Forestry and Land Scotland
Coilltearachd agus Fearann Alba

# Heathhall

## Land Management Plan 2023-2033 South Region-V1.1

**Plan Reference No:**
**Plan Approval Date: 04/07/2023**
**Plan Expiry Date: 04/07/2033**

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

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

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

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

# Contents

# 1.0 Objectives and Summary

## 1.1 Plan overview and objectives

| | |
|---|---|
| Plan name | Heathhall |
| Forest blocks included | Heathhall |
| Size of plan area (ha) | 153 ha |
| Location | See Location map (**Map 1**) |

| Long Term Vision |
|---|
| Heathhall Wood is a hidden gem for the communities around Dumfries, offering a peaceful place for recreation and relaxation amongst native woodland rich in wildlife. Visitors arrive using active travel links and are welcomed on to a well-managed network of trails. Less-abled visitors are provided for, and everyone is encouraged to explore the wood. Remnants of the Lochar Moss have become wet again, helping to protect carbon stores in the deep peats below, whilst creating a valuable open wet woodland habitat. |
| **Management Objectives** |
| 1. Continue to manage and enhance the woodland for the enjoyment of the local community, especially along the formal trails, providing a welcoming and relaxing environment<br>2. Work with natural regeneration to expand and establish a predominantly broadleaf native mixed woodland<br>3. Thin the woodland in appropriate and accessible areas to enhance the internal landscape, create a range of wildlife habitats, and to develop opportunities for hardwood timber products<br>4. Protect the peatland by removing Sitka Spruce and encouraging the development of wet woodland |
| **Critical Success Factors** |
| • Formal trails and recreation furniture must be managed to a high standard<br>• Varied woodland composition, internal views, and features of interest should be key elements of the visitor zones<br>• After removal of the Spruce on the deep peats, the internal drains must be blocked promptly at suitable points to encourage wetting of the ground<br>• Deer control areas must be kept open (or thinned) to be effective<br>• Planted trees must receive effective protection against animal browsing<br>• The local community must have real engagement in how the wood is managed |

## 1.2 Summary of planned operations

Table 1

| Summary of Operations over the Plan Period | |
|---|---|
| Clear felling (gross) | 60.4 ha |
| Thinning (potential area) | 64.3 ha |
| Restocking (gross) | 60.4 ha |
| Afforestation | 0 ha |
| Deforestation | 0 ha |
| Forest roads | 0 m |
| Forestry quarries | 0 ha |

The forest is managed to the UK Woodland Assurance Standard – the standard endorsed in the UK by the *Forest Stewardship Council and the Programme for the Endorsement of Forest Certification*. Forestry and Land Scotland is independently audited to ensure that we are delivering sustainable forest management.

# 2.0 Analysis and Concept

The planning process was informed by collecting information about the woodland, which is presented in Appendix I and on the Key Features map (Map 2). During the development of this plan we have consulted with the local community and other key stakeholders, and a Consultation Record is presented in Appendix III.

Below lists the objectives for the site and how the key features present opportunity or constraint. The Analysis of these form the concept for this Land Management Plan.

Objective: Continue to manage and enhance the woodland for the enjoyment of the local community, especially along the formal trails, providing a welcoming and relaxing environment

- Opportunities:

The woodland is already well provisioned with formal trails, and some of the informal desire lines have become well established with regular use. There are potential options for additional upgrades on drier ground.

The local community values this local greenspace asset and may wish to support projects to further develop access here, as well as other opportunities to enhance the visitor experience.

A future mix of tree and shrub species would offer variety and interest to visitors – the soils here offer options for planting / establishing different species.

The visitor experience can be enhanced with resting areas, internal open space and features of interest.

- Constraints:

The ground across much of the woodland is very wet and prone to flooding and would not be suitable for public access routes.

Public access routes create challenges for delivering forestry operations – both managing public safety and avoiding damage to access infrastructure.

Although visitors are encouraged to use active travel, many people arrive on site by car and this is already leading to informal parking at access points and on local streets.

- Concept:

Focus management effort on the existing trails to ensure they are maintained to a high standard. Develop an attractive and varied woodland with the visitor experience as the primary driver. Consider the need for car parking provision. Continue to engage with the local community.

### Objective: Work with natural regeneration to expand and establish a predominantly broadleaf native mixed woodland

- Opportunities:

Past evidence shows that natural regeneration of native tree species (particularly Birch) occurs successfully when ground is opened up.

Existing natural regeneration here has not suffered significant damage from deer browsing.

- Constraints:

Less desirable tree species such as Sitka Spruce are likely to appear through natural regeneration from the seed bank in the ground where they have previously grown to maturity.

Birch tends to be the common pioneer species and can dominate the stand structure for some time. This is not a problem, but in the medium term will not create a mixed woodland unless managed and enriched with other species.

Rabbits are present and can strip the bark from young trees.

Some areas where Larch was felled in 2017 are now covered in thick Bracken that will hamper natural regeneration of trees.

- Concept:

Use Birch natural regeneration as a pioneer species, but enrich with other site suitable native tree species where appropriate. Monitor and if necessary manage both Bracken and the natural regeneration of less desirable tree species (such as Sitka Spruce).

Objective: Thin the woodland in appropriate and accessible areas to enhance the internal landscape, create a range of wildlife habitats, and to develop opportunities for hardwood timber products

- Opportunities:

Operational access is mostly good, and the ground is level.

There are several sheltered sites with good soils offering good potential for thinning.

Different thinning regimes would create structural diversity with associated social and environmental benefits.

- Constraints:

Public access infrastructure and high levels of recreation will make any forestry operations more challenging.

Wet and boggy ground will be out-of-bounds for thinning.

Some non-thin areas around the edges would create a desirable buffer to adjacent roads and industry.

- Concept:

Identify discrete thinning areas with good access and clear objectives where timely interventions can be assured. Use small-scale operations to minimise the impact on public access.

### Objective: Protect the peatland by removing Sitka Spruce and encouraging the development of wet woodland

- Opportunities:

The relatively large area of Sitka Spruce over deep peat will offer operational economies of scale for its removal.

A network of drains originally created to establish the first rotation of forestry on the deep peat can be blocked to help raise water levels.

Downy Birch is already establishing well through natural regeneration in some of the recently felled deep peat areas.

- Constraints:

Soft and wet ground conditions will be challenging for working machinery, particularly as there is a desire to minimise damage to the underlying peat.

Drain blocking must not lead to unwanted flooding of access infrastructure or neighbouring land, or adversely change the ground conditions in adjacent areas identified for woodland management.

Inevitably there will be some natural regeneration of conifers.

- Concept:

Remove the Sitka Spruce from the deep peat area preferably in one operation. Promptly block ditches after felling to wet the ground as quickly as possible. Allow natural regeneration of Downy Birch, and accept some conifers - although the latter is likely to be suppressed by the wetter ground.

Different management options for achieving the plan's objectives were considered against the constraints and opportunities identified during scoping and consultation. The preferred approach is summarised on the Concept map (Map 3).

# 3.0 Management Proposals - regulatory requirements

This land management plan was produced in accordance with a range of government and industry standards and guidance as well as recent research outputs, recognised at the time of its production. A full list of the current standards and guidance which guide the preparation and delivery of FLS Land Management Plans can be found using the link HERE.

## 3.1 Designations

The plan area forms part of, includes, or is covered by the following designations and significant features.

Table 2

| Designations and significant features | | |
|---|---|---|
| Feature type | Present | Note |
| Site of Special Scientific Interest (SSSI) | No | |
| National Nature Reserve (NNR) | No | |
| Special Protection Area (SPA) | No | |
| Special Area of Conservation (SAC) | No | |
| World Heritage Site (WHS) | No | |
| Scheduled Monument (SM) | No | |
| National Scenic Area (NSA) | No | |
| National Park (NP) | No | |
| Deep peat soil (>50 cm thickness) | YES | Extensive degraded raised bog |
| | | |
| Tree Preservation Order (TPO) | No | |
| Biosphere reserve | No | |
| Local Landscape Area | No | |
| Ancient woodland | YES | LEPO 2b |
| Acid sensitive catchment | No | |
| Drinking Water Protected Area (Surface) | No | |

The Key Features map (**Map 2**) shows the location of all designated areas and significant features. Any deep peats are indicated on the Soils map (**Map 9**).

## 3.2 Clear felling

Sites proposed for clear felling in the plan period are identified as Phase 1 and Phase 2 coupes on the Management map (**Map 4**).

Table 3

| Clearfell Summary by Phase and Coupe Number | | |
|---|---|---|
| Phase | Coupe Number | Gross Area (ha) |
| 1 | 28010 | 0.3 |
| 2 | 28023 | 33.7 |
| 1 | 28025 | 26.7 |
| | | 60.7 |

Table 4

| Clearfell by Species | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Net Area (ha) by Main Species >20% (or MC, MB) | | | | | | | | | |
| Coupe Number | SS (+LP) | HL | | | | | | | | Coupe Total |
| 28010 | | 0.3 | | | | | | | | 0.3 |
| 28023 | 29.1 | | | | | | | | | 29.1 |
| 28025 | 21.3 | | | | | | | | | 21.3 |
| Total | 50.4 | 0.3 | | | | | | | | 50.7 |

**NB** Coupe totals: Table 3 shows gross coupe area / Table 4 shows net area of species

Table 5

| Scale of Proposed Felling Areas | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Woodland Area | | | 153 ha | | | | | | | |
| Felling | Phase 1 | % | Phase 2 | % | Phase 3 | % | Phase 4 | % | Long Term Retention | % |
| Net Area (ha) | 21.6 | 14 | 29.1 | 19 | 0 | 0 | 0 | 0 | 21.5 | 14 |

## 3.3 Thinning

Potential sites for thinning in the plan period are identified on the Thinning map (**Map 5**).

This covers an area of 64.3 ha

Thinning will normally be carried out at, or below, the level of marginal thinning intensity (i.e. removing no more than 70% of the maximum MAI, or YC, per year). Higher intensities (no more than 140 % of maximum MAI, or YC, per year) may be applied where thinning has been delayed, larger tree sizes are being sought or as part of a LISS prescription. 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.

## 3.4 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].

# 3.5 Restocking

Proposed restocking is shown on the Future Habitats and Species map (**Map 6**).

Table 6

| Restocking | | | | | | | |
|---|---|---|---|---|---|---|---|
| Phase † | Coupe Number | Gross Area (ha) | Proposed Restock Year | Species | Method * | Minimum stocking Density (s/ha) | Note |
| 1 | 28010 | 0.3 | 25/26 | SP | R | 2500 | Non-productive SP to create stand of feature trees |
| 2 | 28023 | 33.7 | 29/30 | Open + PBI (LP/SS) | NR | 500 for areas of wet woodland | Aim - mosaic habitat of open bog and native wet woodland. Some LP/SS regen will be tolerated. |
| 1 | 28025 | 26.7 | 26/27 | | | | |

| Total | 60.7 |
|---|---|

† recently felled awaiting restock (F) / Phase 1 (1) / Phase 2 (2)

* replant (R) / natural regeneration (NR) / plant alternative area (ALT) / no restocking (None)

If the Restock or natural regeneration should fail to reach 1600 per hectare (Native Broadleaves) or 2500 sph (productive Conifers) 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.

The exception to above is the area of deep peat (10a soils) that after felling will be allowed to develop into a Peatland Edge Woodland mosaic habitat of wet woodland and boggy open ground. Here, canopy cover will be at least 20% but the stocking density will be closer to 500 sph.

## 3.6 Species diversity and age structure

The following tables show how the proposed management of the forest will help to maintain or establish a diverse species composition and age-class structure, as recommended in the UK Forestry Standard. The current woodland composition is shown on Map 8.

Stands adjoining felled areas will be retained until the restocking of the first coupe has reached a minimum height of 2m. Where this is not possible (e.g. due to windblow risk), the planned approach to achieving height separation between adjacent coupes is outlined in section 4.1 – Clear felling.

Table 7

| Plan area by species | | | | | | |
|---|---|---|---|---|---|---|
| Species | Current Area (ha) | % | Year 10 Area (ha) | % | Year 20 Area (ha) | % |
| Sitka spruce | 55.4 | 36 | 4.8 | 3 | 4.4 | 3 |
| Other conifers | 24.2 | 16 | 30.8 | 20 | 30.1 | 20 |
| Native broadleaves | 48 | 31 | 73.6 | 48 | 75.5 | 49 |
| Open ground | 25.4 | 17 | 43.8 | 29 | 43 | 28 |
| Total | | 100 | | 100 | | 100 |

Chart 1

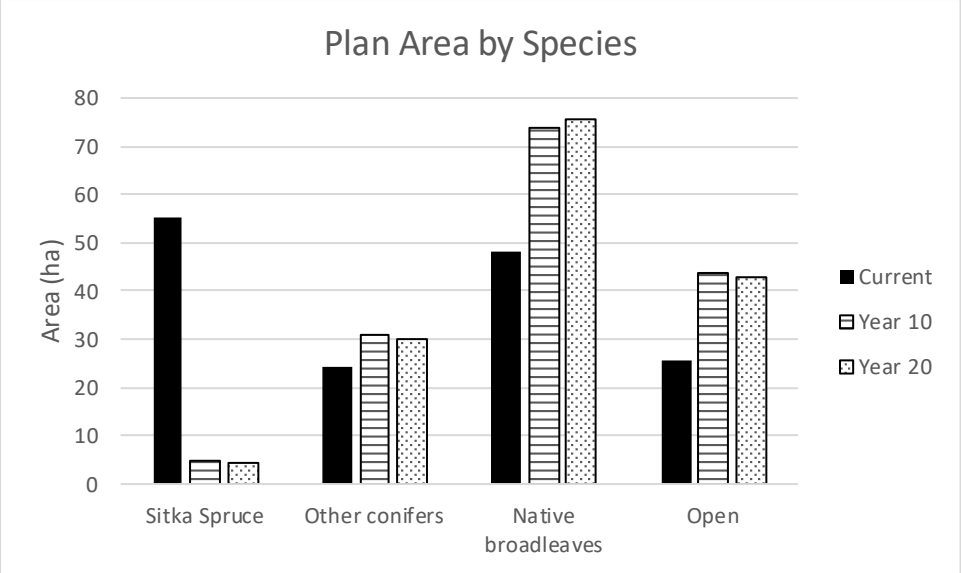
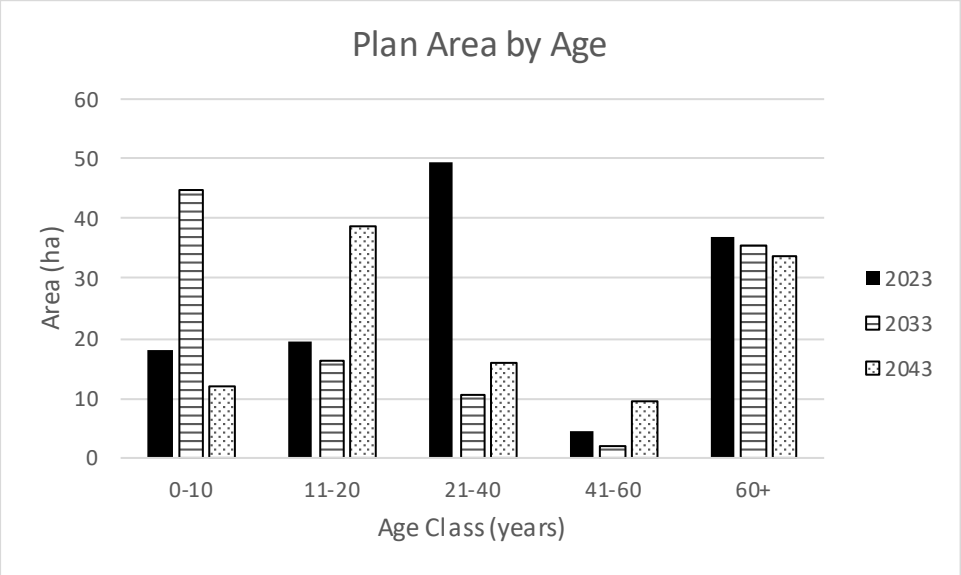


Table 8

| Plan area by Age | | | | | | |
|---|---|---|---|---|---|---|
| Age Class (years) | Current Area (ha) | % | Year 10 Area (ha) | % | Year 20 Area (ha) | % |
| 0 – 10 | 17.9 | 14 | 44.9 | 41 | 11.8 | 11 |
| 11 – 20 | 19.3 | 15 | 16.3 | 15 | 38.8 | 35 |
| 21 – 40 | 49.3 | 39 | 10.4 | 10 | 16 | 15 |
| 41 – 60 | 4.3 | 3 | 1.9 | 2 | 9.4 | 9 |
| 60+ | 36.9 | 29 | 35.6 | 33 | 33.9 | 31 |
| Total | | 100 | | 100 | | 100 |

Chart 2



## 3.7 Road Operations and Quarries

Planned new roads, road realignments, road upgrades, new quarrying, and timber haulage routes are shown on the Road Operations and Timber Haulage map (**Map 7**).

No road or quarry operations are planned during the plan period.

Table 9

| Forest Road Upgrades, Realignments, New Roads and New Quarrying | | | | |
|---|---|---|---|---|
| Phase | Name / Number | Length (m) | Year | Operation |
| n/a | n/a | n/a | n/a | n/a |

## 3.8 Environmental Impact Assessment (EIA)

Any operations requiring an EIA determination are shown in the table below. If required, the screening opinion request form is presented in **Appendix II**.

Table 10

| EIA projects in the plan area | | |
|---|---|---|
| Type of project | Yes / No | Note |
| Afforestation | No | |
| Deforestation | No | |
| Forest roads | No | |
| Forestry quarries | No | |

## 3.9 Tolerance table

Working tolerances agreed with Scottish Forestry are shown in **Appendix IV**.

# 4.0 Management Proposals – guidance and context

## 4.1 Silviculture

### 4.1.1 Clear felling

Coupes for clearfelling during the plan period (refer to Map 4):

28010
Small area of larch close to public road and adjacent to industrial estate. Felling to meet current objectives of FLS larch policy.

28023 and 28025
P99/P05 Sitka Spruce (+ some nurse crop Lodgepole Pine). Checked growth due to low fertility and wet ground. Removal of SS early will reduce unwanted natural regeneration - helping to meet the plan objective of peatland protection through partial rewetting and the establishment of a Peatland Edge open wet woodland mosaic habitat. The quality of recoverable timber products will not improve significantly over time. The total area has been split into two coupes to balance best ecological practice, visual impact, and economic considerations. Existing native broadleaves will be retained, with particular consideration for retaining roadside trees – where it is safe and practical to do so. Lodgepole Pine will also be retained where possible for visual and diversity interest. Preference is for the use of wide-track low ground-pressure machinery to minimise damage to the peatland surface.

### 4.1.2 Thinning

Refer to Map 5.

Thinning interventions will focus on improving the internal landscape for the visitor experience. They will also aid deer management operations. Habitat management works will also use thinning where this can improve conditions for target species (e.g. butterflies).

## 4.1.3 Low Impact Silviculture Systems (LISS) / Continuous Cover Forestry (CCF)

Refer to **Map 4.**

There are limited suitable sites within the wood where CCF can be delivered successfully for timber production. However, small-scale thinning in areas of minimum intervention should create some opportunities for hardwood timber products - which can almost be classed as LISS. The future SP in coupe 28014 will be managed under a CCF approach.

## 4.1.4 Long term retention (LTR) / Minimum intervention (MI) / Natural reserve (NR)

Refer to **Map 4.**

All the remaining mature conifer stands (apart from those on the deep peats to the east) have been chosen for long term retention. They have been given a nominal future fell year, however it is expected that most of the trees will be allowed to age and die in situ, providing future dead wood whilst slowly being replaced by the existing naturally regenerating understorey of broadleaves. LTR makes up 14% of the plan area.

The total area of the wood that has currently been selected as minimum intervention is 67 ha. Once the Spruce has been removed, the deep peat areas will also contribute to this management type, adding an additional 60 ha. This will combine to eventually be approximately 80% of the plan area. Management of these areas will range from no intervention to small-scale thinning (see sections 4.1.2 and 4.1.3).

There are currently no designated natural reserves, however environmental protection is well provided for in the wood.

## 4.1.5 Tree species choice / Restocking

Refer to **Map 6.**

The silvicultural objective is to establish a predominantly native broadleaved woodland. Natural regeneration establishes well here and so will be the default option to give the most ecological value and best chance of success. Enrichment planting will increase the variety of native broadleaved species but will be undertaken carefully to ensure it gives added value

either aesthetically or ecologically – for example Aspen has been chosen in some visitor zones for its colour and sound.

The only conifer species to be planted will be Scots Pine, targeted around the old quarry where it will create a different woodland element and enhance the visitor experience.

The Restocking Strategy for Scotland's National Forest Estate explains that we will minimise chemical usage in restocking (insecticides and herbicides) by considering options at the site scale, and using tactics such as delayed planting to achieve this.

## 4.1.6 Natural regeneration

See 4.1.5. There should be a preference for natural regeneration of broadleaf areas (to maintain provenance and improve the chances of establishment) but where this is unlikely or has not been successful then these areas should be planted/beaten up to the required stocking density and site requirements.

## 4.1.7 New planting

No woodland creation in the plan area.

## 4.1.8 Protection

Deer

Natural regeneration here has not suffered significant browsing damage and this will reduce the need for protection. However, planted broadleaves and Scots Pine will be vulnerable and will need to be protected by continued deer control (requiring maintenance of deer glades).

Tree Pests and Diseases

Once the remaining Larch has been removed there are no known serious pest/disease considerations threatening tree health. Rabbit damage (especially to the north west) may hamper establishment and precautions should be taken.

Fire

FLS continues to work closely with the 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.

### 4.1.9 Road operations, Timber haulage and other infrastructure

Map 7 shows the existing forest road network and egress point. The adjacent public road does not feature on the Agreed Timber Transport Routes map. There are no planned new roads in the plan period.

## 4.2 Biodiversity

UK Forestry Standard guidance is to manage a minimum of 15% of the forest management unit with conservation and the enhancement of biodiversity as a major objective. All of Heathhall Wood will eventually be managed under minimum intervention, long term retention or low impact silviculture – all of which meet this objective.

### 4.2.1 Designated sites

There are no designated features in the plan area.

### 4.2.2 Native woodland

The plan area already has significant areas of native woodland - wet woodland and lowland mixed deciduous - and this will be increased as the plan develops with the recruitment of natural regeneration (along with enrichment planting) to expand both types.

### 4.2.3 Ancient woodland / Plantation on Ancient Woodland sites (PAWs)

In the area of woodland recorded as long-established of plantation origin (LEPO) the existing mature conifers will be left as long term retentions with the surrounding ground being established as native broadleaved woodland. This will help to maintain ecological and cultural value.

### 4.2.4 Protected and priority habitats and species

All forest management operations involve a planning process before work commences which includes checks for wildlife and important habitats. Work plans will be adjusted if necessary to avoid disturbance, and opportunities to further protect species or enhance habitats will be identified.

Red Squirrel

FLS has a single licence to cover forest management activities that may affect red squirrels on the national forest estate (NFE). This is in accord with the Scottish Biodiversity Strategy's aim to resolve species management issues. All works within the Plan area will follow the assessment and mitigation actions set out as conditions of this licence.

### 4.2.5 Open ground

The old quarry will remain open providing a focal point for visitors – with the added feature of the seasonal pond. Once the Spruce is removed from the deep peat areas the internal drains will be blocked to encourage wetting of the ground, with the expectation that this will create an open wet woodland mosaic.

### 4.2.6 Dead wood

Opportunities for retaining or creating deadwood will be identified during the planning of all felling and thinning works, favouring areas with the highest deadwood ecological potential. Valuable deadwood and deadwood areas will be marked on contract maps. Where it is safe to do so, standing mature dead trees will be retained as these offer excellent potential for a range of species.

### 4.2.7 Invasive species

Rhododendron has been recorded in the woodland and will be managed to control its spread. FLS will continue to support the control of Grey Squirrel for the benefit of Red Squirrel conservation, although this wood is not considered a Red Squirrel stronghold.

## 4.3 Historic Environment

Refer to Map 12.

Our key priorities for archaeology and the historic environment are to undertake conservation management, condition monitoring and archaeological recording at significant historic assets; and to seek opportunities to work in partnership to help to deliver Our Place in Time: the historic environment strategy for Scotland (2014) and Scotland's Archaeology Strategy (2015). Significant archaeological sites will be protected and managed following the UK Forestry Standard (2017) and the FCS policy document Scotland's Woodlands and the Historic Environment (2008). Harvesting coupes, access roads and fence lines will be surveyed prior to

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

The Regional Historic Asset Management Plan includes conservation management intentions for designated historic assets on the National Forest Estate. Details of all known historic environment features are held within the Forester Web Heritage Data and included within work plans for specific operations to ensure damage is avoided. Significant historic environment features will be depicted on all relevant operational maps.

Areas of historic environment interest should be checked both on FLS's internal historic environment records and also with the Council's HER prior to the commencement of forestry activities. Any upstanding features should be clearly marked, both on the ground and on operational maps. Care should be taken to avoid any damage to surviving structural elements.

### 4.3.1 Designated sites

There are no designated features in the plan area.

### 4.3.2 Other features

The World War 2 pill boxes do not require any particular conservation or protection measures other than ensuring any forestry operations maintain a safe distance to prevent damage. The issue of anti-social use inside them will be monitored and access restrictions put in place if deemed necessary for public safety.

## 4.4 Landscape

### 4.4.1 Designated areas

There are no designated features in the plan area.

### 4.4.2 Other landscape considerations

The woodland edge is visible from the surrounding area. The removal of the Spruce on the deep peat areas is likely to be noticeable but not significant, and will soften as the Birch natural regeneration establishes.

# 4.5 People

## 4.5.1 Neighbours and local community

The local community and users of the wood have taken an active interest in the development of this plan and their aspirations have been incorporated where they do not conflict with the objectives of the plan and are consistent with FLS's approach to land management. FLS will continue to engage with the local community to ensure this valued local asset provides opportunities for access, health and education.

## 4.5.2 Public access

The formal trails and furniture will continue to be managed and maintained to a high standard. Orientation information and forest interpretation will be reviewed. Access for all, including provision for the less abled, will be a priority. FLS will be open to working with partners to explore opportunities to enhance the recreation offering.

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 ensures 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 have to manage their land and water responsibly in relation to access rights and FLS will only restrict public access where it is absolutely necessary, and will keep disruption to a minimum.

### 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 will also be thinned, or trees re-spaced, for safety reasons (including to increase visibility to ensure that sites are welcoming and feel safe) and where it is necessary to enhance the experience of the forest setting, through the development of large trees, or preferential removal of trees to favour a particular species.

### 4.5.3 Renewables, utilities and other developments

Planning for forestry operations along the northern woodland boundary must include careful consideration of the adjacent water mains pipeline, with liaison with Scottish Water where necessary.

## 4.6 Soils

### 4.6.1 Protection and Fertility

Brash mats and site suitable machinery will be used to protect the peatland during felling operations. No further large-scale timber production or clear felling is proposed in the woodland, with most of the site moving to minimum intervention management. Soil fertility will therefore be protected.

### 4.6.2 Cultivation

Where required, the choice of ground cultivation technique will consider the short-term benefits for establishment against any long-term side effects on tree stability, access for future forest operations and the environment. There will be a preference for the least intensive technique.

### 4.6.3 Deep peats

FLS is preparing a Peatland Restoration Strategy. In the interim, we will take a precautionary approach to restocking on deep peat soils, following the principles laid out in the FCS practice guide 'Deciding future management options for afforested deep peatland', in particular where there is a 'presumption to restore'.

Sites for which there is a 'Presumption to restore' are defined as:

- Habitats designated as qualifying features in the UK Biodiversity Action Plan, or on Natura sites, Ramsar sites, Sites of Special Scientific Interest (SSSI) or National Nature Reserves (NNRs);
- Sites or parts of sites where restocking is likely to adversely affect the functional connectivity (hydrology) of an adjacent Annex 1 peatland habitat (as defined in the EU habitats Directive) or a habitat associated with one;
- Sites where deforestation would prevent the significant net release of greenhouse gases

Some peat types (8a, 8d, 9a, 10a, 10b, 14, 14h, 14w) are classed as 'Scenario A' soils: edaphically unsuited to woodland. Additionally, 10a and 10b peat types are associated with raised bog habitats. Lowland raised bog and blanket bog are UK BAP priority habitats and therefore a presumption to restore. In the LMP process, by default we will not commercially restock areas where Scenario A peat types dominate, and will include such areas for further assessment for either peatland restoration, or manage as native broadleaf or peatland edge woodland (PEW).

After areas for which there is a presumption to restore are identified, the remaining afforested peatlands will be investigated, looking for evidence to support replanting, as per the FCS Practice Guide. If evidence is found that they will clearly support good growth of Yield Class 8 or more, then they will be restocked. If no evidence is found, they will either be restored, if this is considered to be achievable, or if not, e.g. on slopes of greater than 5%, have a low density native woodland established (PEW).

The peatland in Heathhall Wood is dominated by Scenario A peat type (10a raised bog). It has been severely degraded over time and full restoration, whilst achievable with significant levels of intervention, should be balanced with wider ecosystem service provision. Therefore the proposal is to remove the Spruce, block up internal drains, and allow an open boggy wet woodland mosaic habitat to develop naturally. This will help protect the carbon stocks in the peatland and provide an excellent habitat for a range of wildlife, whilst retaining a woodland experience for public recreation. This change was communicated to users of the wood during the consultation process and was widely endorsed.

# 4.7 Water

## 4.7.1 Drinking water

The plan area does not sit within a Drinking Water Protected Area and there are no known private water supplies that may be impacted by management activities.

## 4.7.2 Watercourse condition

All forestry operations will meet the requirements of the UKFS Guidelines on Forests and Water, and also comply with the Forestry and Water Scotland guidelines.

## 4.7.3 Flooding

There are no specific flood prevention or alleviation considerations within the plan area at this time (see Description of Woodlands). Localised flooding of some paths can be addressed by re-routing or raising the path level.

For enquiries about this plan please contact:

Robin Fuller
Forest Planner
Forestry and Land Scotland
South Region
Ae Office
Ae Village
Parkgate
Dumfries DG1 1QB

robin.fuller@forestryandland.gov.scot

# Appendix I: Description of Woodlands

## Topography and Landscape

The woodland sits on relatively flat ground with elevation only ranging between 13m and 30m. There are no significant natural topographical features, although the historical extraction of sand and gravel has left a number of pits.

The woodland does not contribute significantly to the wider landscape, however it's edges are often visible from the surrounding roads, including the Dumfries bypass. It is most visible travelling west along the A709 from the village of Torthorwald.

The Landscape Character Type for the plan area is:

- Lower Dale – Dumfries & Galloway (LCT162)

Key characteristics of the LCT include: wide, flat or gently undulating section of the major valleys; hedgerow field boundaries with occasional walls; open character, medium to long views determined by tree lines and shelterbelts.

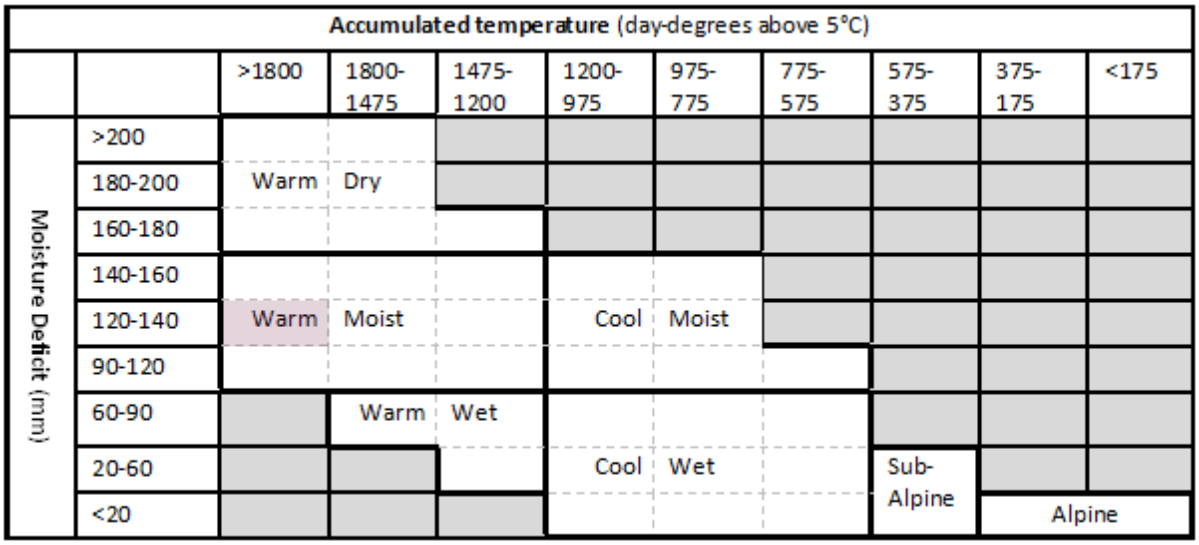
## Geology and Soils

Bedrock is sedimentary sandstone (part of the Locharbriggs Sandstone Formation). Superficial deposits are dominated by deep peat which is present across most of the plan area, with some smaller areas of sand and gravel to the west.

Soil types within the area are shown on Map 9. Most of the site is degraded lowland raised bog - a part of the larger Lochar Moss bog complex which once stretched continuously from here down to the Solway coast. Agricultural improvements, road building and urbanisation have isolated the Heathhall peat from the main complex. Other soils include smaller patches of ground-water gleys and flushed bog (where the ground is wet most of the year round, but can become very saturated after heavy rainfall), and brown earths and podzols (associated with the sand/gravel deposits).

## Climate

The current climate of the LMP area is highlighted pink on the table below




Climatic Zones in Great Britain (shading indicates combinations not present)

DAMS (windiness) scores range from 13 to 14 – i.e. moderately exposed. See Map 10.

The future climate is likely to move from warm to very warm. This is based on projections for 2080 (medium-high climate scenario). Predictions for DAMS and moisture deficit do not show much change.

## Hydrology

Map 2 shows all watercourses, open water and recorded water supplies.

The plan area sits in the Solway Tweed river basin district, and within the catchment of the Lochar Water. This water body does not pass through the plan area but it's overall condition is currently classed as 'Bad'. One of its impacted conditions is water quality (moderate) due to diffuse rural sources and so management decisions within the plan area are important.

The water table is close to the ground surface in some parts of the plan area, where seasonal flooding occurs. There are no flooding Potentially Vulnerable Areas (or known areas prone to significant flooding) downstream from the plan area that will be negatively impacted by land management decisions.

## Adjacent land use

Improved pasture and arable fields border the woodland to the south and west. The east edge is entirely bordered by Catherinefield Road, beyond which is wet woodland and semi-improved rough grazing. To the north the land use is more built up, with several industrial estates bordering onto the woodland, with urban residential areas beyond. The site of an old sawmill sits adjacent to the north-west edge of the woodland.

## Public access

See **Map 13**.

The woodland is heavily used by the local community for walking, cycling and occasionally horse riding. It is busy on most days of the week. Most visitors access the woodland directly from the surrounding residential areas. However, there is a small formal FLS car park at the 'pines' entrance off the A709, and informal parking occurs at the entrances off Tinwald Downs Road and Catherinefield Road. Core paths within the woodland connect the main access points, where they link with the Caledonian Cycleway and other core paths (offering onward travel to Dumfries town centre). FLS and Dumfries and Galloway Council have worked closely together to maximise the benefits of these links. There are FLS formal (but not waymarked or promoted) trails in the woodland, offering access opportunities for all-abilities. A number of benches and picnic tables provide resting points along the trails. In addition, visitors have created many informal desire lines. A taster mountain bike loop is popular with families. A forest classroom was established by FLS some years ago in partnership with local schools and nurseries, and the woodland is popular for educational visits. Illegal and anti-social behaviour does occur, including fly tipping (at the main entrances and along Catherinefield Road) and occasional unauthorised access by motorbikes and mini-quads (particularly focused on the gravel quarry). Historically, small fires were set by children but this has reduced with community engagement and education. Since the investment in improving the access points and trails, usage by the local community has increased, and there is now a strong affiliation. FLS has engaged with the local community in a number of ways, such as volunteer tree planting days, seasonal events, and guided visits.

## Historic environment

Historic environment records for the forest are shown in **Appendix V** and on **Map 12**.

There are no designated sites within the plan area.

Four World War Two pill boxes are located in the woodland. They are not unusual features and do not require any conservation measures, but they do add some interest for visitors. FLS has previously worked with the Dumfries and Galloway Aviation Museum (located next to the woodland) and the D&G Council archaeology team to clean vegetation off the best-preserved example.

## Biodiversity

There are no designated sites within the plan area.

Priority Habitats in the plan area include:

- Wet woodland
- Lowland mixed deciduous woodland
- Lowland raised bog (although this has been severely degraded)

The Ancient Woodland Inventory shows that significant areas of the wood are recorded as Long-established of Plantation Origin (LEPO 2b). See Map 2.

There are no known Priority Species requiring special conservation measures.

## Invasive species

The following have been recorded in or close to the plan area (data from the NBN Atlas):

- Grey Squirrel
- European Rabbit

Rhododendron has also been recorded in small patches scattered through the wood.

## Woodland composition

The current composition of the plan area is shown on Map 8.

39% of High Forest is first rotation. 61% is second or subsequent rotation.

Current allocated management type (and % of plan area):

Low Impact Silviculture = 103.9ha (68%)
Clearfell = 26.5ha (17%)
Minimum Intervention= 19.8ha (13%)
Long Term Retention = 1.7ha (1%)
Open ground = 1.1ha (1%)

## Plant health

The woodland was subject to Statutory Plant Health Notices in 2016 and 2018 for Phytophthora ramorum (Larch dieback disease). Most of the Larch was subsequently removed from the block – apart from a small stand remaining close to the Catherinefield Road / industrial estate road junction.

## Infrastructure

A minimal forest road network provides access to most of the woodland apart from the north west.

Overhead powerlines run along the edge of the woodland at various locations. Gas and water pipelines run outside but close to the north and east edges of the woodland.

There are no known private water supplies that may be impacted by management of the woodland.

# Appendix II:  EIA screening opinion request form

Not required

# Appendix III: Consultation record

| Consultee | Date contacted | Date of response | Issues raised | FLS response |
|---|---|---|---|---|
| Scottish Forestry | 27/02/23 | 19/04/23 | P. ramorum present - consider any remaining larch, future works and how to manage public access.<br><br>Consult D&G council archaeologist for advice on heritage features.<br><br>Consideration for raised bog, deep peats and wetlands both in the wood and in close proximity.<br><br>Nitrate vulnerable zone – not a major constraint other than limiting the amount of Alder on restock sites.<br><br>Ancient Woodland inventory shows LEPO present – encourage designating LTR and Natural Reserves (which would also support amenity value) | The small remaining area of Larch will be felled in P1.<br><br>D&G council archaeologist has provided comment.<br><br>Refer to plan for details on how the peatland will be protected.<br><br>Alder will only be a small contribution to the future native woodland composition.<br><br>Significant areas of LTR have been designated. |
| NatureScot | 03/03/23 | 06/03/23 | They do not intend to offer formal comment on this proposal as it falls below the Scottish Forestry and Statutory Consultees Joint Working Agreement (2022) | n/a |
| SEPA | 03/03/23 | No response | | |
| HES | 03/03/23 | 06/03/23 | None. Advise consulting local authority archaeologist | D&G council archaeologist has provided comment. |

| Consultee | Date contacted | Date of response | Issues raised | FLS response |
|---|---|---|---|---|
| Scottish Water | 03/03/23 | 03/04/23 | Water main pipeline runs along part of north boundary close to old runway – SW should be contacted for advice if any works planned here. No Drinking Water Protected Areas. | FLS will liaise with SW on any planned works close to this location, prior to any works commencing. |
| D&G council – archaeology | 03/03/23 | 23/03/23 | Confirmed location of pill boxes. Also highlighted the area of the former sawmill as WW2 airfield (and recorded in HER for wider Heathhall site). | WW2 airfield site added to Heritage map. |
| D&G council – roads | 03/03/23 | No response | | |
| D&G council – access / countryside | 03/03/23 | No response | | |
| RSPB | 03/03/23 | No response | | |
| South of Scotland timber transport officer | 03/03/23 | No response | | |
| Heathhall Community Council | 03/03/23 | 18/04/23 | Representatives attended public event. Very positive about FLS work to date to improve access and stressed importance of the wood as a valuable community asset. Serious concerns about informal parking at Tinwald Downs Road entrance – this has also been noted during their liaison with Police Scotland | FLS thank Heathhall CC for their positive feedback – it is heartening to know our efforts have paid off. Informal parking has been recognised as a serious issue and a follow up site visit with key FLS staff is planned for later in 2023. Findings and any proposed actions will be shared with Heathhall CC. |
| Locharbriggs Community Council | 03/03/23 | No response | | |

| Consultee | Date contacted | Date of response | Issues raised | FLS response |
|---|---|---|---|---|
| Loreburn Community Council | 03/03/23 | No response | | |
| Torthorwald Community Council | 03/03/23 | 18/04/23 | Representative attended public event. Discussion on potential for linking the wood with Torthorwald. Noted current feasibility studies underway in local area. | FLS will consider any opportunities to support local access projects as they arise. |
| General public (online survey publicised via press release, social media and posters) | Open for responses between 17/03/23 and 14/05/23 | n/a | Around 30 people attended the drop-in event, and 28 online survey responses were received. The feedback has been grouped into the following themes:<br><u>Use / Connection</u><br>Dog walking<br>Neighbour / local resident (17 of the 28 survey responses mentioned this)<br>Walking<br>Cycling<br>Nature appreciation<br>Less-abled access<br><u>Good points / Values</u><br>Local green space and fresh air<br>Well maintained walking and cycling trails<br>Physical and mental wellbeing | The community feedback was considered during the plan development, and the final plan seeks to maintain the values shared with us, whilst addressing any concerns and suggestions.<br>See sections 4.5.1 and 4.5.2 for information on public access.<br>See section 4.2 for information on wildlife and native woodland. |
| Local community (public drop-in event publicised via press release, posters and local contacts) | Event held at Lochthorn library on 18/04/23 | n/a | | |

| Consultee | Date contacted | Date of response | Issues raised | FLS response |
|---|---|---|---|---|
| | | | Space for children to play and learn about the environment<br><br>Dog freedom<br><br>Socialising with friends, family and other visitors<br><br>Potential for restoration of native habitats to support wildlife<br><br>Pond in old quarry<br><br>Picnic tables and benches<br><br>“It is a community” “The social aspect of such a space shouldn’t be ignored”<br><br>“A real hidden gem”<br><br><u>Bad points / Concerns</u><br><br>Litter / dog mess – lack of bins inside forest<br><br>Informal parking at Tinwald Downs Road entrance – public safety<br><br>Grey squirrels<br><br>Pill boxes – broken glass inside – accessible to small children<br><br>Adders on paths (but proves importance of the woods for wildlife) | |

| Consultee | Date contacted | Date of response | Issues raised | FLS response |
|---|---|---|---|---|
| | | | Lack of promotion – could be better appreciated and more utilised<br><br>Flooding of path (near wet woodland)<br><br>Lack of one way signage on bike track and warning to walkers<br><br><u>Suggestions</u><br><br>More formal parking at other entrances<br><br>Provision of disabled parking bays at both entrances<br><br>More biking loops – what about the piles of stone in the old quarry?<br><br>Information / orientation boards – possibly with seasonal information about wildlife etc<br><br>More benches / tables<br><br>Fruit trees/bushes<br><br>More access links to surrounding communities – e.g. Torthorwald | |

# Appendix IV: Tolerance table

| | Maps Required (Y/N) | Adjustment to felling period * | Adjustment to felling coupe boundaries ** | Timing of Restocking | Changes to Restocking species | Changes to road lines | Designed open ground ** *** | Windblow Clearance **** |
|---|---|---|---|---|---|---|---|---|
| **FC Approval normally not required** | N | • Fell date can be moved within 5 year period where separation or other constraints are met. | • Up to 10% of coupe area. | • Up to 3 planting seasons after felling. | • Change within species group e.g. evergreen conifers or broadleaves. | | • Increase by up to 5% of coupe area | |
| **Approval by exchange of letters and map** | Y | • Advance felling of Phase 2 coupe into Phase 1 | • Up to 15% of coupe area | • Between 3 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.<br>• Departures of > 60m in either direction from centre line of road | • Increase by up to 10% of coupe area<br>• Any reduction in open space of coupe area by planting. | • Up to 5ha |
| **Approval by formal plan amendment may be required** | Y | • Felling delayed into second or later 5 year period.<br>• Advance felling (phase 3 or beyond) 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.<br>• Change Between species group. | • As above, depending on sensitivity. | • In excess of 10% of coupe area.<br>• Colonisation of open space agreed as critical. | • More than 5ha. |

**NOTES:**

* Felling sequence must not compromise UKFS, in particular felling coupe adjacency

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

*** *Tolerance subject to an overriding maximum 20% open space*

**** *Where windblow occurs FCS should be informed of extent prior to clearance and consulted on where clearance of any standing trees is required*

## Larch Tolerance Table

| | Adjustment to Felling period | Timing of Restocking and species component | Felling of larch within a mixed coupe | Changes to Road Lines |
|---|---|---|---|---|
| **FC Approval normally not required** | Fell date for phase 2 can be moved forward where larch comprises 50% or more of the coupe species component. | changes to restocking proposal that exclude larch and closely related species in the same genus, eg Sitka and Norway Spruce.<br><br>Up to 3 planting seasons after felling | | |
| **Approval normally by exchange of letters and map** | Felling moved between phases 1 and 2 where larch comprises less than 50% of the coupe species component | Changes to restocking proposals that include larch or closely related species in the same genus, eg Sitka and Norway Spruce.<br><br>Between 3 and 5 planting seasons after felling | Areas of pure larch up to 20% of coupe area within phase 1 and 2 can be felled to remove the sporulating host, with restocking deferred until the rest of the crop is felled.<br>Where the Larch constitutes more than 20% of the coupe component, then the whole coupe must be felled and restocked together. | New road lines (subject to EIA screening opinion) or tracks within existing approved plans necessary to allow the extraction of Larch material.<br><br>Where necessary Prior Approval should be dealt with directly with the relevant Regional Council |
| **Approval by formal plan amendment is required** | Advance felling into current or 2nd phase for pre-emptive larch removal | | | Where a new public highway entrance or exist is required.<br>Where necessary Prior Approval should be dealt with directly with the relevant Regional Council |

Larch felled in the autumn and winter, when the presence of P ram cannot assessed visually must be treated as infected and will therefore require a movement licence. When carrying out operations where the clearance has not been on the Public Register or through the consultation procedure it is important that due diligence is undertaken to identify sites that will require to be protected.

# Appendix V: Historic Environment records

Refer to **Map 12**

| Historic Environment Records | | | | | |
|---|---|---|---|---|---|
| **Designation** | **Name** | **Feature Description** | **Grid Reference** | **Importance** | **Area (ha)** |
| None | Pillbox | Part of the perimeter defences of RAF Dumfries, used during World War II | NX993783 | Regional/Local | <0.01 |
| None | Pillbox | As above | NX996780 | Regional/Local | <0.01 |
| None | Pillbox | As above | NX998778 | Regional/Local | <0.01 |
| None | Pillbox | As above | NY007781 | Regional/Local | <0.01 |