Forestry and Land Scotland
Coilltearachd agus Fearann Alba

Kinnoull and Paddockmuir

Land Management Plan 2026-2036 East Region

Plan Reference No: LMP-28 29-2006
Plan Approval Date: January 2026
Plan Expiry Date: January 2036

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A. Description of Woodlands

A.1 Property Details

Property (LMP) Name:	**Kinnoull and Paddockmuir**
Grid Reference (main entrance):	NO 1440 2364
Nearest town or locality:	Perth
Local Authority:	Perth and Kinross Council

A.2 Location and Background

The Kinnoull and Paddockmuir Land Management Plan (LMP) area is made up of several forest blocks, three of which are located just to the east of Perth on the hills overlooking the city and the Tay valley. Paddockmuir, located a further four miles to the south-east of the main collection of forest blocks, sits on the banks of the River Tay. In total the LMP covers 259.4ha (see **Map 1 - Location**).

These are well-established woodlands, largely of mixed conifers, with broadleaves dominating on the Kinnoull Crags and at Paddockmuir. The larger woods have been extensively managed under a continuous cover system, with many areas of open-grown Scots pine alongside mixed conifer planting and more recently planted spruce.

Kinnoull and Deuchny form part of the Kinnoull Hill Woodland Park, an area of 305 hectares established in 1991 which is jointly managed with Perth and Kinross Council, who own the woodland on the west facing flanks of Kinnoull Hill. It is an extremely popular and important recreation resource, not only for local residents, but also attracting visitors from further afield. It is managed by the Kinnoull Hill Management Group. The Kinnoull Hill Users Group was established in 2001 as a forum for users and local residents.

The woodlands lie adjacent to privately owned farmland, including land to the immediate north of Kinnoull and Deuchny which is owned by the Gannochy Trust.

Part of Kinnoull Hill is designated as an SSSI, and Paddockmuir lies adjacent to the River Tay, a designated SAC, SPA, Ramsar Site and SSSI. The reed beds at Paddockmuir are a bird reserve managed by the RSPB.

Core paths extend through the woodlands, and the Coronation Road, a right of way, extends through eastern Deuchny. The woodlands are linked to a wider network of paths which extend through the farmland and along the Sidlaws to the east. There is also a core path at Paddockmuir which allows access along the Tay. Several important historic features are located in the woodlands, including the Kinnoull and Binn Hill towers and the SAM fort site on Deuchny.

A.3 Existing Schemes and Permissions

Type: Land Management Plan

Ref. No: 033/T/K/12
Details: The current Kinnoull and Paddockmuir LMP was approved on 23/04/2013 and expired on 23/04/2023.

A.4 Stakeholder Engagement

Please see **Appendix 1 – Consultation Record** for full details of consultation carried out during the LMP renewal, all issues raised by consultees, and how they have been addressed in the new LMP.

A.5 Long Term Vision and Management Objectives

Vision

The Kinnoull and Paddockmuir forest blocks will continue to serve as valuable recreational resources for the local community and visitors to the area. All current recreational facilities such as waymarked walking routes, bike trails and car parks will be maintained or expanded if possible. FLS will continue to work with neighbouring landowners, including Perth and Kinross Council and Gannochy Estate, to provide a well-connected forest resource.

The majority of the LMP area will continue to be managed using Low Impact Silvicultural Systems (LISS) with targeted clearfells used to meet other objectives such as disease control, windblow mitigation and improving the setting of heritage features. Where clearfells are needed, a range of commercial conifer species will be established in resilient mixes where conditions allow and this meets the objectives of the specific area of the forest, with species matched based on soil types and the local environment. In other areas, native broadleaved species will be established for their amenity and environmental benefits.

All suitable areas will be continuously thinned to ensure crop stability, provide timber to local markets and to reduce the need for clearfell systems. The use of continuous cover systems will also benefit recreational use by reducing the intensity of forest management and retaining canopy cover.

The Deuchny Hillfort Scheduled Ancient Monument will continue to be actively managed by removing encroaching regeneration of undesirable trees and shrubs and all forest operations will be planned to minimise the impact on the local landscape in prominent areas.

In and around watercourses, along forest edges and near infrastructure, corridors of native broadleaves will be established to safeguard these features, improve forest stability and improve environmental value. Tree species chosen for the restocks will match site conditions to ensure good growth as well as meeting the demands of species such as red squirrel.

Management Objectives

Primary Objective 1: Continue to manage the forests as recreational hubs.
Indicator of objective being met: Recreational resources such as waymarked footpaths, bike trails and car parks are maintained throughout the plan period, providing an enjoyable visitor experience and encouraging the local population to spend time in the forest. Parter organisations and neighbouring landowners continue to be involved in the management of the forest.

Primary Objective 2: Actively manage areas of larch to slow the spread of Phytophthora Ramorum disease.
Indicator of objective being met: All areas of larch within the plan area will have been felled and restocked with suitable species within ten years. Planning for this work in advance rather than as a reaction to enforced felling at short notice will allow difficult operations to be carried out safely and minimise the impact on public use of the forest.

Primary Objective 3: Continue to manage the forests as a sustainable timber resource.
Indicator of objective being met: Areas suitable for commercial forestry will be harvested at a suitable age or thinned to maximise timber return. Where restocking is necessary, it will be carried out with species resilient to challenges caused by future climate change. LISS areas will have the next planned interventions applied, including clearance of windblown patches and general thinning to encourage the next generation of trees to regenerate.

Secondary Objective 1: Ensure Deuchny Hillfort Scheduled Ancient Monument is managed appropriately.
Indicator of objective being met: Any encroaching trees or shrubs are removed from managed open space around the hillfort periodically. Non-native conifers adjacent to the site are felled and restocked with native species which are less likely to act as a seed source for unwanted tree regeneration and improve the setting of the monument.

Secondary Objective 2: Protect and improve the water environment.
Indicator of objective being met: Riparian zones around watercourses are identified in the LMP and suitable broadleaf species are prescribed for restocking. Any riparian areas felled within the upcoming plan period have open space buffers applied, and native broadleaves established at restock.

Secondary Objective 3: Improve how the forest fits into the landscape.
Indicator of objective being met: Where operations are taking place near boundaries or visible in the local landscape, efforts are made to soften the forest edges and avoid rigid, geometric shapes.

A.6 General Site Description

A.6.1 Topography and Landscape

The larger woodlands are located on steep sided hills and crags that rise directly from the former floodplain of the river. The crags and Binn Hill are highly visible and contribute to the setting of Perth and the wider setting of the River Tay. Paddockmuir is a small low-lying and far less prominent woodland located directly adjacent to the River Tay approximately 7 km east of Deuchny Hill.

The forest plan area extends over land ranging from 5m (at Paddockmuir) to 230m (Deuchny Hill) above sea level.

A.6.2 Geology and Soils

Kinnoull, Deuchny and Binn Hill are all sited on craggy hill tops, largely volcanic in origin. The underlying rock type is predominantly extruded igneous rock, with banded lava flows which are exposed along the Kinnoull Hill crags. The soils are largely brown earths, and to the south are generally calcareous, while north facing slopes are more acidic.

Some of the soils may be shallow and dry, rendering the trees susceptible to drought in long periods of drier weather.

Paddockmuir lies on wetland and low-lying floodplain adjacent to the River Tay.

See **Map 8 - Soils** for a map showing the soil types present within the LMP area.

A.6.3 Climate

Mean annual temperatures in this region are about 7-8 degrees centigrade, with January the coldest month and July the warmest month. Much of eastern Scotland is sheltered from the rain-bearing westerly winds. The average annual rainfall for eastern Scotland varies between 700mm and 1500mm, considerably drier than the west coast of Scotland.

Therefore, while the forest is generally accessible all year round, both thinning and felling programs need to consider rainfall levels associated with sudden cloudburst, which may cause significant short term water run-off, and possibly landslips on steeper, unstable slopes. In addition, the elevation of the forest means it is exposed to winds, which influence assessing the stability of continuous cover and planning the timing and sequence of felling proposals.

The climate of the site is primarily defined by assessing the Accumulated Temperature and the Moisture Deficit, as described below and highlighted on Figure 1.

- **Accumulated Temperature (AT)** is a measure of the “warmth” of a site. Specifically, it is the sum of “day-degrees” above 5 °C — i.e., how much (and for how long) the

temperature exceeds 5 °C. For Kinnoull and Paddockmuir, the AT ranges from 1123 to 1415, defining the climate as 'cool' to 'warm'.

- **Moisture Deficit (MD)** is an index that reflects the dryness of the growing season. It is calculated as the difference between *potential evaporation* and *precipitation*. Higher MD values indicate drier sites. For Kinnoull and Paddockmuir, the MD ranges from 93 to 151, indicating a climate defined as 'moist'.

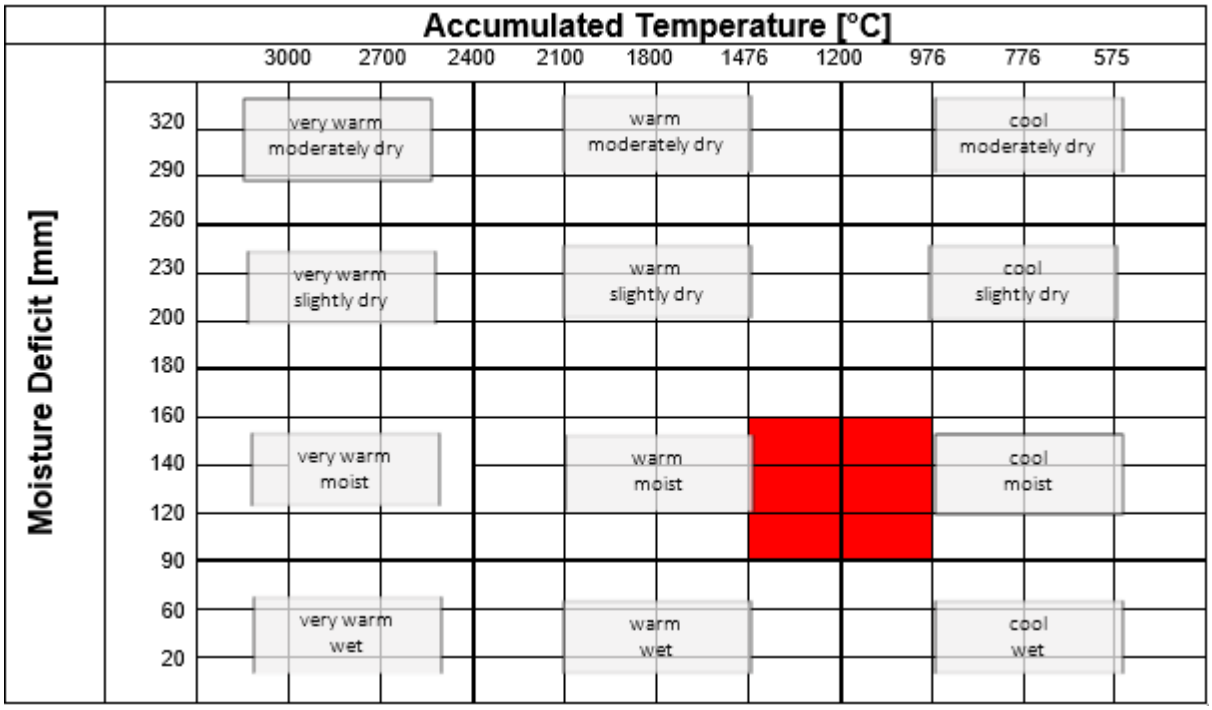


Figure 1: Local climate for Kinnoull and Paddockmuir highlighted in red

A.6.4 Hydrology

There are several small watercourses, all eventually draining to the River Tay, which originate within the LMP area. Due to their small size, the current water quality is not listed for these burns, but, as the River Tay is designated as a Special Area of Conservation (SAC), protecting water quality will be an important consideration when carrying out forest operations.

A.6.5 Windthrow

Some areas of the Kinnoull Hill and Deuchny blocks have been affected by windthrow in the past but in general it is rare to have large areas of catastrophic blow.

There are, however, small patches of windthrow present within the block which will require clearance operations as soon as possible.

The DAMS in the blocks is ranges between 14 (Moderately exposed) on higher areas of the Kinnoull Hill and Deuchny Woods blocks and 8 (sheltered) in in the areas closer to sea level. The majority of the forest area is classed as moderately exposed to sheltered.

A.6.6 Adjacent Land Use

The main neighbouring land use is farming, largely in cultivated fields or pasture, with some more open hill land to the immediate east and several extensive areas of horse paddock at Kinfauns and Gannochy. There are three livery stables close to Kinnoull, Deuchny and Binn Hill. Housing at Corsiehill and along the minor road at Deuchny are also important neighbours.

A.6.7 Access

Kinnoull, Deuchny and Binn Hill are all accessed from a minor road which is an agreed timber transport route for a proportion of its length. Paddockmuir is accessible from the B958, itself directly accessible from the A90. All woods are accessible to timber lorries and well-roaded. Kinnoull is managed by off-road access through the forest to limit impacts on the public access routes.

There are several other access points around the boundaries of the forest, some suitable for vehicular access and some more informal, primarily for recreational use. See **Map 9 – Timber Haulage** for more details

Kinnoull and Deuchny Woods in particular are extremely well used for public access. Management of the woodlands for a range of different user groups has become a high priority over the period of the previous plan, and this was highlighted also in the Strategic Plan for the Kinnoull Woodland Park.

The woodlands attract dog walkers, walkers, runners, cyclists and horse riders. There is also provision for downhill mountain bikers and organised events for orienteers and other specialist recreation groups.

The FLS owned Jubilee car park lies between Kinnoull and Deuchny Hill, and the Council also provides a car park at Corsiehill. Many people access the woodlands directly from Perth through Barn Hill and Kinnoull from the east, while horse riders and cyclists also access the woodlands from several access points from minor roads, neighbouring farmland and tracks, including the Coronation Road.

There is an extensive network of access routes, waymarked, formal and informal, associated with these woodlands, a number of core paths and two public rights of way – the Coronation Road (east Deuchny), and a link from that road to Perth, via the north side of Deuchny Hill and over Corsie Hill (See **Map 2 - Concept**).

The path network has been upgraded on Kinnoull Hill, in a joint initiative with the Council, which has included the provision of a circular all abilities trail.

A.6.8 Historic Environment

The iron-age fort on the summit of Deuchny Hill is the only Scheduled Ancient monument within the Plan area. A buffer zone around the fort was cleared during the last plan period and there are fine views from the summit, especially north and west.

Kinnoull and Binn towers were built on steep ground overlooking the River Tay in the 19th century, apparently to emulate the castles on the River Rhine. Kinnoull Tower is owned by the Perth and Kinross Council although it is surrounded by land, which is owned by FLS and subject to the proposals set out in this plan. Binn Tower is privately owned and also lies within FLS woodland.

The Coronation Road, a Public Right of Way, was used by the Kings of Scotland on their way from Scone Palace to ferries across the River Tay.

A.6.9 Biodiversity

The majority of the Kinnoull Hill SSSI, designated for its upland oak woodland, rocky slopes and Igneous petrology, is located on the adjacent land, managed by Perth and Kinross Council. However, part of the designated area covers rocky slopes within the LMP area.

The majority of the LMP area is also designated as LEPO (long-established plantation origin) in the ancient woodland inventory (AWI).

As well the varied tree species planted in the arboretum at the western entrance of Deuchny Wood, there have also been small areas planted with several other iconic species such as Moroccan fir, Atlas cedar and Spanish fir during the last plan period.

Bat boxes have been placed in some areas of the forests and schedule 1 protected bird species have also been known to nest within the LMP area, particularly on the craggy rock faces present. Red squirrels and badgers are also regularly sighted within the blocks.

A.6.10 Invasive Species

There are currently no known issues with invasive species within the LMP area.

A.7 Woodland Description

Map 3 – Current species shows the current tree species composition and pattern.

Scots pine, Sycamore and Sitka spruce are the most common tree species, making up over 50% of the forest cover. These main species are complimented by others such as Oak, Larch and birch. The regenerating species to be found in developing understories through most of the plan area are dominated by broadleaved species such as Sycamore, Beech and Oak. Native broadleaf coverage is currently at 22%, well above the UKFS minimum target of 5%.

Table 2: LMP Area by species

Species	**Current Area (ha)**	**%**	**Year 10 Area (ha)**	**%**	**Year 20 Area (ha)**	**%**
Scots pine	60.9	23.5%	63	24.3%	60.7	23.4%
Sycamore	43.3	16.7%	41.9	16.1%	44.0	16.9%
Sitka spruce	33.9	13.1%	30.1	11.6%	29	11.2%
Oak	22.9	8.8%	22	8.5%	22.2	8.6%
Larch	22.7	8.8%	4.4	1.7%	4.1	1.6%
Birch	20.9	8.1%	18.7	7.2%	16.9	6.5%
Mixed Native Broadleaves	5.5	2.1%	10.4	4.0%	10.2	3.9%
Mixed Broadleaves*	1.4	0.5%	4.4	1.7%	9.2	3.5%
Beech	6.4	2.5%	4.9	1.9%	8.2	3.2%
Ash	6.3	2.4%	3.9	1.5%	2.1	0.8%
Norway spruce	6	2.3%	4.7	1.8%	4.4	1.7%
Douglas fir	4.6	1.8%	7.2	2.8%	7	2.7%
Other Mixed Conifers	2.5	1.0%	3.7	1.4%	6.2	2.4%
Open space	22.1	8.5%	22.5	8.7%	23.4	9.0%
Felled awaiting restock**	0	0.0%	17.6	6.8%	11.8	4.6%
Total	**259.4**	**100.0%**	**259.4**	**100.0%**	**259.4**	**100.0%**

* This prescription is used for areas consisting of predominately non-native species such as beech and sycamore in a mixture and where restocking is expected via natural regeneration. Areas of mixed native broadleaves and mixed broadleaves are displayed differently on **Map 5 – Future Habitats and Species**

** Although no clearfelled areas will remain as felled awaiting restock at year 10 or 20, this figure is representative of the small group fellings, within LISS coupes, which are in the process of regenerating.

Chart 1: Area by species

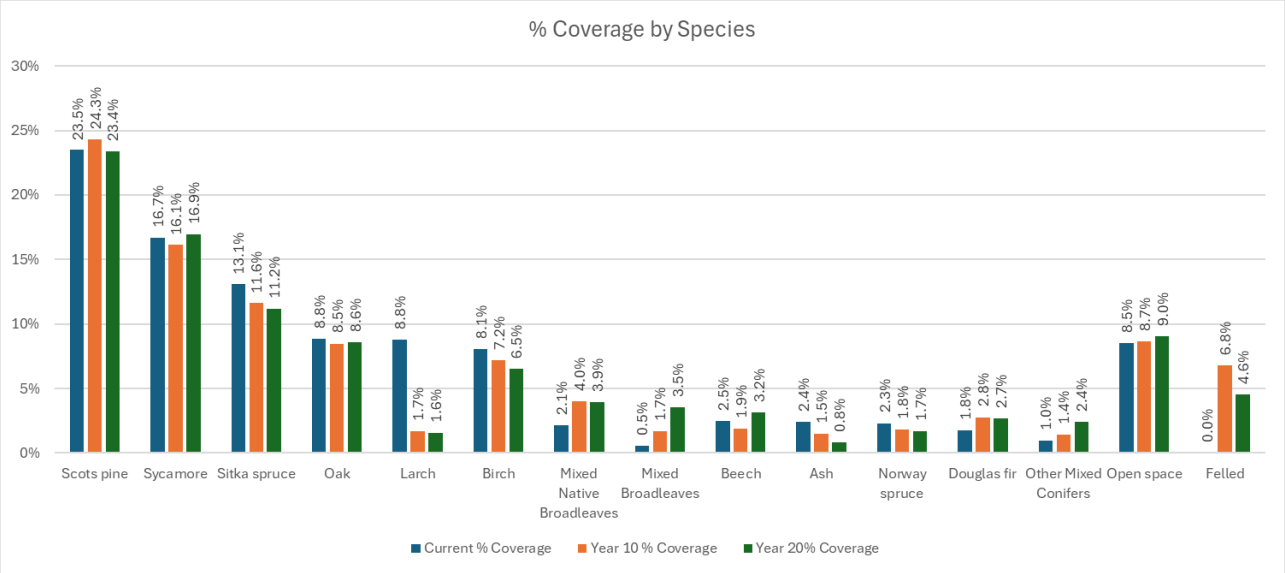
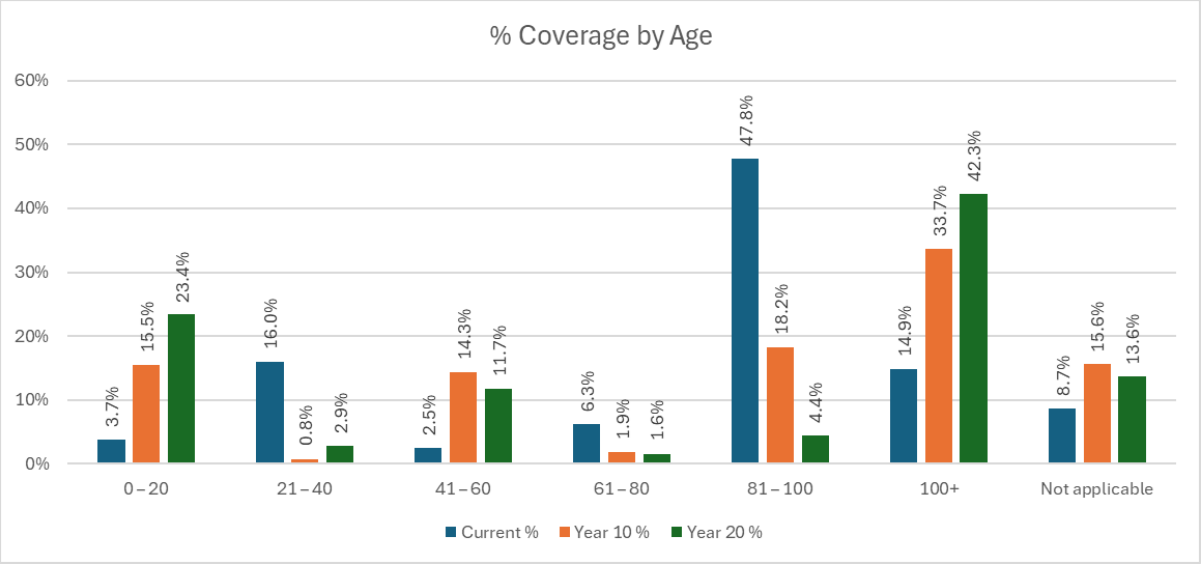


Table 3: LMP area by age

Age Class (years)	Current Area (ha)	Current %	Year 10 Area (ha)	Year 10 %	Year 20 Area (ha)	Year 20 %
0 – 20	9.7	3.7%	40.1	15.5%	60.6	23.4%
21 – 40	41.6	16.0%	2.1	0.8%	7.5	2.9%
41 – 60	6.6	2.5%	37.2	14.3%	30.4	11.7%
61 – 80	16.3	6.3%	4.9	1.9%	4.2	1.6%
81 – 100	124	47.8%	47.2	18.2%	11.5	4.4%
100+	38.7	14.9%	87.5	33.7%	109.8	42.3%
Not applicable	22.5	8.7%	40.4	15.6%	35.4	13.6%
Total	**259.4**	**100.0%**	**259.4**	**100.0%**	**259.4**	**100.0%**

Chart 2: Area by age



A.8 Plant Health

The LMP area sits within the Priority Action Zone (PAZ) for larch (Scottish Forestry, 2022) meaning SPHN's require a swift follow-up. SPHN's have been known in the surrounding area in recent years and Phytophthora ramorum is forecast to spread to the LMP area within this plan period, meaning larch infection and associated SPHN's are expected in the near future.

Nearly all ash within the forest boundaries has continued to be affected by ash dieback disease over the last decade.

There is also an area of woodland affected by Armillaria mellea (Honey fungus) which has caused some mortality in the infected trees over the past decade.

Considering the history of woodland cover, the fertility and the pH level, butt rot, particularly *Heterobasidion annosum*, is likely to be an ongoing concern some areas of the forest. Forest management will need to be mindful of the risks of butt rot and limit spread through careful thinning and application of urea on cut stumps.

B. Analysis of Information

B.1 Constraints and Opportunities – and Concept

Table 4: Constraints and Opportunities by factor

Factor	Constraints	Opportunities
Recreational use	The forest is well used by the local community, making planning forestry operations more difficult.	Opportunities to plan operations sensitively and provide information in advance to explain forest management techniques to local population
Low Impact Silvicultural Systems (LISS)	The majority of the forest is suitable for LISS management but has been undermanaged in recent years. An area of spruce designated for LISS management has potentially missed a thinning intervention and may be unstable.	Opportunity to continue to manage suitable areas under LISS to further diversify age structure and biodiversity Opportunity to continue journey towards LISS management of a commercial area of spruce by carrying out a thinning operation in the near future
Larch	There are several areas of larch present which are more likely to be affected by Phytophthora ramorum disease in the coming years. Some of which are in difficult to access areas.	Opportunity to plan for felling of all larch within plan period and ensure all access and operational constraints have been considered carefully in advance.
Water Environment	Constraints around working near watercourses and private water supplies	Potential to improve species composition of riparian corridors and provide connectivity throughout the forest via restock. Suitable buffers around private water supply infrastructure can be added where it does not currently exist.
Scheduled monument	Deuchny Hillfort scheduled monument is being encroached by shrubs and regenerating trees.	Opportunity to create management plan for Hillfort area and remove adjacent Sitka spruce which will re-seed prolifically onto hillfort area if allowed to mature.

Factor	Constraints	Opportunities
Landscape	Constraints on felling coupe size and phasing due to impact on local landscape.	Take opportunities to reduce impact on landscape through sympathetic felling and restock design.

Concept

The primary objective for this LMP is to maintain the included forests as well-used recreational resources for the local population. The forests will also continue to be managed as a sustainable timber resource. By continuing to expand the areas managed under LISS, they should also act as a valuable resource for biodiversity and recreational activities.

The majority of the LMP area will continue to be managed under LISS, including group and uniform shelterwood systems, with a focus on ensuring the sustainability of the forest going forward, particularly in areas which are mostly composed of native species. Targeted clearfell operations will also be carried out in areas of larch to help mitigate the effects of phytophthora ramorum disease, these areas will be restocked with primarily native species or productive conifers in certain areas. Opportunities to steer some of the younger areas of the crop towards LISS will be taken where possible by ensuring thinning interventions are taken regularly and first thinnings in particular are programmed at a suitable time.

Where felling and/or restocking is still to take place, species choice is guided by long-term viability and productivity of the species, soil conditions, tree health issues, a changing climate and the presence of notable species such as red squirrel. Where mature crops can be retained this will be done for the benefit of the environment and recreational value.

We will ensure that known heritage features, including the Deuchny Hillfort Scheduled Ancient Monument, are included within our land management and operational plans They will be managed in line with UK Forestry Standard and based on advice from Historic Environment Scotland.

When felling takes place near heritage features or utilities infrastructure, the restock will safeguard the infrastructure in the long-term through low density planting with the aim of moving this towards a minimum intervention management system. Similarly, felling along watercourses will facilitate the establishment of riparian zones which will improve environmental value and water quality.

Recreational access will be protected where possible during forest operations, with advance notice given where there are likely to be impacts on visitors to the forest. The core paths present within the forest in particular will be sympathetically managed to ensure they can continue to be used by the local community.

C. Management Proposals

C.1 Silvicultural Practice

Most of the LMP area will be managed using LISS to encourage regeneration of native species which has already shown to be an effective system in the forest. Considering the terrain and exposure all the forest is thinnable and access using harvester/forwarder combinations is possible throughout. Where clearfell and restock is a more suitable management system, such as in the areas of larch to be felled, these areas will be restocked at productive densities with a majority conifer species unless there are features such as watercourses, heritage features or other infrastructure adjacent.

Restocking will in general require ground preparation in the form of hinge or inverted mounding on the gleys and scarification on the brown earths. Lower density planting of broadleaved species will be carried out along watercourses, where habitat connectivity is possible, and to establish windfirm edges around the block and along key infrastructure. A focus of the restock is to divide the forest into windfirm, manageable units to reduce impacts of climate change and to establish the right species for continuous cover forestry.

C.2 Prescriptions

C.2.1 Felling

Sites proposed for clear felling in the plan period are identified as Phase 1 and Phase 2 management coupes on **Map 4 – Management Coupes**. **Table 6** sets out the scale of felling (gross coupe size) and **Table 7** gives a breakdown of the species to be felled.

Table 6: Scale of Proposed Felling Areas

Total Plan Area = 259.4 ha

Felling	Phase 1	%	Phase 2	%	Phase 3	%	Phase 4	%	LTR (including CCF)	%
Area (ha)	15.6	6	8.5	3.3	0	0	0	0	161.2	62

Table 7: Species to be felled in plan period

Felling phase	Coupe Number	Larch	SS	NS	GF	Total (ha)
1	28011	2.0				2.0
1	28005				0.3	0.3
1	28916	2.4				2.4
1	28009	4.6	2.3			6.9
1	28008	3.7				3.7
2	28538	1.5	0.2	1.6		3.3
2	28010	3.1				3.1
Total (ha):		**17.3**	**2.5**	**1.6**	**0.3**	**21.7**

Coupe 28010 on Binn Hill is designated as a clearfell with seed trees, rather than a standard clearfell as only the larch component within the coupe is planned to be felled.

The breakdown of species to be felled results in lower total areas than the overall coupe sizes. This is because species to be retained such as beech, sycamore and native broadleaves have been removed from the breakdown.

Stands adjoining felled areas will be retained until the restocking of the first coupe has reached a minimum height of two meters. As there are no outstanding felled areas or recently restocked areas where the crop has not yet reached two metres height, if the felling is carried out in the phases specified, there should be no adjacency issues within the plan period. If for any reason the felling of a coupe is delayed, resulting in a change of phase and creating an adjacency issue, an amendment will be discussed and agreed with Scottish Forestry before the coupe is felled.

Considering the geomorphology, soils and access, all coupes are expected to be worked using harvester/forwarder combinations. An element of hand felling might be required for the felling of large edge trees or oddly shaped trees and/or near infrastructure.

Brash mats (or alternative measures) will be used to protect sensitive soils. There will be minimal soil disturbance and machine movement on sites with clayey soils to reduce the risk of compaction or damage to the soil structure. Felling residue will usually be left on site to allow nutrient recycling, with consideration for the practicalities of restocking.

Other tree felling in exceptional circumstances
FLS will normally seek to map and identify all planned tree felling in advance through the LMP process.

However, there are some circumstances requiring small scale tree felling where this may not be possible and where it may be impractical to apply for a separate felling permission due to the risks or impacts of delaying the felling.

Felling permission is therefore sought for the LMP approval period to cover the following circumstances:

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

[N.B. Trees may be felled without permission if they are of less than 10 cm diameter at breast height (1.3 m), pose immediate danger to persons or property, are completely dead or are part of Authorised Planning Permission works or wayleave agreements].

C.2.2 Thinning

Potential sites for thinning in the plan period are identified on **Map 6 – Thinning Coupes** and **Map 7 – Thinning Approvals**. **Table 8** indicates the potential area.

Table 8: Thinning Areas

Species	**Thinning (ha)**
Scots pine	60.9
Sycamore	42.7
Sitka spruce	31.6
Oak	22.9
Birch	20.7
Mixed Broadleaves	6.8
Ash	5.7
Beech	5.5
Larch	5.3
Douglas fir	4.6
Norway spruce	4.4
Other Mixed Conifers	2.2
Total	**213.3**

Wherever possible the region will continue to maximise the area managed through thinning. FLS policy assumes that all productive conifer crops will be thinned. The only exceptions are where:

- Thinning is likely to significantly increase the risk of windblow.
- A single thinning operation is likely to require an unacceptably large initial investment in relation to the potential benefits due to access or market considerations.
- Thinning is unlikely to improve poorly stocked or poor-quality crops.

There are several areas of young conifer plantation within the plan area which would benefit from thinning as soon as possible, therefore carrying out thinning activities throughout the area in phase 1 is a priority. The areas of broadleaves highlighted for thinning approval are unlikely to require full thinning operations within this plan period, but approvals have been sought to allow negative selection respacing operations to be carried out if necessary.

The thinning coupes within the plan area will be worked at a ten-year interval.

Thinning will normally be carried out at, or below, the level of marginal thinning intensity (i.e. removing no more than 70% of the maximum mean annual increment (MAI), or Yield Class (YC), per year). Higher intensities (no more than 140 % of maximum MAI, or YC, per year) may be applied where thinning has been delayed, larger tree sizes are being sought or as part of a LISS prescription. In all cases work plans will define the detailed thinning prescription before work is carried out and operations will be monitored by checking pre and post thinning basal areas for the key crop components.

C.2.3 Low Impact Silvicultural Systems (LISS)

Areas identified for LISS management are shown on **Map 4 – Management Coupes**.

These areas have been designated three different LISS prescriptions, depending on the species present, the previous interventions which have taken place, and the age of the trees. The varied composition of the forests within the plan area mean that some areas which have had the same LISS prescription applied may require different management techniques to be applied at operational planning stage.

A description of the three LISS prescriptions present in the LMP, and their suggested management techniques can be found below.

Uniform Shelterwood is an even-aged regeneration method in which the overstorey is removed in a planned sequence of interventions across the whole stand. Natural regeneration is established under a uniform, retained canopy which moderates microclimate, supports soil protection and contributes to gradual transformation toward continuous cover conditions. Management techniques include:

- **Preparatory thinning (stability thinning):** Improve wind firmness, crown development and seed production of candidate shelter trees.
- **Regeneration/seed-phase intervention:** Reduce canopy to a target **relative density**, normally achieving **filtered light conditions** suitable for the desired species (often 40–60% canopy cover).
- **Regeneration monitoring:** Assess stocking density, species mix, browsing pressure, and competing vegetation.
- **Secondary/tertiary regeneration fellings:** Once regeneration is established and stable, progressively remove the canopy in one or more cycles.
- **Protection & support measures:** Apply **deer management**, targeted vegetation control, brash disturbance or scarification where natural regeneration is limited.
- **Timescale:** Regeneration phase typically extended (10–25 years) to support **continuous cover objectives** and soil/water protection.

The **Group Shelterwood** system regenerates the stand in discrete patches or groups, rather than uniformly. These small canopy openings encourage localised regeneration, and

through sequential expansion create a mosaic of age classes, supporting improved structural diversity while maintaining substantial canopy cover. Management techniques include:

- **Creation of small group openings**: Establish initial openings typically 0.05–0.25 ha to admit sufficient light for regeneration without compromising stand stability.
- **Edge thinning:** Adjust surrounding stand density to maintain wind-firm margins, regulate light entry, and encourage lateral expansion of regenerating groups.
- **Phased expansion:** Extend groups outward through follow-up operations, creating a cyclical pattern of gap formation and colonisation.
- **Stand-level continuity:** Maintain significant canopy cover to meet LISS/CCF objectives, avoiding large-scale exposure and protecting soil and hydrological function.
- **Regeneration appraisal per group:** Monitor each group separately for establishment success and species suitability.
- **Progressive removal of overstorey**: Once groups are well stocked, remove shelter trees in phases, resulting in a patchwork of cohorts contributing to longer-term irregular structure.

The **Irregular Shelterwood** system maintains a permanently irregular or multi-cohort stand structure through light but frequent interventions. Regeneration is encouraged continuously in small gaps, ensuring ongoing recruitment while retaining extensive canopy cover. Management techniques include:

- **Selective thinning (crown thinning or selection thinning):** Improve stand stability, enhance individual tree quality, and create localised light conditions favourable to regeneration.
- **Small-gap creation:** Form very small gaps (<0.1 ha) through individual tree or small-group removal to stimulate regeneration while retaining canopy continuity.
- **Continuous recruitment:** Maintain a regular cycle of regeneration, cleaning, and release, ensuring several age and size classes are always present.
- **Structural management:** Retain a wide diameter distribution, including future shelter trees, habitat trees, and long-term seed sources.
- **Adaptive spatial planning:** Apply operations based on local stand conditions, not uniform prescriptions.
- **Long-term continuity:** No discrete final felling. Instead, canopy and structure are adjusted over successive cycles to maintain continuous cover, ecological resilience, and landscape integration.

C.2.4 Long Term Retentions / Natural Reserves

Several Long-Term Retentions are found in the LMP area, also known as minimum interventions (See **Map 4 – Management Coupes**). The majority of these consist of open grown broadleaf species planted with the main objective being to provide environmental

benefits or in riparian areas. These areas have been included in the thinning approvals request to enable occasional interventions to remove undesirable species from these areas.

There is also a large area of Natural Reserve on the steep cliff faces of Kinnoull Hill. It is difficult to carry out felling operations in this area due to the steep ground and the maturing crops provide both a valuable habitat for wildlife and a positive impact on the landscape.

C.2.5 Restocking Proposals

Planned restocking of felled areas, and proposals for the future habitats and tree species over the whole plan area are shown on **Map 5 – Future Habitats and Species**. See **Table 9** and **Appendix 2 – Restock Prescriptions** for areas, establishment, and mix proportions. Timing of restocking will comply with the plan tolerance table shown in **C4 – Tolerance Table.**

Table 9: Restocking

Felling phase	Coupe Number	SS*	NS	SP	DF	NMB	Oak	MC*	MB*	Open	Total (ha)
1	28011			1.7		0.3					**2.0**
1	28005					0.25				0.05	**0.3**
1	28916				1.6	0.3		0.4		0.1	**2.4**
1	28009	0.5	0.8	3.5		2.1					**6.9**
1	28008	0.3		1.2	1.3	0.5				0.4	**3.7**
2	28538					1.3	1.1		0.9		**3.3**
2	28010							0.3	2.8		**3.1**
Total (ha):		**0.8**	**0.8**	**6.4**	**2.9**	**4.75**	**1.1**	**0.7**	**3.7**	**0.55**	**21.7**

* These components to be achieved via regeneration either within restocked areas or under retained crop.

Stocking densities will be at least 2,500 stems per ha for conifers and 1,600 stems per ha for broadleaves unless stipulated otherwise in **Appendix 2 – Restock Prescriptions**. If the restock should fail to reach these levels the site will be beaten-up to the required planting density. This will be assessed at year 3 and year 5 after planting with beat-up by at least year 5.

Hot planting (i.e. 6-12 months post felling) will be the default position with other factors (Hylobius, weed growth, regeneration, resources etc.) accounted for in decision making to decide the most appropriate establishment window. Sites must be planted within 2 years of felling.

Any non-productive broadleaf planting will be native to the area and will complement existing naturally growing scrub and woodland to give the most ecological value. The

Kinnoull and Paddockmuir LMP area sits within seed zone 203 so, as per guidance in Table 2 of Seed Sources for Planting Native Trees and Shrubs in Scotland (*Forestry Commission Scotland, 2006*), trees with a provenance from within zones 203, 204 north and 107 east will be used for native broadleaved restocking where natural regeneration is not possible. If plants from within these seed zones cannot be sourced at the time of restocking, Scottish Forestry will be consulted before planting takes place to agree a suitable alternative.

Where Sitka spruce is to be used for restocking, we will endeavor to use improved SS transplants, provided the nursey is able to supply them in sufficient quantities. If appropriate sites present themselves, i.e. good soils, low risk of Hylobius attack and the potential of yield class 14 or higher crops, then VPSS will be used if available. Over and above this, only certified material will be used for species covered by the Forest Reproductive Material Regulations.

All areas identified for restocking by natural regeneration will be recorded and programmed for inspection in accordance with the East Region Policy on Restocking Felled Ground. This policy sets out that, for Natural Regeneration, the sites are to be under effective management by year 4 after felling. At this point it is necessary to have trees across the site at a suitable density with a reasonable expectation of establishment to 30cm within 2 years. Where this is unlikely to occur after monitoring at year 3-4, the site will be changed to restocking by planting. If there is a clear indication that regeneration is likely to reach the required densities but outwith the five year limit, permission will be sought from the regulator for an extension to the establishment period.

Enrichment planting might be used to ensure the target stocking densities of minimum 2500 stems per hectare for conifers and 1600 stems per hectare for amenity broadleaves are achieved if, on inspection, it is thought there is insufficient natural regeneration present to achieve restocking without intervention.

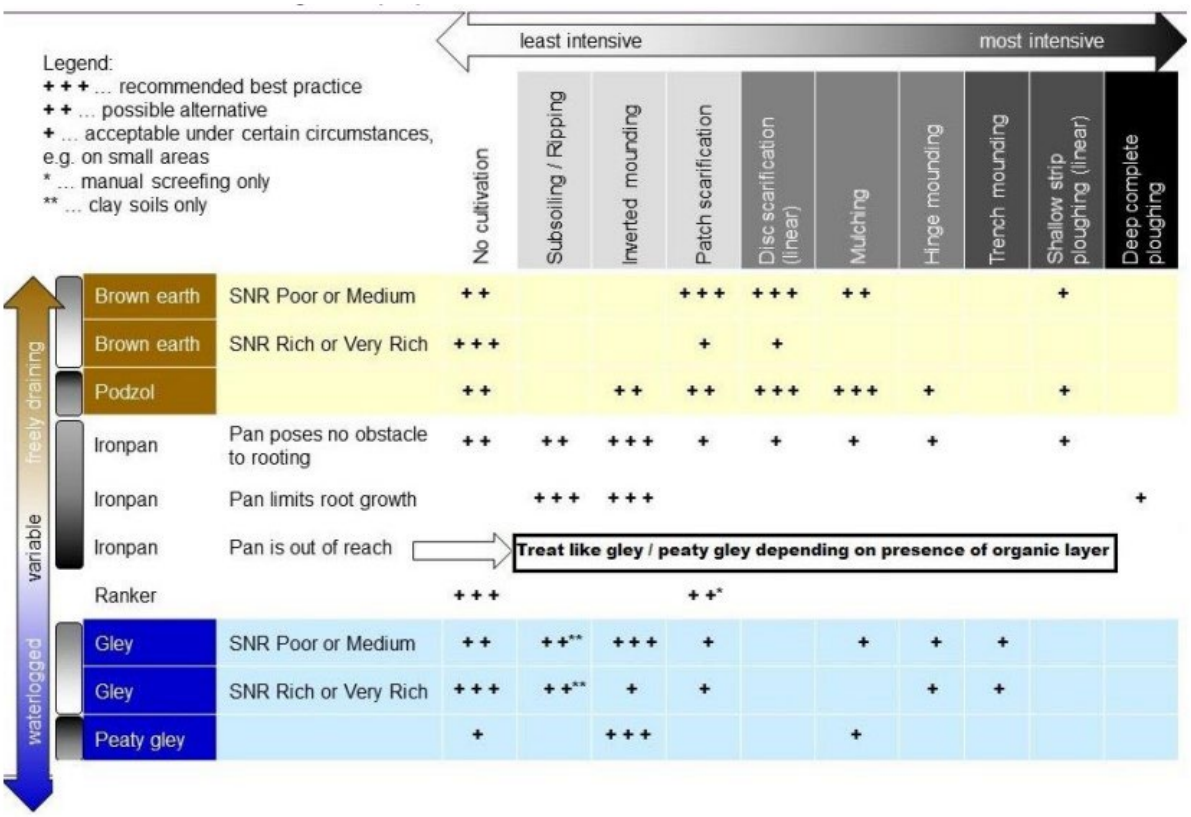
The choice of ground preparation for each site will be decided at the operational planning stage by the relevant establishment forester. Ground preparation techniques can vary greatly even across individual sites, so the most up to date advice will be applied at the time of the operation to ensure that soil structure and water quality is preserved whilst also providing an optimal environment for establishment depending on the species and site conditions. Forest and Water Guidelines, UK Forest Standard and UKWAS can all be used to help with the decision-making process if required.

Forest Research's Field Guide to Soil Cultivation (Jens Haufe, 2019) and Scottish Forestry's Cultivation for upland productive woodland creation sites will be referenced where necessary to help aid in the specific choice applied across any restock sites. The below table is a good indication of what ground preparation techniques will be applied, with the "Best Practice" option the target if possible. Restock operations within the plan period take place on several soil types, best practice options for these soil types set out below:

- Upland and basic brown earths: Scarification, mulching or no cultivation if site conditions are suitable.

- Surface water gleys: Inverted mounding or no cultivation, depending on nutrient availability on individual sites.

Table 10: Soil types and preferred ground preparation methods



FLS is following a chemical reduction strategy. This involves limiting chemical applications only to occasions when they are essential. To allow this strategy to be followed the Hylobius Management Support System will be applied and the minimum recommended fallow period used prior to restocking. This reduced fallow period will also reduce the potential need for herbicide applications to restocked areas.

C.2.6 Protection

Management of deer is an underpinning activity essential for the delivery of benefits from Scotland's National Forest Estate. The aim is to manage healthy wild deer populations and manage deer impacts across the Estate consistent with the carrying capacity of the land and successful delivery of FLS land management objectives. Deer Management Plans direct the priorities for management and are available on request.

The deer population in Kinnoull and Paddockmuir consists entirely of roe deer. Browsing of young trees does take place but evidence suggests the overall deer population is low. Deer control will be carried out by FLS employees and/or contractor stalkers, and a mix of daytime and night-time stalking will be used.

Please see **Appendix 4** for a detailed Deer Management Plan for the LMP area.

C.2.7 Fence erection / removal

Small scale enclosures or tubes might be used to establish particularly palatable species within this plan period, with tubes the more likely option. These protection measures will be of temporary nature and will be removed once the broadleaves have sufficiently established. The protection measures will be sited where access, and construction is easiest and where the benefits of broadleaves are highest. FLS will regularly check protection measures to ensure they provide sufficient protection. Where fencing is used in areas known to be accessed by the public for recreational use, pedestrian access gates will be included in the fence design.

Materials will be removed from site once no longer necessary and where possible recycled on other sites. If they cannot be recycled, they will be disposed of through appropriate waste channels.

C.2.8 Road Operations

Map 9 -Timber Haulage shows the existing forest road network, timber haulage egress points, and any local 'Agreed Timber Transport Routes'.

Road upgrades will be carried out to facilitate forest operations if needed in the future. Material for road maintenance and upgrades will be bought in from local quarries. In case of a changes to the footprint of the road a detailed workplan will be created, **C4 – Tolerance table** and the EIA Scoping Opinion Request thresholds will be adhered to.

C.2.9 Public Access

Visitors are welcome to explore FLS land and will only be asked to avoid routes while certain work is going on that will create serious or less obvious hazards for a period (e.g. tree felling). Scotland's outdoors provides great opportunities for open-air recreation and education, with great benefits for people's enjoyment, and their health and well-being. The Land Reform (Scotland) Act 2003 and the Scottish Outdoor Access Code ensure everyone has statutory access rights to most of Scotland's outdoors, if these rights are exercised responsibly, with respect for people's privacy, safety and livelihoods, and for Scotland's environment. Equally, land managers must manage their land and water responsibly in relation to access rights, and FLS will only restrict public access where it is necessary and will keep disruption to a minimum.

This plan area is heavily used for recreation and includes a formal car park as well as several way-marked trails. Multiple local groups such as the equestrian community, orienteering groups, trail associations and community outreach charities use the forest regularly.

At present, FLS plan to maintain the current offering of trails and parking for the duration of this plan period.

In areas outwith the formal facilities, long term informal recreation will be managed by providing a diverse age and species structure throughout the forests. Recreational usage

itself will ensure the maintenance and development of informal paths. Where operations result in a change of forest structure recreational use will adapt to the changed structure.

The majority of the forest roads and several footpaths within the LMP area are designated as core paths, as shown in **Map 2 – Concept**. Any operations which may disrupt the use of these paths and any mitigations required will be discussed with the local authority in advance. Advance notice of any operations which could impact recreational use of the forest will be given where possible. Reference will also be made to the Moray Council Core Path Plan when planning operations in these areas.

C.2.10 Historic Environment

Our Land Management Planning Process is informed by desk-based assessment, stakeholder consultation and professional archaeological walkover surveys where required.

Our key priorities for archaeology and the historic environment are to undertake conservation management, condition monitoring and archaeological recording at our significant historic assets; and to seek opportunities to work in partnership to help to deliver *Our Past, Our Future: the Historic Environment Strategy for Scotland* and *Scotland's Archaeology Strategy*. Significant heritage features will be protected and managed following the *UK Forestry Standard 5th Edition* (2024) and *UKWAS* (2024).

Harvesting coupes, access roads and fence lines will be surveyed prior to any work being undertaken in order to ensure that upstanding heritage features can be marked out and avoided. At establishment and restocking, work prescriptions remove relevant heritage features from ground disturbing operations and replanting. Where appropriate, significant heritage features are recorded by archaeological measured survey, see active conservation management and may be presented to the public with interpretation panels and access paths. Opportunities to enhance the setting of important sites and landscapes will be considered on a case-by-case basis (such as the views to and from a significant designated historic asset).

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

There is one scheduled monument located within Deuchny Woods – see **Map 11 - Heritage**. Details below:

- Deuchny Hillfort (SM 6119 / NO 1524 2370). The remains of a hillfort of later prehistoric date surviving as a series of earthworks. This monument is of national importance.

FLS plan to carry out regular monitoring of the open space associated with the Hillfort and undertake clearance of scrub and tree regeneration with is encroaching on the monument

or into the 20 m buffer zone. The current access to the monument will also protected. Scheduled monument clearance will be sought where necessary.

In addition to the Deuchny Hillfort scheduled monument, there is also a Garden and Designed Landscape which covers part of the LMP area:

- Kinfauns Castle (GDL00240). An important early 19th century picturesque, designed landscape of parkland and woodlands, which plays an important role in the local scenery and provides some of the most significant views in the region. Kinnoull Tower on Kinnoull Hill and Binnhill Tower on Binn Hill, both within the LMP boundaries, form an important backdrop in views of Kinfauns Castle in its designed landscape setting.

As part of FLS's plan to mitigate the effects of Phytophthora ramorum disease, there is an area at the summit of Binn Hill which is scheduled for larch removal within the second phase of the plan: coupe 28010 on **Map 4 – Management Coupes**. The larch is mixed throughout the area and the intention is to retain all the other species, including beech, sycamore, ash and an element of Scots pine. The effect will be of a heavy thinning with a short-term diminishing of the canopy but with forest cover retained across the entire area, the site will regenerate quickly with the species mix described above. This should minimise the impact on the landscape as much as is possible. Please see **Appendix 3 – Visualisations** for visual representations of the felling plans on landscape

Although Binnhill and Kinnoull Hill towers are not part of FLS's landholding, the surrounding woodland will be managed to remove any shrub or regeneration which may begin to encroach and reduce access or block views.

Map 11 – Heritage depicts those designated historic assets and those significant heritage features which will see active conservation during the plan period (including maintenance in open space)

C.2.11 Biodiversity

As per UKFS and UKWAS, there is a minimum requirement to manage 15% of the forest management unit (the LMP area) with conservation and the enhancement of biodiversity as a major objective. The figure for this plan is currently 36.2%, rising to 38.7% over the LMP period.

There are several key species located within the plan area including: schedule one birds of prey, red squirrels, pine martens and badgers, all of which will be protected as per UKFS and NatureScot guidance.

The plan also helps to support the Scottish Biodiversity Strategy by:

- helping forests regenerate naturally
- planting a wider mix of tree species
- improving woodland cover and understorey

- connecting forest habitats and other land uses

Long-established woodlands of plantation origin (LEPO) and Plantations on Ancient Woodland Sites (PAWS)
As per **Map 2 – Concept,** large areas of the LMP area are designated as LEPO.

As part of forming a more robust approach to our management of LEPO areas and to ensure they are being managed as per guidance in the relevant section of the UKFS, we will be carrying out several management steps as detailed below.

All areas designated as PAWS and LEPO will be assessed using the criteria in the table below to ensure that the current LMP proposals are appropriate and any additional LEPO areas that are known but not covered in existing databases will be added.

Table 11: Assessment criteria LEPO

ECOLOGICAL POTENTIAL	OLD PLANTATION FEATURES ONLY	OLD SEMI-NATURAL FEATURES INCLUDED
High		A few remarkable ancient/veteran trees/notable woodland flora and/or frequent c. 150-year-old native trees and other old woodland remnants (e.g. abundant woodland specialist flora) within the plantation. And/or, in a substantial native woodland network
Medium	Frequent c. 150-year-old non-native trees embedded within younger plantation	Occasional c. 150-year-old native trees, occasional patches of woodland specialist flora and / or in a fragmented native woodland network. [1]
Low	Rare or occasional c. 150-year-old non-native trees embedded within younger plantation [2]	No obvious signs of old semi-natural woodland and isolated from a native woodland habitat network [1, 2]

1. For Medium and Low Ecological Potential sites with native/semi-natural features, there could be old plantation features as well.
2. Those LEPO that were in the HCV sub-set and have been added to the PAWS layer, can be managed conventionally if they have Low Ecological Potential. If there are rare or occasional c.

After assessment, the future management is decided based on the following advice from FLS' Native Woodland Ecologist:

"There is no imperative to convert to native species if the LEPO is currently dominated by non-natives. As with PAWS restoration, there is a strong preference for LISS management to maintain woodland conditions – avoiding huge changes to light levels, loss of humidity and increase in the water table – all consequences of clear-felling. The guiding principle should

be to undertake sustainable management that will protect features of interest in the long-term.

As with PAWS restoration, sites with High Ecological Potential and Critical threats are the priority for management. LEPO with High Ecological potential will include features normally associated with ancient woodland sites and an increase in native species over time will normally be appropriate to embed veteran native trees and other flora in a wider native woodland matrix. This will be best achieved by favouring interesting features in repeated thinning operations.

The Ecological Potential of LEPO with frequent non-native veteran trees and no other features of biological interest will be Medium, therefore management of these sites should not take precedence over the highest value LEPO and true PAWS with frequent semi-natural veteran trees/rare native woodland flora."

For this plan, a general assessment has been made by the regional environment teams and planning staff to ensure the LMP proposals are appropriate.

Any areas of high or medium ecological potential will be assessed as part of the pre-felling checks carried out by FLS staff and any opportunities for retentions of high ecological value trees, habitats or deadwood reserves will be identified and built into the work planning process for any upcoming operations.

Restock species with LEPO designated areas in the LMP area have mostly been chosen with a long rotation in mind and are planned to be managed under LISS systems in the future. The exception being where the coupe has been assessed as being of low ecological potential and the restock prescription is for standard rotation commercial conifer planting.

<u>Deadwood</u>

Deadwood will be managed in accordance with the FCS Practice Guide: Managing Deadwood in forests and woodlands (Humphrey and Bailet, 2012) and supplemented by the FLS Guidance note: Deadwood Management – Summary Guidance for FLS Staff (Kortland, 2021).

Key principles applied:

- Retain and create as much deadwood as possible and create new deadwood on a continuing basis.
- Retain and create as many kinds of deadwood as possible.
- Favour native tree species when creating and retaining deadwood.
- Favour the retention and creation of large-diameter deadwood.
- Retain and create high stumps and snags (standing deadwood) within woodland and permanent open areas (but not on clear fells that will be restocked).
- Design the distribution of deadwood to maximise connectivity at the woodland management unit and coupe scale, ensuring they are not in obtrusive locations within the landscape.

Map 10 – Deadwood Ecological Potential shows the ecological deadwood potential of Kinnoull and Paddockmuir, based on the following criteria:

Table 12: Description of Deadwood Ecological Potential classes

Deadwood Ecological Potential (DEP) class	FES woodland management categories included in this DEP class
High	Natural reserves, ancient semi-natural woodlands, native pinewoods, riparian buffers along watercourses, PAWS with high ecological potential, wood pasture.
Medium	Minimum intervention areas of broadleaved woodlands, PAWS, LEPOs, long-term retentions, LISS coupes.
Low	All other stands (i.e. stands where timber production is the priority).

Table 13: Description of management prescriptions for each DEP class

(DEP) class	Deadwood Management Prescription
High	1. Retain all existing veteran trees and deadwood apart from that which is a health and safety risk or where it would be highly obtrusive in the landscape 2. Retain all wind blow apart from that which is a health and safety risk 3. Deadwood distributed throughout the coupe 4. Seek opportunities to create particularly valuable deadwood e.g. import some large-diameter logs from nearby coupes when they are thinned or clear felled.
Medium	1. Retain all existing veteran trees and deadwood apart from that which is a health and safety risk 2. Only harvest windblow of significant value or which poses a health and safety risk 3. Seek opportunities to create particularly valuable new deadwood e, g when felling big trees, retain some large diameter logs at the edge of the coupe 4. Where windblow is harvested, retain some blown trees in a group as 'future deadwood' where not obtrusive in the landscape
Low	NA

C.2.12 Tree Health

Within the Forestry and Land Scotland Larch Strategy the blocks are found on the boundary of the PAZ 'less vulnerable zone' and the 'more vulnerable zone'. Given the predicted spread of Phytophthora ramorum in the coming years and the complexities of felling in high

public use areas and steep slopes, this plan will take the more proactive approach suggested for the 'more vulnerable zone':

- Remove at least 20% of the larch by April 2027 (against an April 2021 baseline and focusing on the areas closest to the boundary of 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)
- Construct access to at least 80% of all mature larch by April 2027.

There are few specific concerns around tree health in Kinnoull and Paddockmuir. Therefore, tree health will largely be managed through improving species and age diversification, continued thinning and ensuring appropriate species selection taking soils and climate change into account. As set out in **C.1** tree species will be carefully matched to soil type, this ensures resilience and reduces the opportunities for pathogens.

As noted in **A.8** there is a presence of butt and root rot fungi. To minimise the impact of these pathogens, forest management, including civils operations, will take care to minimise damage to stems and roots during operations. Furthermore, urea will be sprayed on stumps during felling or thinning operations to inhibit colonisation by *Heterobasidion annosum*.

There are sporadic occurrences of *Peridermium pini* infections within individual pine trees which are causing some instances of mortality but this not currently at a worrying level and infected trees will be targeted during thinning operations in the future.

C.2.13 Invasive Species

There are currently no issues with Invasive Non-Native Species within the LMP area.

Monitoring will continue to be carried out and in case of colonisation by invasive species, removal/treatment will take place. Where the presence of INNS crosses into neighbouring properties contact with neighbours will be sought to jointly remove INNS where possible.

C.2.14 New Planting

Not applicable.

C.2.15 Other

Wildfire

FLS continues to work closely with Scottish Fire and Rescue Service (SFRS) to prevent and tackle wildfires that threaten Scotland's National Forests and Land. FLS support SFRS in their lead role for fire prevention and suppression through creating annual fire plans, maintaining a duty rota, and providing additional logistical support. FLS's primary objective is always to protect people's health, safety and wellbeing.

As part of the LMP review process a risk analysis has been carried out and some factors have been identified as increasing the likelihood of wildfire within the Kinnoull and Paddockmuir blocks:

- The forests are heavily used for recreation, although they are not seen as a destination for camping.
- Some of the plan area consists of mature Scots pine with heather dominated ground flora which is at a higher risk of ground level wildfire.

The design of the forest and future management proposals help mitigate these risks in several ways:

- The Kinnoull and Paddockmuir blocks are generally well structured, with a range of tree species, age classes and silvicultural systems present.
- Existing open areas around watercourses and plans to extend riparian zones will help increase their effectiveness as firebreaks.
- The extensive road network provides excellent access for firefighting equipment and provides regular opportunities for fire breaks to be established.

Some more general factors which reduce the likelihood of serious wildfire impact within the Kinnoull and Paddockmuir LMP area include:

- The majority of the surrounding land use is for agriculture and is a low fire risk.
- The River Tay is an excellent water source for helicopter firefighting techniques.

Please see **Map 12 – Wildfire Risks and Mitigations** for an illustration of the risks and mitigations identified for the LMP area.

Analysis of the risks and mitigations present has led FLS to classify Kinnoull and Paddockmuir as currently being at a medium risk of wildfire. At the 5-year review of this LMP, the risks and mitigations will be reassessed to ensure the current classification is still suitable and identify any additional measures required if necessary.

Private water supplies

As part of the design process for this LMP, a concerted effort has been made to identify any private water supply sources either within the plan area or within approximately 2km of the boundaries.

This was done by setting up an indicative “private water supply screening zone” around the LMP blocks and within this area checking against all relevant water supply data currently available including:

- FLS local private water supplies data
- Data provided by the local authority
- Drinking Water Protected Area data provided by SEPA
- Using a database of addresses to identify all residents of rural properties within 2km which are not located near a water main

There are private water supplies located in the vicinity of the plan area and some infrastructure such as pipes and storage tanks located within the block boundaries. Suitable

buffers have been applied to the future restock species plan and catchment maps have been created for all PWS which have the potential to be affected by operations in the future.

Drinking Water Protected Areas (DWPA)
The LMP blocks do not fall within any DWPAs or contain any active distribution water assets.

Hydrology
Where operations along the main watercourses take place, opportunities will be sought to naturalize watercourses by removing non-native species from the banks and re-establishing with open grown riparian woodland.

Surface water drains will not discharge directly into the water environment. East Region staff will remediate legacy drains of this type to avoid siltation problems during and after forestry operations by using tree roots and other natural methods to install anti siltation devices during harvesting operations and addressing the drains permanently during subsequent ground preparation operations. When natural means are not available plastic dams or semi-permeable netting might be used temporarily. When operations are finished this will be removed and reused.

Where opportunities exist to deliver environmental improvement by the alteration or removal of inappropriately designed or redundant structures - for instance upgrading of a culvert to allow fish passage or removal of a redundant weir - this will be undertaken in consultation with the relevant stakeholders, and we will register the operation on the SEPA website. Opportunities for morphological and ecological improvements may also be considered.

Where specific operations produce waste material not detailed above, East Region staff will liaise directly with SEPA to establish the level of permission/licensing required on a site-by-site basis.

C.3 Environmental Impact Assessment (EIA) and Permitted Development Notifications

Total area (hectares) for each project type and details by sensitive or non-sensitive area.					
Type of Project	**Sensitive Area**		**Non-sensitive Area**		**Total**
Afforestation	%Con	%BL	%Con	%BL	ha
Deforestation	%Con	%BL	% Con	%BL	ha
Forest Roads	ha		ha		ha
Quarries	ha		ha		ha
Provide further details on your project if required.					
There are no projects which meet the requirements for EIA scoping within this plan period.					

C.4 Tolerance Table

EAST REGION TOLERANCE TABLE - 2025

	Map Required (Y/N)	Adjustment to felling period *	Adjustment to felling coupe boundaries **	Timing of restock	Change to restocking species	Changes to roadline	Designed open ground ***	Windblow clearance ****
SF approval not normally required	N	Felling date can be moved within 5 year period where separation or other constraints are met	Up to 10% of coupe area	Up to 2 planting seasons after felling	Change within species group e.g. evergreen conifers or broadleaves	-	Increase by up to 5% of coupe area	-
SF approval by exchange of email and map	Y	-	Up to 15% of coupe area	Between 2 and 5 planting seasons after felling subject to the wider forest and habitat structure not being significantly compromised	-	Additional felling of trees not agreed in plan. Departures of more than 60m in either direction from centre of road	Increase by up to 10% Any reduction in open ground within coupe area	Up to 5 ha
SF approval by formal plan amendment may be required	Y	Felling delayed into second or later 5 year period Advance felling into current or 2nd 5 year period	More than 15% of coupe area	More than 5 planting seasons after felling subject to the wider forest and habitat structure not being significantly compromised	Change from specified native species Change between species groups	As above, depending on sensitivity	More than 10% of coupe area Colonisation of open areas agreed as critical	More than 5 ha

EAST REGION TOLERANCE TABLE - 2025

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 separate felling permission due to the risks or impacts of delaying felling. Felling permission is therefore sought for the LMP approval period to cover the following circumstances: Individual, rows or small groups of trees that are impacting on important infrastructure (ie. Forest roads, footpaths, access routes (vehicular, cycle, equestrian or pedestrian), Buildings, Utilities and services and drains) either because they are now encroaching on or have been destabilised or made unsafe by wind, physical damage or impede drainage. 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 manner will be maintained and will be considered during the five year LMP review.

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

** No more than 1 ha, without consultation with SF, where the location is defined as 'sensitive' within the Environmental Impact Assessment (Forestry) 1999 Regulations (EIA).

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

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

Appendices

Map 1 – Location
Map 2 – Concept
Map 3 – Current Species
Map 4 – Management Coupes
Map 5 – Future Habitats and Species
Map 6 – Thinning Coupes
Map 7 – Thinning Approvals
Map 8 – Soils
Map 9 – Timber Haulage
Map 10 – Deadwood Ecological Potential
Map 11 – Heritage
Map 12 – Wildfire Risks and Mitigations

Appendix 1 – Consultation record
Appendix 2 – Restock Prescriptions
Appendix 3 – Visualisations
Appendix 4 – Deer Management Plan