of veteran broadleaved trees, removal of conifers along watercourses to protect ASNW remnants and veteran trees. Thinning can also be used to create an attractive environment to trails and car parks and to open up viewpoints. There is usually no measurable volume removed and fellings may target small, scattered and individual trees in order to achieve the thinning objective. The scale of the operations makes representation of these areas on maps difficult. In general, the approach would be to remove minimum number of trees to achieve the objective of minimising adverse impacts within these targeted areas. The areas that may be involved have been estimated at 60% conifers and 40% broadleaves (see initial table).

Low Impact Silvicultural Systems (LISS)

As with thinning above, the majority of the forests in Central Mull do not lend themselves towards early interventions and Continuous Cover Forestry (CCF). It is envisaged to adopt Forest Development Type (FDT) prescriptions in suitable areas showing a longer term vision over the next rotations of the forest.

Natural Reserves (NR)

There are no Natural Reserves within this plan area; however the adjacent Central Mull LMP has areas designated as such.

Long Term Retentions (LTR)

Ardmore: An area of Long Term Retention has been identified for Priority raptor species.

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, community/recreational opportunities whilst 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.

SLOPE STABILITY AREAS:

There are no Slope Instability areas within the plan area.

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 many of the sites further reduces the risk of climatic impacts. However, there are also threats to the suitability of SS as a timber species if significant summer droughts become normal. This needs to be reviewed and our response agreed to climate change locally. The predicted climatic change is likely to interact in the longer term with soil characteristics and this may have a positive impact on soil structure and widen the range of species potentially suitable for the site. As such, the ESC 2080 model has been applied where possible when determining species choice. Soil surveys are being carried out although Quinish forest is still to be surveyed due to financial constraints.

TREE DISEASES AND PESTS

An increase 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 in Larch and the only disease 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 uninfected larch is underway and it is no longer being planted, as per FLS' Larch Strategy. A number of SPHNs have been served on the forests especially Quinish and Ardmore and any remaining larch is considered to be at high risk.
North Mull LMP lies wholly within the RISK REDUCTION ZONE.

Dothistroma needle blight (DNB) affects pine species. Pine stands are being monitored and the worst affected brought forward for harvesting. This has less potential impact on these forests although there is a high percentage of LP planted; this has often failed due to the poor provenance availability at time of planting. Only the Alaskan lodgepole pine has resistance and Scots pine can only be planted away from Caledonian pinewood inventory sites which are not present in these forests.

Ash Dieback is working its way through the Region with the expectation that at least 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, unless they potentially pose a threat to safety alongside roads or recreational areas.

FIRE RESILIENCE

Due to climate change there is an increasing risk of fires across the National Forest Estate (NFE). The proposals within this plan aim to limit the risk through species diversity and age diversity, as well as having open rides. The road network will also provide a barrier for fires and enable access to areas if a fire would occur (see map 7).

FLOOD RISK

SEPA's Flood Maps do not show any areas within the forest that have a particular likelihood of surface water or coastal flooding. The Mingary burn, the Mishnish Lochs and Loch nam Mìol are shown with areas as a 10% chance of River flooding; however the perceived risk is low.

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)

TIMBER TRANSPORT ROUTES: The primary "in forest" route for Quinish exits onto the B8073 for 1km and then turns down through Lettermore forest to rejoin the public road network north of Salen and

thence the Fishnish Timber Pier. Using predominantly the forest road network ensures there is minimal impact on the fragile single track roads of Mull from timber lorries (see Map 10).

The B8073 public road from Dervaig to Tobermory is an Excluded routes although the section linking to the two in-forest Haul Roads is an Agreed Route (from Quinish forest entrance to Lettermore entrance). This involves the use of specified vehicles, modelled on the TTMP protocol.
Both Ardmore and Aros forests join up to the A848 and thence down to Salen pier.

The design of the road will conform to both the Timber Transport Forum document "The design and use of the structural pavement of unsealed roads 2014" and SNH's "Constructed tracks in the Scottish uplands – revised Sept 2015".

3.2 Establishment

See Map 11 for Future Habitats and Species; current species are shown on Map 8 and a provenance chart is in Appendix VII.

Restocking

In the better soils the nutrient and moisture regimes become more favourable for a wider range of alternative conifer species which could include: Western Hemlock (WH), Norway Spruce (NS), Grand Fir (GF), Douglas Fir (DF), Noble Fir (NF), Scots Pine (SP), European Silver Fir (ESF) and a range of other minor conifers: (Western Red Cedar (WRC) Serbian Spruce (OMS) Japanese Cedar (JCR)) as small elements. Some of these species are already present although the softer, diverse conifers are vulnerable to deer damage which has prevented successful establishment of these species in various locations throughout the forests. Where Mixed Conifers have been chosen for an area's establishment, the ESC 2080 Climate Change tool was used where possible to suggest suitable species in line with changes to current conditions. Where soil information was not present, this decision will be made closer to the time of planting. As nursery supplies are currently highly variable, a more general prescription of diverse mixed conifers was chosen to allow more flexibility at the time of restocking depending on availability. Where possible, more mature trees would be chosen in preference to smaller stock to reduce the impact of deer browsing and ensure a higher survival rate.

In addition, exposure, poor nutrient status and impeded drainage are factors limiting the choice of productive species at higher elevations, with Sitka Spruce (SS) often being the only commercially viable species. On more challenging sites SS & Lodgepole Pine (Alaskan) mixtures can facilitate the establishment and growth of a productive SS crop, although pure LP stands have not been successful within the forests on Mull. This has been in part due to trees being planted inappropriately on land now considered a priority open habitat as well as poor provenance choice or availability. In other places soils have been too thin to successfully achieve tree growth.

Conifers will be restocked to a minimum density of 2500/ha net plantable area. Broadleaves will be established either by planting or through natural regeneration to achieve a minimum stocking density of 1600/ha over a 5 to 10 year period.

Cultivation methods in future rotations will be selected to aid the establishment of the trees whilst seeking to balance minimising the amount of the soil disturbance and the need for herbicide treatment. The focus should be on incorporating low risk intrusive techniques to minimise soil and carbon losses to air and water such as inverted mounding and screefing or flat planting as appropriate.

QUINISH

The area on the slope behind the village of Dervaig will be replanted with predominantly broadleaves and some mixed conifers. This is in keeping with the community projects at the edge of the village: a successful community nursery and orchard leading up to open space around the scheduled monument of Cnoc Fada standing stone row.

The area surrounding the Mingary Burn SAC will be established with native broadleaves transitioning to Norway Spruce and Mixed Conifers further away from the catchment. The western areas of the forest are predominantly Sitka Spruce which survives more successfully against the higher browsing pressure found at the boundaries of this isolated block. An internal fence around the Mingary Burn area has greatly aided BL and MC trees to get established. The huge impact of SPHNs has been felt across this forest and the planned restructuring has been overtaken by reacting to these repeated infections.

ARDMORE

This forest has excellent soils in places to produce SS although riparian areas will continue to expand broadleaves and the area in the north around the deserted settlements will have a component of mixed conifers. In the southern Erray section of the forest, a riparian zone of BL and open space will be created along the burn feeding into the distillery loch in addition to an 80ha extension of the previous peatland restoration.

AROS

The east of Aros forest will be restored back to native woodland as the majority are PAWS sites with elements of MC. This is in addition to the northern fringe alongside the Mishnish lochs. The central section will be commercial conifers, predominantly SS where soils allow although there are areas of peatland identified for restoration including a large area in the south. Rhododendron ponticum is a problem within the existing native woodland and a programme of removal will be required to restore areas of Scottish Altantic rainforest.

The fallow period for restocking will often be two years, although this may stretch upto five years.

There are legacy coupes that were not established under the previous plan due to a variety of reasons including: extra felling due to Statutory Plant Health Notices; Covid restrictions affecting contractor

resource and availability of plants; and excess deer browsing leading to failure of restocking with beat up now required. These areas have been identified, assessed and included in the establishment programme and will be monitored as the plan progresses.

CHEMICAL USAGE ON MULL
Due to logistical and storage challenges, on the Island of Mull we will aim not to use treated stock or top up spraying options as part of any standard prescription of our establishment programme. However, FLS have the option of reconsidering this standard approach in line with appropriate legislation and approval. This does not affect our treatment of invasive species which may in cases require chemical treatment (Section 3.8).

Woodland Creation

There are currently no opportunities for woodland creation within this plan.

Natural Regeneration

Permanent native woodland habitats have been identified for expansion and/or establishment following felling operations. Typically these areas will include open space as well as native broadleaved woodland. 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 (see Appendix VI).

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 to planting; landscape scale natural regeneration provides less segregated landscapes; less greenhouse gas (GHG) emissions without the requirement for ground preparation; and there is no plastic pollution if compared to the use of tree guards are used with planting.

Monitoring of Natural Regeneration – a monitoring programme will survey regenerating areas to gain evidence of their success usually by means of a Herbivore Impact Assessment. This will be undertaken at year 5. If Natural regeneration is not going to succeed it will go into the planting programme. If it is felt it can succeed it will be reassessed at Year 7 to decide whether to supplementary plant or whether full stocking is anticipated by natural regeneration at year 10.

PAWS restoration

Several of the felling coupes fall within a large area of PAWS which is undergoing restoration. In some instances, where unavoidable, further adjacent felling may take place before a full 2m height

difference has been achieved, to reduce conifer seed rain back into these areas of restoration, especially of Sitka Spruce trees. Where Natural regeneration is recorded as struggling to successfully establish, small fenced enclosures will be created within the coupe to help alleviate browsing pressures eg in Aros forest. In addition, sites for extraction tracks have been identified and submitted for Prior Notification (PN) approval to the local council. This will help reduce browsing pressure by providing a means to extract beasts from currently inaccessible areas. Many of the PAWS areas predominantly around the Mingary Burn (Quinish) and in Aros (Mishnish lochs and the eastern portion of the forest) form part of the Scottish Atlantic Rainforest remnants and improving and restoring these areas is part of the Region's priorities.

GWDTE (ground water dependent terrestrial ecosystems)

There are few areas on Mull which are fed by groundwater supplies, but there are not any GWDTE habitat areas (M10 / M15 / M32) identified within this plan area (see Map 12, Priority Habitats).

Riparian Management

2021-2030 is the UN Decade of Ecosystem Restoration and FLS is a partner in the Riverwoods Initiative led by the Scottish Wildlife Trust to support restoration of riparian ecosystems. Riparian management is crucial to the health of both individual species and the habitats they rely on, none more so than the catchment area for the Mingary Burn SAC. Close liaison with NatureScot and careful adherence to Forest and Water guidelines will be strictly adhered to for all these sites and detailed site prescriptions will continue to be successfully implemented when working in these areas (also see Map 12, Priority Habitats).

Natural regeneration of native woodland along the riparian corridors will help to alleviate flood risk by reducing the speed of run-off. There is the potential for natural regeneration of conifer species within the riparian corridor; ideally this would all be removed but practically up to 15% conifer regeneration will be accepted in the corridor before intervention to remove it.

Some areas were identified by the Options study on the Mingary burn for improvement of conditions for migratory fish. Improving these areas will be taken forward as a partnership between NatureScot, FLS and neighbours on further discussion.

Where burns are less than 2m width, a buffer of 10m will be applied from the bank of the stream. Where the burn is greater than 2m, a 20m buffer will be applied. This may be wider where features such as Scottish Rainforest areas have been identified.

Deadwood

The higher ecological potential for deadwood is generally found within the LMP forested area. A proportion of woodland will be managed as deadwood habitat where it provides the greatest environmental benefit. The highest ecological potential for deadwood is found in the established woodland within PAWS and riparian areas and also within Long Term Retentions and minimum intervention areas. Areas of lower potential for deadwood will be found in the higher, more exposed areas of conifer crop.

3.3 Open Land

There is a proportion of existing open land on hilltops, especially around An Speinne (Aros) and na Tònan (Ardmore). Often these mainly consist of identified priority open habitats such as Upland Heath and Blanket Bog.

In addition, integral open ground within the forest area delivers a significant part of the forest's ecological value; this includes areas around riparian and archaeological sites, especially the scheduled monuments. Where appropriate some of this open land, particularly adjacent to peatland restoration areas, may be allowed to develop naturally; this will be reviewed at the next LMP revision.

Agricultural land

There are crofting areas in the south of Ardmore that will remain as crofts at Torbeg. An adjacent area, Glac na Beiste, is currently an annual agricultural seasonal grazing licence.

Peatland Restoration

Areas identified here form the application for a deforestation EIA screening (see Map 3), together with a justification for the removal of trees and the potential for restoration. An overview of the peatland areas is shown in Map 4 whilst Map 17 accompanies the Peatland Appendix V.

AROS: A large peatland site at Allt nan Torc; this is majority deep peat soils which following assessment have shown a large area for restoration. Some isolated areas of crop near the edge of this area showed improved Yield Class, greater than 8, but these are included in the restoration area as they are an intimate part of the hydrological units. If the trees are not removed this will have a detrimental effect on the hydrology of the peatland restoration. There are additional smaller areas of peat that after assessment will not be replanted and which may be restored if suitable works are identified (Loch nam Mìol).

ARDMORE: A large site, Geàrr Abhainn, with a mixture of Assessed deep peat soil types which will not achieve more than Yield Class 8 if restocked; existing areas of Blanket Bog total 10ha within the afforested area.

3.4 Deer Management

(see Appendix VI, Deer Management Plan)

3.5 Visitor Zones and Public Access

There is one formal recreation facility provided by Forestry and Land Scotland (FLS) within North Mull LMP at Quinish, comprising a wildlife hide and car park. In addition, a series of informal car parks and trails are also well used within all three forests, especially at Ardmore and Lochan na Gualine Dubh in Aros (the latter also has leased fishing rights).

The forest road network provides cyclists and walkers with opportunities to enjoy and explore the wider area offering spectacular views as you climb the hillside. This informal access is managed under the Scottish Outdoor Access Code (SOAC) and there are a lot of both visitors and locals who experience a variety of wild trails throughout the forests. In addition, local residents access the forest road network to reach their residencies along Loch Frisa-side. A right of way through parts of Ardmore forest links up Tobermory to the North Coast. Popular informal routes are also well used around Ardmore and Quinish forests as well as increasingly Aros, both by the local community and visitors to the island.

A number of viewpoints were chosen demonstrating a view of the forest from major publicly accessed routes; predominantly public roads but also from popular or well known vantage points. Visualisations were then created for these views comparing a current photograph to a 3D version of the forest in 10 and then 20 years time, both as felling coupes and as the proposed restocking (see Map 18). The viewpoints for North Mull were from the road to Glengorm castle (North-east towards Ardmore), view from the ferry as it leaves the sound of Mull on routes to Coll, Tiree, Barra and Kilchoan, the informal car park in Ardmore looking south towards Aros forest, the informal car park at Gualine Dubh looking west into Aros and the public road between Tobermory and Dervaig (views across the Mishnish lochs into north Aros). The final viewpoint was from the public road at Dervaig towards Calgary looking back at the hillside above the village.

Woodland Management in Visitor Zones

Visitor Zones have been identified in areas where FLS encourage and manage access or where the woodland managed by FLS interacts with popular visitor sites or access routes. Visitor Zones are mapped on Map 13.

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 may also be thinned, or trees re-spaced for safety reasons (including to increase visibility to ensure that sites are welcoming and feel safe). See Map 6 Amenity Thinning.

Community

The forests of North Mull are an important and well used resource for the communities in the north of the island. Although not formalized routes, from Tobermory it is possible to access Baliscate chapel and then Aros forest and Mishnish lochs and it is also possible to walk into Ardmore forest from the town.
Adjacent to Quinish forest, Dervaig has a very active community who have established the successful Dervaig Community Orchard on land leased from FLS, and in collaboration with Mull and Iona Community Trust there is also the adjacent Dervaig native tree nursery.

3.6 Heritage Features

There are a number of Monuments listed by the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS) of which four are Scheduled Monuments: Cnoc Fada and Maol Mor standing stone rows (Quinish), Dun Urgadal prehistoric fort and Baliscate chapel (Aros). In addition there are many sites within the forests of local importance, predominantly dykes, farmsteads and settlements. Ardmore forest has a significant number of deserted settlements dating back to the Highland clearances which feature along the informal recreation route. Twenty years ago a further settlement was discovered under afforestation at Cnoc Carach. This exhibited a classic boat carving on a door lintel signifying the villagers' removal from Scotland. This carving is now displayed at Duart Castle.

These sites will be managed in accordance with the Forests & the historic environment Guidelines and will be protected during operations in line with the UKFS. If new sites are found these will be mapped and recorded and protected from operations. Detailed operational workplans will be drawn up nearer the period of felling and will include a full range of mitigation measures to safeguard archaeological features.

West Region's Regional Historical Asset Management Plan works to ensure the historic assets' stable condition or to slow their gradual decay and details the following:

"All scrub vegetation and regenerating trees within the relevant area will be cut off at ground level using appropriate hand or power tools and removed. Bracken encroachment shall be controlled within appropriate areas as necessary through strimming, bashing and / or chemical spraying, as appropriate. Any tree felling, harvesting or thinning work within the relevant area (and including a buffer zone of 20m around it) will be planned and organized to avoid any damage to the historic asset in the course

of felling and timber extraction. Scheduled Monument Clearance will be necessary in advance of any forestry works, conservation management, consolidation or repair and development that may cause damage or disturbance within the scheduled area. No replanting will take place within the scheduled area (nor usually within a buffer zone of 20m around it)."

Additionally the restocking proposals (open space) are sympathetic to both the features and its immediate environs. Only the larger sites are reflected in the Restocking Areas shown – smaller sites will be included at the work plan mapping scale only with an appropriate buffer in place (these areas are often too small to map at a strategic scale) – see Map 14. HES comments have been incorporated into the plan and they will be consulted further if any consents are required; further advice will also obtained from the FLS Archaeologist if required.

3.7 Habitats & Species

The forests of North Mull contain a number of priority species and habitats (see Appendix III for full list), and there are areas of the forest that are known habitat for raptors, bats and otters which are covered by the European Protected Species regulations. In addition, one forest is in an important catchment for a highly endangered bivalve, the fresh water pearl mussel. Work has been successfully undertaken by FLS in conjunction with NatureScot to try and improve the conditions for recruitments in these areas, and will continue throughout the life of this plan. This area is designated as an SAC and the management plan can be found in Appendix XI.

Retentions for raptor nests have been carefully identified in line with guidance 'Managing Forests for White Tailed Eagles' (currently under review but discussions with FLS' Wildlife Ecologist Sept. 2023 suggested there will not be significant changes to this guidance). They are between 1 and 3 ha in size even when isolated from other woodland and priority is given to choosing a windfirm edge to prevent a nest inadvertently blowing down (SF: see Map 19 Conservation).

Prior to any harvesting operations, FLS will undertake a pre commencement survey in the coupe to check for the presence of any protected species; this may include the creation of a nest management plan where appropriate. 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

The following invasive species are been identified as being present within the plan area:

- Rhododendron ponticum: this is prevalent across the island with Aros forest having areas present in the Atlantic rainforest areas to the east.

Following the identification of Invasive Species, a plan for their initial removal will be drawn up with allowance made for the limited trained resource available on the island. This should be followed up after removal to ensure there is no recurrence.
Any further areas identified will be mapped as reports are received by FLS.

3.9 Water Supplies

Public Water Supplies

The majority of Mull's public water supply comes from the Tobermory Water Treatment Works (WTW) at the Mishnish lochs, supplying Tobermory and the rest of the east of Mull. Of the water supply's 540ha catchment area: 146ha in Aros and 116ha in Ardmore forests fall within North Mull LMP (75ha falls within existing open land at the top of Lettermore forest in Central Mull LMP). Under the establishment proposals in this LMP, much of this has been identified to be planted with native broadleaves at a low density, allowing 30% of open space within this area. This will allow the creation of a continual broadleaf corridor to link up areas of ancient woodland along the lochside, without having a detrimental effect on the water quality of the loch. Although a separate water supply for Dervaig is drawn from a catchment to the south of the village. As this is also part of the sensitive priority species catchment, all guidelines for good practice such as the Forestry & Water Scotland initiative (Confor) will be followed ensuring good water management helps reduce diffuse pollution risks from forestry operations. This plays a key part in managing our forests sustainably in complying with water regulations and the UK Forestry Standard. The planned forest road network in Aros has been designed to minimise any impact of roading on the lochs with two spurs accessing the conifers from alternative routes to the south.

Scottish Water abstractions are designated as Drinking Water Protected Areas (DWPA) in 2014 under Article 7 of the Water Framework Directive and it is essential that water quality and water quantity in these areas is protected. However, in some places these are not concurrent with areas more recently identified by Scottish Water as Drinking Water Catchments; the latter received in 2023 are shown on Map 15. In addition to meeting the UK Forestry Standard (UKFS) and Forests and Water Guidelines, "Guidance on Forestry Activities Near SW Assets" will also be taken into account; site specific risks and mitigation measures will be assessed and implemented where appropriate.

All forestry operations will meet relevant General Binding Rules applicable to forestry under the Water Environment (Controlled Activities) (Scotland) Regulations 2011 and any divergence will be licensed or registered with the Scottish Environment Protection Agency (SEPA).

The careful timing of any works will be imperative in minimising any risk to water catchments and good practice will be followed to ensure this. If required, a pollution prevention plan will be drawn up with Scottish Water but at the current time this has not been requested by them.

Private Water Supplies

Private water supplies 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 (see Map 15) 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 have been identified and mapped for use at an operational level where best practice Forestry and Water Guidance will be rigorously followed. A project to ground truth all individual supplies is underway across the forests (commenced autumn 2023) and the FLS GIS database will be updated following any alterations to given abstractions points or catchments. This will ensure high quality data is live across our systems. In addition, any subsequent supplies found will be added into the database to give comprehensive coverage.

Some of these private water supply catchments supply individual properties with low abstraction rates; however, some supply a collection of properties or businesses heavily reliant on good water quality e.g. distilleries. All private catchments will be shown on operational site maps to ensure that operational activities such as harvesting are aware there is a private water supply downstream. The Water supplies map in this plan shows private catchments for sensitive/larger supplies and also catchments of smaller supplies where they are within 2km of the abstraction point.

As part of the operational lead-in prior to any works, site visits will ensure any changes to these supplies are discussed with the relevant properties and a plan drawn up to carefully manage the site. This may end up in operational delays but allows a full understanding especially of complex supplies such as those surface fed from a diffuse source.

3.10 Critical Success Factors

Effective deer management strategy	This is key to the successful establishment of broadleaf and mixed conifer species especially around PAWS areas and their protective native woodland buffer. Continued sustained population control is necessary combined with a landscape scale approach to deer control across neighbouring land owners.
Sufficient stability in mature conifer crops to allow the continued restructuring of the forests	Managing the felling of crops as close to MMAI as possible to avoid over mature crops becoming vulnerable to windthrow. This has been challenging given the requirement to remove mature larch timeously.
Successful restocking of both previously and planned felled areas.	Previously planned felled areas have been disrupted by the requirements of Statutory Plant Health Notices resulting in a larger area to be established. This, coupled with the challenges of a highly migratory neighbouring deer population and a lack of fencing, has resulted in a large establishment programme. This is also challenging due to the additional pressures of contractor resource in an island setting. Focussed resources to ensure successful restocking amid deer pressure and resourcing constraints.
Resources to manage the natural regeneration to achieve the required species and stocking	The inconsistency of desirable seed sources and the abundance of undesirable seed sources means that intensive work is required during the first decade of natural regeneration sites to ensure the desired woodland habitat is established.
Road construction to reach the Larch stands	The construction of forest roads is required to reach Larch fell coupes and felling coupes in general.
Successful restoration of peatland areas	There is a considerable area of peat restoration to be undertaken within the plan area and much of this requires felling of uneconomic timber. This is dependent on continued external funding.

4 List of Maps