

Brecklet Land Management Plan 2016-2026

Lochaber Forest District

FOREST ENTERPRISE

Application for Forest Design Plan Approvals Forest Enterprise – Brecklet

Forest District:	Lochaber FD
Property name:	Brecklet
Nearest town, village or locality:	Ballachulish
OS Grid reference:	NN09545716
Local Authority:	Highland Council
Plan Area	555.0 Ha
Conifer Felling	96.20Ha
Broadleaved Felling	0

1. I apply for Forest Land Management Plan approval for the property described above and in the enclosed Land Management Plan.

2. I apply for an opinion under the terms of the Environmental Impact Assessment (Forestry Scotland) Regulations 1999 for Afforestation*/deforestation*/roads*/quarries* as detailed in my application.

3. I confirm that the initial scoping of the plan was carried out with FC staff on **17/11/2015**

4. I confirm that the proposals contained in this plan comply with the UK Forestry Standard.

5. I confirm that the scoping, carried out and documented in the Consultation Record attached, incorporated those stakeholders which the FC agreed must be included.

Brecklet Land Management Plan

6. I confirm that consultation and scoping has been carried out with all relevant stakeholders over the content of the design plan. Consideration of all of the issues raised by stakeholders has been included in the process of plan preparation and the outcome recorded on the attached consultation record. I confirm that we have informed all stakeholders about the extent to which we have been able to address their concerns; we have reminded them of the opportunity to make further comment during the public consultation process.

7. I undertake to obtain any permission necessary for the implementation of the approved plan.

Signed.....
pp. Forest District Manager

Signed.....
Conservator

Date.....

Date.....

Date of Approval.....

Date Approval Ends.....

Plan Reference no. 030/503/237

Brecklet Land Management Plan 2016-2026

Request For Determination Under The E.I.A. (Forestry) (Scotland) Regulations 1999	
Operation	Felling/Restocking and Road Construction of 4.1Km and Quad Tracks 5Km
Location	Brecklet
Grid Reference	NN09545716
Is The Location Of The Proposed Works Within A "Sensitive Area", As Defined In The Regulations? If So, What Type Of Sensitive Area?	NSA/SSSI/SAC/SPA
If Operation Is Afforestation, Deforestation or Forest Quarries, What Area Is Involved?	96.20ha felling
If Operation Is Forest Roads, Tracks, or Paths, What Is Specification And What Length And Width is Involved?	Road Building = 4.1km @ 5m width Standard FC specification. Quad track upgrade = 5km @ 2.5m width
Is The Proposed Operation Immediately Adjacent To An Area Of The Same Project Type Which Has Been Completed Since 06/09/1999? If So, Give Details.	No
Proposed Timing	2016 - 2026
Sate Any Perceived Impact On The Following	
Archaeology	All known archaeological sites identified and protected.
Conservation	Positive impact through the expansion of native woodland, deer management and LISS management. This will improve the habitat for upland birch woods, native pine woods and montane refuge. Iconic species such as Black grouse, Squirrels, Otters and various raptors will also benefit.
Landscape	Improvement to forest edges so that the forest sits more naturally within the landscape.

Water	Positive impact due to the gradual slowdown of run off.
Recreation/Access	There will be an improvement in the quality of access as the new road build will connect the core paths on either side of Meall Mor. The expansion of areas designated as PAWS and the restructuring of the upper margins will also enhance the visitor experience. There is also a very active archery course situated on the lower slopes on the west facing side of the forest.
People	As above.
Other Information	A large scale project aimed at landscape and environmental improvement while maintaining a core productive forest with commercial conifers has gained support from SNH and SEPA. There are proposals for a micro hydro scheme which will be associated with the Brecklet LMP area.
Signed	Signed
pp. Forest District Manager	Conservator
Date	Date
Approval Date	Approval Ends

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

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



Brecklet Land Management Plan 2016-2026

Summary of Proposals

1.0 Introduction

This plan is the first revision of the original Brecklet Forest Design Plan (FDP). The purpose of this Land Management Plan (LMP) is to describe management objectives and prescriptions for the forest over the period 2016 – 2026 in detail, and in more general terms, for the following twenty years to fulfil the requirements of the UK Woodland Assurance Scheme (UKWAS).

The management of the Forestry Commission Scotland's national forest estate is guided by the Scottish Forestry Strategy (SFS), which sets out six key themes:-

- **Healthy;** achieving good environmental and silvicultural condition in a changing climate.
- **Productive;** providing sustainable economic benefits from the land.
- **Treasured;** as a multi-purpose resource that sustains livelihoods, improves quality of life, and offers involvement and enjoyment.
- **Accessible;** local woodlands and national treasures which are well promoted, welcoming and open for all.
- **Cared For;** working with nature and respecting landscapes, natural and cultural heritage.
- **Good Value;** exemplary, effective and efficient delivery of public benefits.

Key Theme	
Healthy	<ul style="list-style-type: none"> • We are committed to high quality silviculture and, increasingly, to using alternatives to clear-felling. • We will survey any significant areas of peat and carry out attribute surveys to inform our silviculture, species choice and thinning potential. • The District has a wet temperate climate (which is unlikely to become drier under climate change scenarios). A broad range of tree species grow well in the District but vigilance to climate change will be maintained. • We will continue the programme of Rhododendron eradication within all designated sites and will continue to control other invasive plant species, including Japanese Knotweed and Himalayan Balsam.
Productive	<ul style="list-style-type: none"> • We will make timber available to local sawmills and businesses, and will also market small parcels of timber that are suitable for small local businesses to support the local rural economy. • We will manage broadleaf woodland to produce hardwood timber wherever possible. • We will develop run-of-river hydro-electric schemes in partnership with renewable energy companies
Treasured	<ul style="list-style-type: none"> • We want to encourage local people to get involved in using and managing local Estate woodlands, so we will actively engage with local communities and be open to work in partnership.
Accessible	<ul style="list-style-type: none"> • We will work in partnership with partners to achieve sustainable public access through Brecklet forest.
Cared For	<ul style="list-style-type: none"> • We are restoring around 85% of areas on ancient woodland sites to largely native species – the remaining areas will be enhanced through our management. • We will safeguard all archaeological sites within the Brecklet LMP area through our planning and management, and recognise special places and features with local cultural meaning
Good Value	<ul style="list-style-type: none"> • We will continue to market venison produced from deer management in Brecklet Forest to local and national outlets.

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From this strategy Lochaber Forest District (LFD) has prepared a 10 year Strategic Plan. This plan forges important local links with key themes and sets out the policies and objectives under which the Brecklet LMP will be prepared.

Through a process of planning and consultation with various external stake holders this Land Management Plan (LMP) seeks to address the management requirements of the Forestry Commission woodlands situated on the lower slopes of Meall Mor above the villages of Ballachulish and Glencoe on the south side of the Loch Leven watershed.

The analysis of data from surveys of soils, open habitats, climate, plantations on ancient woodland sites (PAWS) and woodland stand structures has aided the production of a more robust forest plan.

There are 28,704 ha of PAWS on the National Forest Estate in Scotland. Forestry Commission Scotland has made the commitment to UKWAS to restore over 85% of these. Within the woodland covered by the Brecklet LMP there are 92ha of PAWS. The restoration of native woodland within the updated LMP continues to be a significant objective. These proposals also take into account climate change, timber production, business development, community development and access & health.

These proposals include:-

- Gradual transformation of PAWS back to native woodland through the continuation of a system of phased clear fell coupes followed by a process of natural regeneration using existing native woodland as a seed source.
- Maximisation of available commercial restocking area out with PAWS through keeping the upper margin at the altitude prescribed in the previous plan and designing restock coupes to sit comfortably within the landscape.
- An emphasis on the planting of premium conifer species taking advantage of the fertile brown earth soils and low DAMS scores prevalent across the lower slopes of the forest.
- Landscape design; the process of re-designing the upper margins and species selection will continue into the new plan.

1.1 Setting and context

The Brecklet LMP lies within the South Lochaber management zone. The forest is situated on the edge of an extensive mountainous area astride a saddle between lower Glencoe and the Laroch Glen, with Ballachulish at its lower end. It comprises 544 ha. The original first rotation conifer woodland was predominately Spruce and formed 80% of the area with open ground at 14%. The first rotation woodland was planted on open hill ground during the five years between 1963 and 1967; Because of lack of access the original forest was never thinned. Ash and alder on lower slopes and along stream-sides on the east side predated this planting and comprised 6% of the forest.

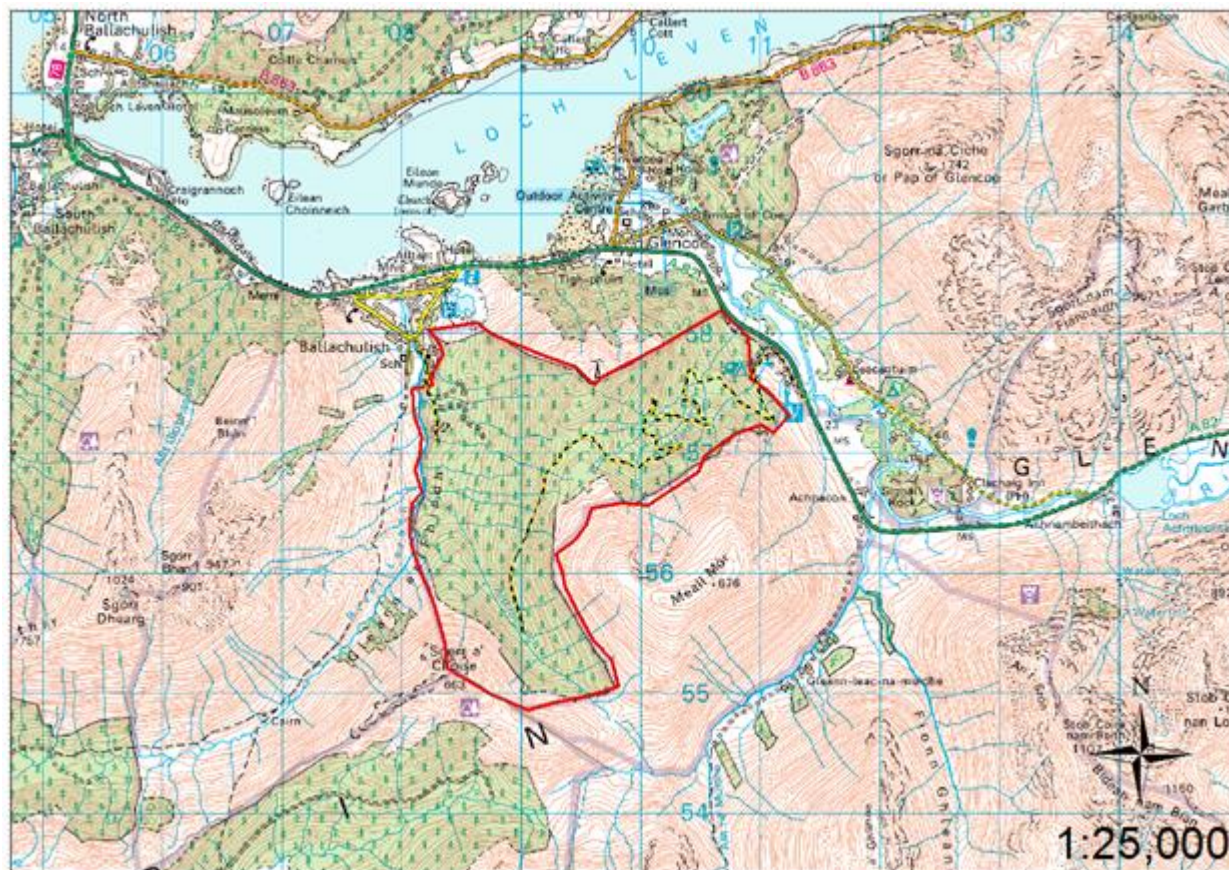
All of the Brecklet forest lies within Ben Nevis & Glencoe National Scenic Area (NSA) the western section of the forest is prominent from the view from Ballachulish and the A82 travelling east from Onich, and from the Beinn Bhan spur of the Beinn a Bheithir (horseshoe) ridge. The eastern section is adjacent to the National Trust for Scotland visitor centre, and is seen locally within the lower part of Glencoe, but is prominent in the view from the higher ground, notably from the west end of the Aonach Eagach ridge and the Pap of Glencoe. This mountainous hinterland and its spectacular landscape attract many touring visitors as well as walkers and climbers, many of whom base themselves in tourist accommodation in the lowland fringes.

The forest is adjacent to the Carnoch Wood SSSI and the Glencoe SSSI and SAC.

The principal access to the forest is from the A82 at Grid Ref NN113574 This access is shared by the National Trust centre and the campsite. There is another light vehicle access through Ballachulish village Grid Ref 082575 and can only be used by heavy vehicles in agreement with the local community.

Brecklet Land Management Plan 2016-2026

Location Map Brecklet Forest



1.2 History of Plan

Brecklet is subject to an existing Forest Design Plan: Reference Number 030/503/237 which is signed 22nd March 2005 and is due to expire on the 22nd March 2015.

The original first rotation conifer woodland, predominately Spruce, formed 80% of the area and open ground 14% was planted on open hill ground during the five years between 1963 and 1967, Because of lack of access the original forest was never thinned. Ash and alder on lower slopes and along stream-sides on the east side predated this planting and comprised 6% of the forest.

Road building started and the first clearfell took place in 2005 and both have continued to the present date.

1.3 Planning Context

The proposals outlined in the Brecklet LMP relates directly to the Lochaber Strategic Plan which translates the Scottish Forestry Strategy (SFS) key themes into a regional context.

The key themes of the SFS are:-

- Healthy
- Productive
- Treasured
- Accessible
- Cared For
- Good Value

2.0 Analysis of Previous Plan

2.1 Aims of Previous plan and achievements

The management objectives of the previous plan were identified as:-

1. **Roading** – the minimum length (10.9Km) of road should be constructed commensurate with management requirements.
2. **Harvesting** – The existing crop is beyond the thinning window; therefore clear felling of appropriately scaled coupes is the only management option.
3. **Restocking** – the poor quality Lodgepole Pine areas should not be repeated. Restock species should be more diverse adjacent to Ballachulish, the National Trust Centre and the camp-site, and productive crops more concentrated on the west side.
4. **Recreation** – Since short forest walks are most likely to be created on the lower ground, the future “forest experience” should be considered in these areas.
5. **Landscape** - The straight forest margins should be re-shaped at an early stage where practicable.
6. **Sites Of Special Scientific Interest** – extending the habitat found on adjacent SSSI's should be considered.
7. **Ancient Woodland Sites** – the PAWS survey will indicate where conifers should be removed.

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Considerable progress has been made on the aims of the original plan and many are still ongoing:-

1. **Roading** – During the 10 year life of the previous plan, 7.0km of forest road was constructed with 4.1Km still to be completed.
2. **Harvesting** - of phased clearfell coupes started in 2005 and has continued to the present day.
3. **Restocking** – has progressed as recommended in the first plan with regard to species choice and landscape issues.
4. **Recreation** – during the life of the previous plan the local community has funded and built two low level forest walks which link the communities of Ballachulish and Glencoe with the Brecklet Forest
5. **Landscape** - Where clear felling and re-stocking have taken place the upper margins have been brought down the hillside and designed to allow the woodland to sit more comfortably within the overall landscape.
6. **SSSI and SAC** – potential to extend the habitat found in the neighbouring SSSI's and SAC has been partly realised and this policy will continue.
7. **Ancient Woodland Sites** – have been identified and where clear felling has taken place in these areas the restock species has been native woodland mainly by natural regeneration from local seed sources.

2.2 How previous plan relates to today's objectives

Consequences for current revision:

All the objectives of the original plan are still relevant today and will be included in this plan with appropriate updates and or modifications.

1. Roothing – Continue with the existing road construction plan, creating 4.1Km of new road.
2. Harvesting – Continue the phased felling of clearfell coupes.
3. Restocking – In areas that have been identified as Ancient Woodland Sites continue to restock with native species, elsewhere restock with a variety of commercial conifers in the areas prescribed in the LMP.

4. Recreation – Link the two existing low level walks with the road network.
5. Landscape – Re-design of the upper margins needs to be continued into this plan with further opportunities for re-shaping likely to be forthcoming with successive felling and restocking.
6. SSSI/SAC – Extend the habitats found in adjacent SSSI's and SAC
7. PAWS – The restoration of planted ancient woodland sites will continue, by the phased felling of clear fell coupes and restock with native species, generally by natural regeneration from local seed sources. However, there will be some opportunity to plant both native broadleaves and Scots pine for commercial purposes in these areas.

In addition the following factors will be given more emphasis in this plan

1. Biodiversity
 - Water quality – High priority
 - Landscape enhancement – High priority
 - Maintaining and creating habitats – High priority
2. LISS
Where conditions allow, alternatives to clear-fell will be the preferred option
3. Renewables
The district will work in co-operation with the local community regarding its proposals for the establishment of a Run-of-River micro hydro-electricity scheme.

3.0 Background Information

3.1 Physical site factors

3.1.1 Geology, Soils & Landform

Surface water gleys account for 70% of the soils in Brecklet. To the east of the saddle, the forest is underlain by Ballachulish limestone, giving rise to extensive mineral enrichment in flushed clay and brown earth soils on the lower slopes. To the west Schists and slate predominate overlain by glacial deposits, giving rise to leached soils, peaty gleys, podzols, iron pans and some deeper peats.

Scottish Natural Heritage, Publication Number 97, Lochaber Landscape Character Assessment 1998 describes the Brecklet LMP area as **"Rugged Massif"**

Description:-

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Areas of Rugged Massif are found extensively across Lochaber. It is a complicated landscape type due to its underlying geology and its transitional character. It forms a transition between the lower, smoother hills of the **Smooth Moorland Ridges** and the higher more mountainous **Interlocking Sweeping Peaks**

Rugged Massif occurs predominately on the Moine group of metamorphic rocks, consisting of quartz, feldspar and granulite. Its deeply folded form has been denuded by glacial action. Rounded masses of rock with an uneven, rugged landform and a craggy silhouette are littered with erratics and other glacial debris. Deep narrow gullies form cracks in the terrain and other glacial features such as corries (typically facing north and north east) are abundant.

Rocks protrude everywhere through thin, infertile soils which support a scant land cover of patchy grassland and heather supporting meagre grazing. Birch woods with occasional stands of oak occur on the lower slopes or in gullies where a more sheltered aspect protects deeper richer soils from the persistent leaching by rain, and the steeps deter intense grazing.

For descriptive purposes Brecklet forest may be split at the saddle between the rounded, open and rocky summit of Meall Mor rising as a horseshoe shaped ridge to 676 metres in the south, and the lower summit of Am Meall to the north.

The eastern part of the forest in lower Glencoe is partly contained within the valley system of the Allt Fhiodhan and its tributaries. Within the woodland, the topography is varied with a series of interlocking spurs, which are locally steep (30-40%), wet hollows, and hummocks.

To the west of the saddle, the slopes within the Laroch Glen a relatively simple, concave and not particularly steep (less than 30%) except locally on the upper slopes, and dissected by shallow vertical gullies. Towards the head of the glen drained by the Allt Socaich, the gullies and the main tributary are more deeply incised, and the steeper north-east facing slopes in particular are characterised by scree.

Specific Guidance

- **Conifer plantations** which maintain a balance of broadleaf as well as coniferous species and whose edges reflect the rugged nature of the landform will be more readily integrated visually into this landscape character.
- **Planting** which leaves the upper slopes and summits open enhances by contrast the large scale and rugged landform of this landscape type.

Aim to conserve and protect natural landscape elements such as native trees and contrasting land use patterns of grazed pastures and woodlands.

- **Planting** and restructuring of existing woods which follow the pattern of a decrease in scale and density of trees with altitude, will appear more natural.
- **Conservation** of the fragments of native woodland which exist within the sheltered foothills of undulations will retain an important natural element of this landscape and a seed source for future expansion.
- **Additional** planting of native woodlands, especially oak and native Scots pine woods, will enhance landscape diversity and quality.
- **Maintaining** low levels of grazing in areas of native woodland scrub at a level which will allow regeneration and a higher level of grazing out with will maintain a contrasting land use pattern.
- **Visitor Facilities** should be simply designed with small informal car parks and associated planting of native species and sited within the wooded foothills; urbanising elements should be avoided as far as possible.

3.1.2 Water

The whole of Brecklet forest drains north westwards in to Loch Leven, an inland sea loch. The Forest was the original source of water for the National Trust Centre, Ballachulish and the surrounding area, however this is no longer the case.

3.1.3 Climate

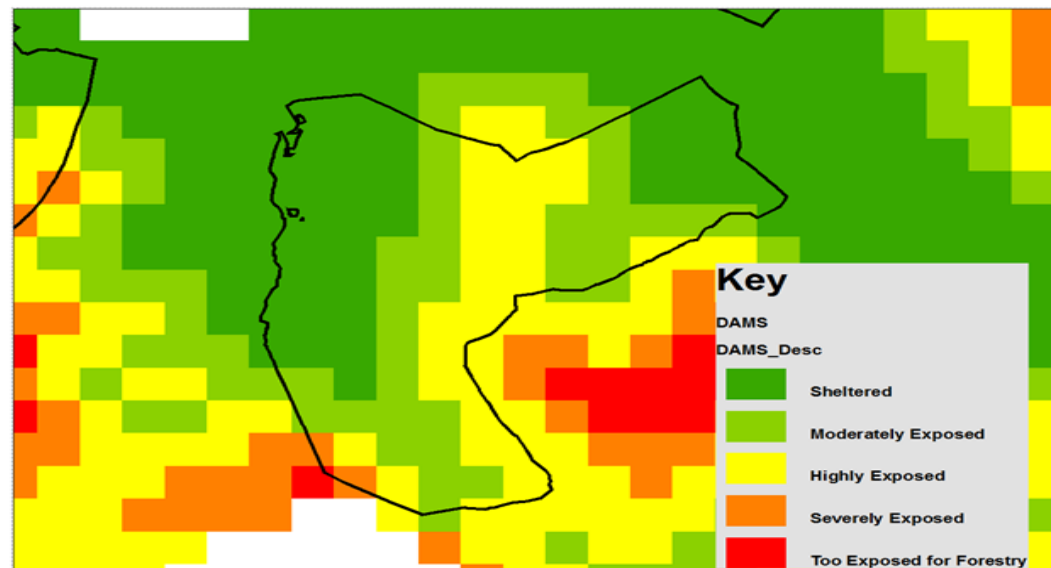
The climate is mild, wet and windy and the mean annual rainfall at Achnacon exceeds 3000mm. The mean annual temperature is about 8 degrees centigrade, and while snow is less prevalent than in eastern and central Scotland the region is exposed to rain bearing westerly winds.

Wind exposure across the forest is measured using the DAMS score 0-12. Across the majority of the forest at altitudes below 150m, the region is, on average, the windiest in the UK mainland with frequent areas of low pressure passing over this area, especially from December to February, when mean speeds and gusts are at their strongest.

While the forest is generally accessible all year round, both thinning and felling programmes need to take into account rainfall levels which may cause significant run off and possible landslips on unstable slopes. In addition, parts of the glen are exposed directly to western winds, which are likely to have an effect on ensuring the stability of continuous cover and planning the timing and sequence of felling proposals.

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DAMS; Windblow Hazard Classification



3.2.3 Native Woodlands (PAWS)

Within the Brecklet LMP area there are approximately 80Ha designated as PAWS, through the process of phased clear fell coupes, most of these areas will gradually be re-established as native woodland sites, preferably by a process of natural regeneration from local seed sources. But if necessary enrichment planting may take place.

3.2.4 Invasive Non Native Species (INNS)

Lochaber Forest District has a rolling programme to identify and monitor the species and scale of invasive non-native species (INNS) within its boundaries and deal with them in the recommended manner.

3.2 Biodiversity and Environmental Designations

The Brecklet LMP has two neighbouring SSSI's an SAC and an SPA associated with it.

- Carnach SSSI
- Glencoe SSSI
- Glencoe SAC
- Glencoe SPA

See 3.6 for more detail.

3.2.2 Red Squirrel

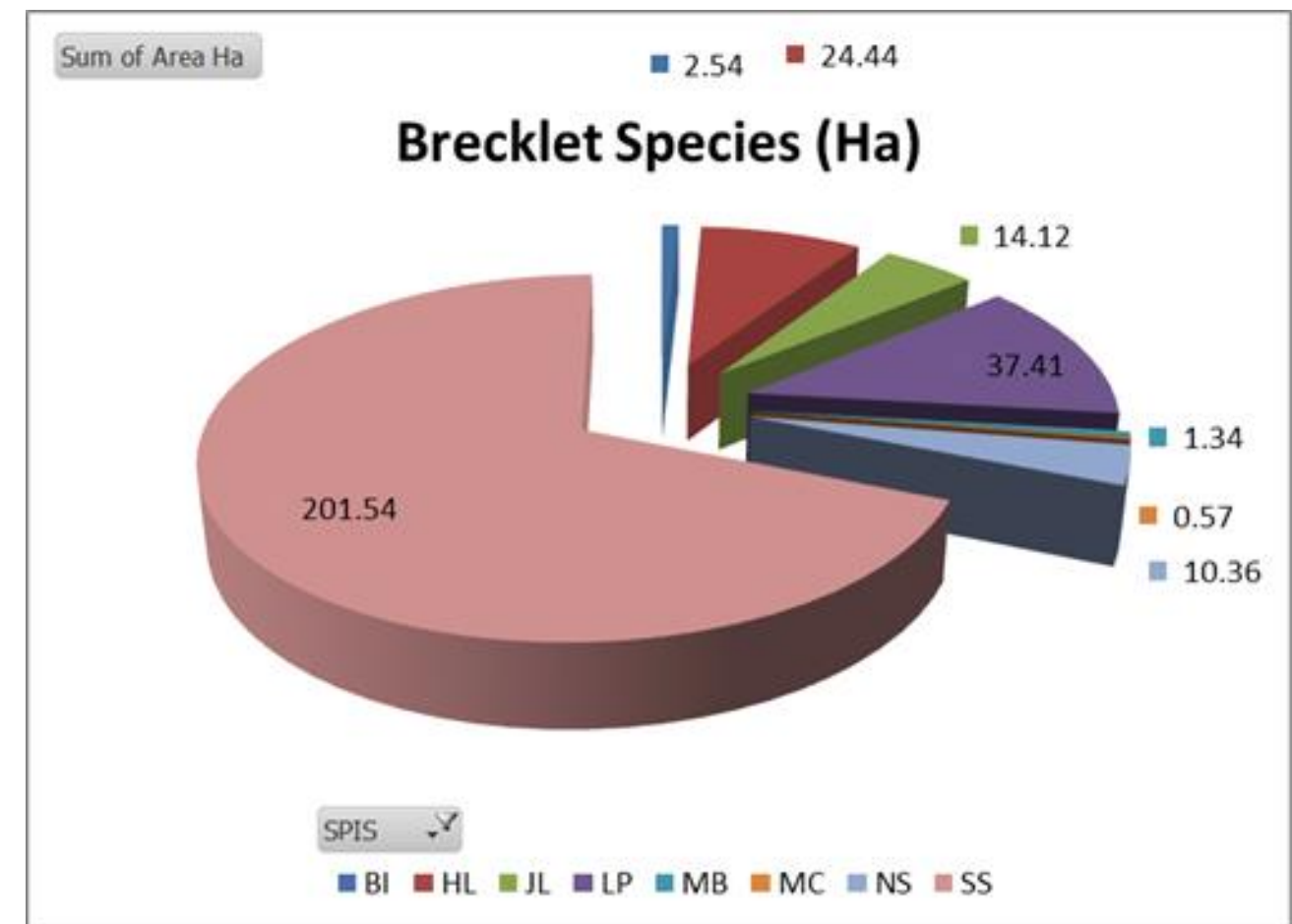
The forest is a known red squirrel habitat. It is anticipated that the Future identification and management of LISS with its less radical impact will benefit the squirrels.

3.3. The Existing Forest

3.3.1 Age structure, Species and Yield Class

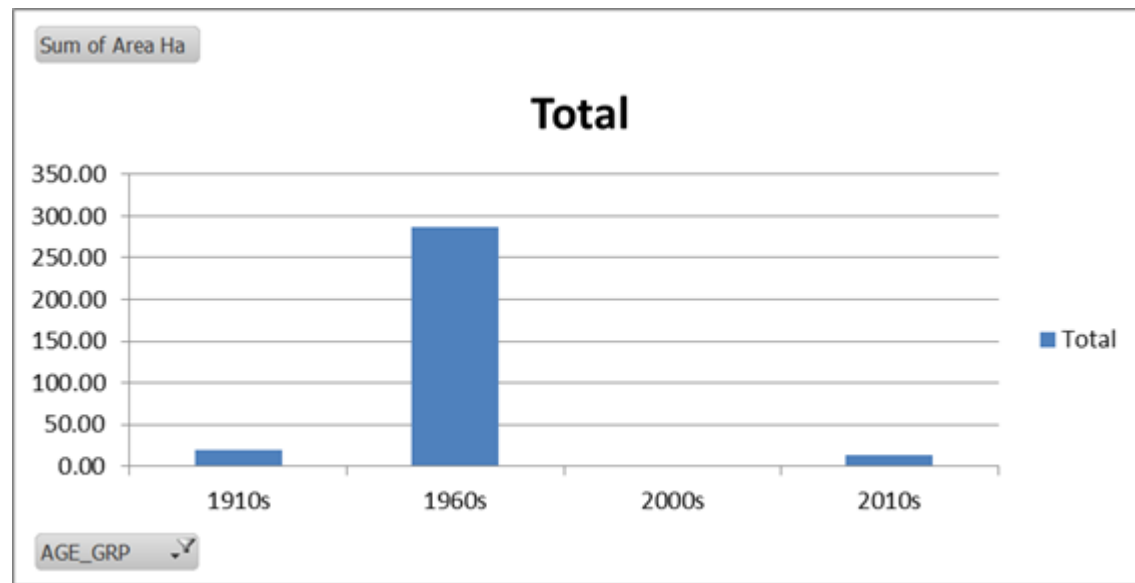
The planting of commercial conifers on Brecklet took place on the open hill ground during the five years between 1963 and 1967. The first clearfell coupe was removed in 2001 and harvesting of clearfell coupes has continued through to the present day

Existing Species by Area (Ha)



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Existing Age Structure



Access

The woodland is accessed at two points

1. From the A82 at Grid Ref NN11385744 this is a shared access with the National Trust Visitor Centre and Campsite.
2. From Ballachulish village at Grid Ref NN08205778. At present this access is only suitable for light vehicles.

3.3.2 LISS potential

Although the thinning window for most first rotation crops on sites which otherwise have CC potential has passed, suitable sites will be restocked to facilitate LISS/continuous cover forestry in the next rotation.

The riparian zones, and broadleaved planting associated with PAWS will increase the area of woodland managed as continuous cover. These areas will be managed with varying degrees of intervention, from thinning and small group harvesting to the creation of natural reserves with minimal management intervention.

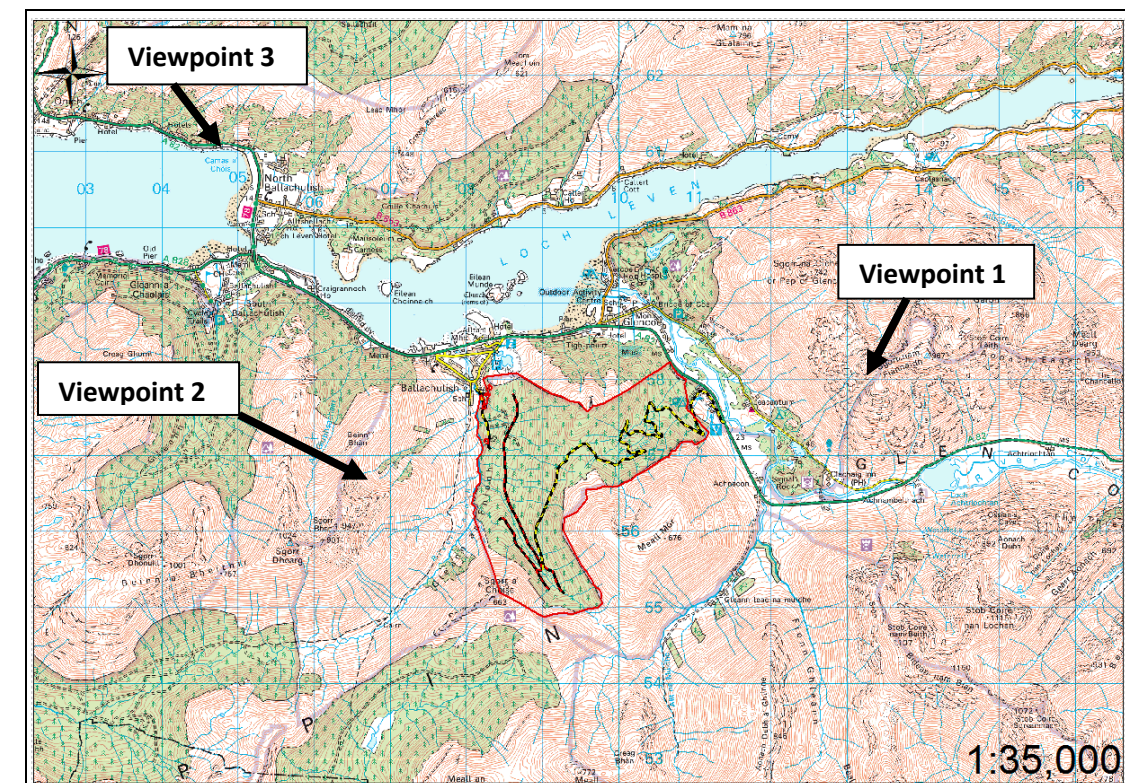
3.4 Landscape and Land Use

3.4.1 Landscape character and value

3.4.2 Visibility

The western part of the forest is prominent in the view from Ballachulish and the A82 travelling east from Onich, and from the Beinn Bhan spur of the Beinn a Bheithir (Horseshoe) ridge. The eastern part is adjacent to the National Trust for Scotland visitor centre and campsite, and is seen locally within the lower part of Glencoe, but is prominent in the view from higher ground, notably from the west end of the Aonach Eagach ridge and the Pap of Glencoe.

Brecklet Viewpoints



Viewpoint 1



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Viewpoint 2



Viewpoint 2



Viewpoint 2



Viewpoint 2



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Viewpoint 3



The National Trust for Scotland, Visitor Centre and Campsite is located on the NE side of the forest Block and the forest is a popular walking and cycling area for their visitors who are rewarded with excellent views of the surrounding area.

There is a popular Archery Course located in the forest on the SW side of the block close to the village of Ballachulish.

3.5.2 Community

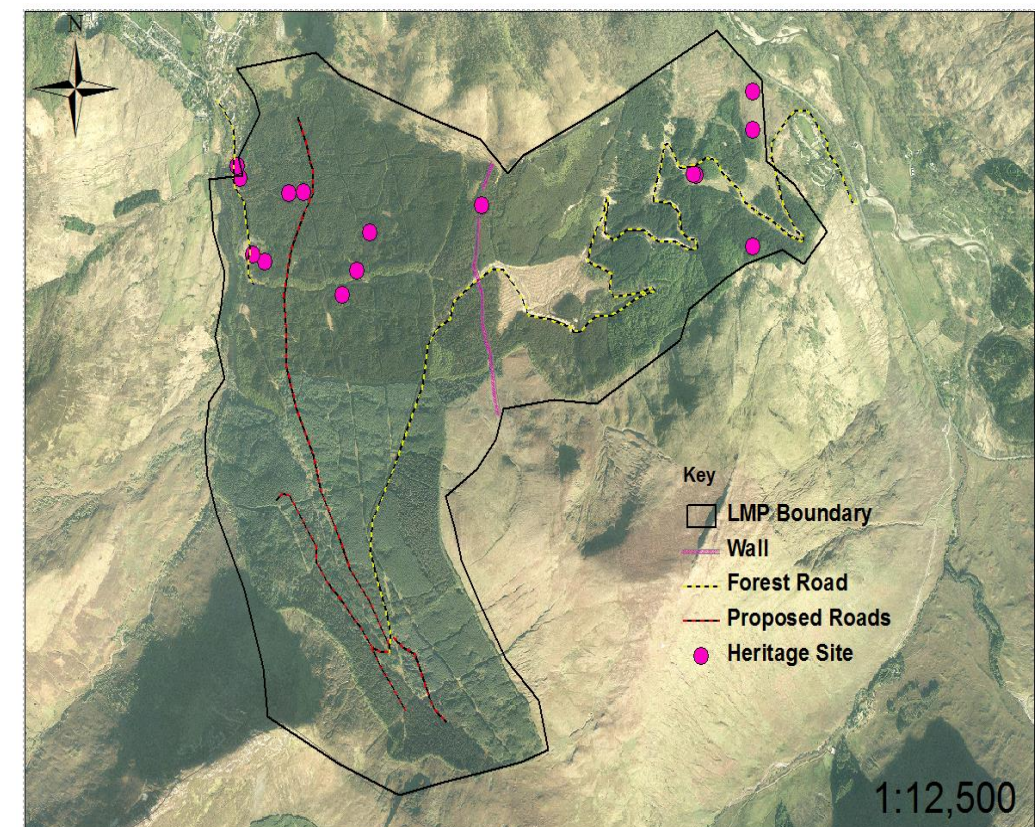
The local communities at Glencoe and Ballachulish are represented through continued liaison with their respective Community Councils.

At present the Ballachulish CC is hoping to establish a Run of River Micro Hydro Scheme on the River Laroch and where possible the district will help with the development.

3.5.3 Heritage

Within the LMP area there are a number of heritage sites, these include houses, agricultural structures which reflects a previous land use. There are also a number of quarries which reflect the industrial heritage of the area. Good site planning will protect these known sites and any site yet to be discovered.

Heritage Map



3.4.3 Neighbouring Land Use

Includes; crofting, common grazing, sheep farming and deer stalking. In addition the surrounding hills are probably the most popular climbing and hill walking areas in Scotland.

Neighbours Include:-

- National Trust Scotland (Visitor Centre & Campsite)
- Gortaneorn Farm (sheep)
- Crofters Common Grazing
- Ballachulish & Glencoe Villages

3.5 Social factors

3.5.1 Recreation

The Brecklet woodland is used for both formal and informal recreation by locals and tourists.

There are two core paths associated with the forest, both these paths link to the Glencoe Orbital Route and the Oban to Glencoe Sustrans route, in time they will also be linked to the Brecklet internal forest road network.

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3.6 Statutory requirements and key external policies

3.6.1 SSSI/SAC

There are two SSSI's an SAC and an SPA that border and partially encroach into the LMP area; these are described in the tables below.

Glen Coe Site of Special Scientific Interest (SSSI); is a large upland site located within the Lochaber area of the North West Highlands. The site extends from Meall Mor in the west to Beinn Fhada in the east and from Aonach Eagach in the north to Glen Etive in the south. The altitude range in Glen Coe is wide, ranging from 20m to 1141m above sea level. The SSSI is notified for the following range of features.

Glencoe SSSI

Natural features of Glen Coe SSSI	Condition of feature (and date monitored)	Other relevant designations
Caledonian igneous	Favourable - maintained (November 2006)	
Fluvial geomorphology of Scotland	Favourable- maintained (November 2006)	
Mass movement	Favourable - maintained (August 2006)	
Upland assemblage	Favourable - maintained (October 2003)	SAC (see below*)
Wet woodland	Unfavourable - no change (May 2002)	
Vascular plant assemblage	Unfavourable -no change (September 2001)	
Bryophyte assemblage	Yet to be monitored.	

Glen Coe SAC

Features of overlapping Natural sites that are not notified as SSSI natural features	Condition of feature (and date monitored)	SPA or SAC
Acidic scree	Favourable - maintained (September 2003)	SAC
Alpine and subalpine calcareous grasslands	Favourable - maintained (October 2003)	SAC *
Alpine and subalpine heaths	Favourable - maintained (October 2003)	SAC *
Base-rich fens	Unfavourable - no change (October 2003)	SAC *
Clear-water lakes or lochs with aquatic vegetation and poor to	Favourable - maintained (August 2004)	SAC

moderate nutrient levels		
Dry heaths	Unfavourable – no change (October 2003)	SAC *
High-altitude plant communities associated with areas of water seepage	Favourable - maintained (October 2003)	SAC *
Montane acid grasslands	Unfavourable – recovering (October 2003)	SAC *
Mountain willow scrub	Unfavourable – recovering (August 2003)	SAC *
Plants in crevices on acid rocks	Favourable - maintained (October 2003)	SAC
Plants in crevices on base-rich rocks	Unfavourable – no change (October 2003)	SAC
Species-rich grassland with mat-grass in upland areas	Unfavourable – no change (September 2003)	SAC *
Tall herb communities	Favourable - maintained (September 2003)	SAC

Carnach wood SSSI is located next to the village of Glencoe on the southern shore of Loch Leven. The site comprises an ash-alder *Fraxinus-Alnus* wood which has developed on basic, flushed soils on a steep, north-facing hillside. This is a rare woodland type in Britain, and Carnach Wood is the best-known example in the Highlands.

The combination of high annual rainfall and clay soils (derived from the underlying calcareous schists and limestones) allows alder to co-dominate with ash in an unusually steep situation. Hazel and hawthorn are common throughout the shrub layer, and bird cherry, birch, rowan and blackthorn also occur. The ground flora is composed of grasses and calcicolous herbs, including wood false-brome, tufted hair grass, hairy brome, dog's mercury, sanicle, wood sedge, enchanter's nightshade and bluebell. Rock outcrops support green spleenwort, tutsan, brittle bladder fern and Wilson's filmy fern. There are moss-dominated banks, which are unusual in being on soil rather than block-scrée. Several of the 'Atlantic' bryophyte species occur. Yellow saxifrage, sharp-flowered rush and yellow flag iris are found in open flushed glades.

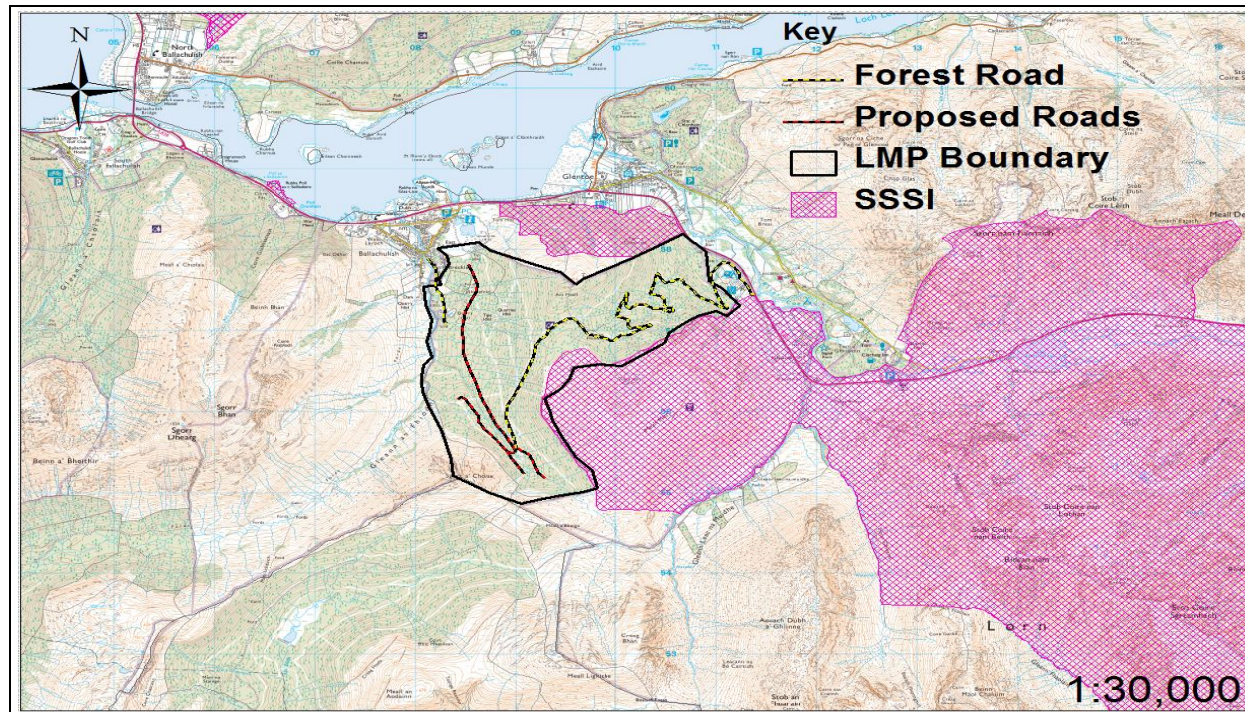
The site supports a good range of invertebrate species characteristic of wet woodland; but it is the unusually diverse population of flies, especially craneflies which are of special interest.

Carnach Wood SSSI

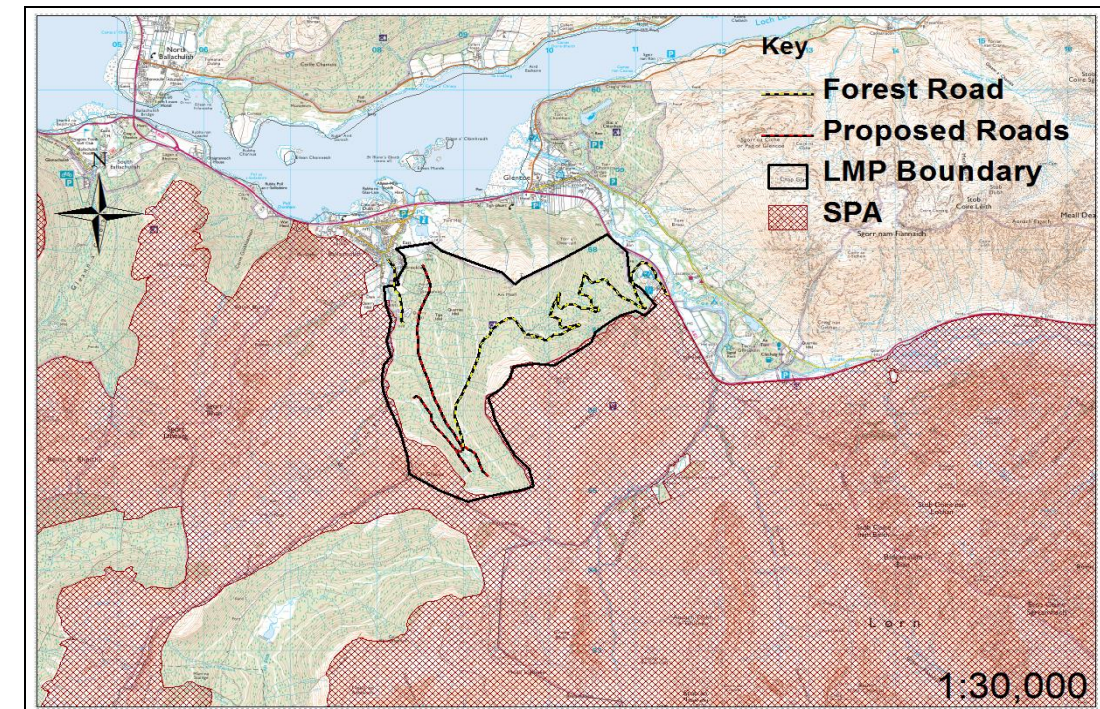
Natural features of Carnach Wood SSSI	Condition of Feature (and date monitored)
Ash- Alder Woodland	Favourable (July 2007)
Invertebrate Assemblage - Flies	Favourable maintained (January 2005)

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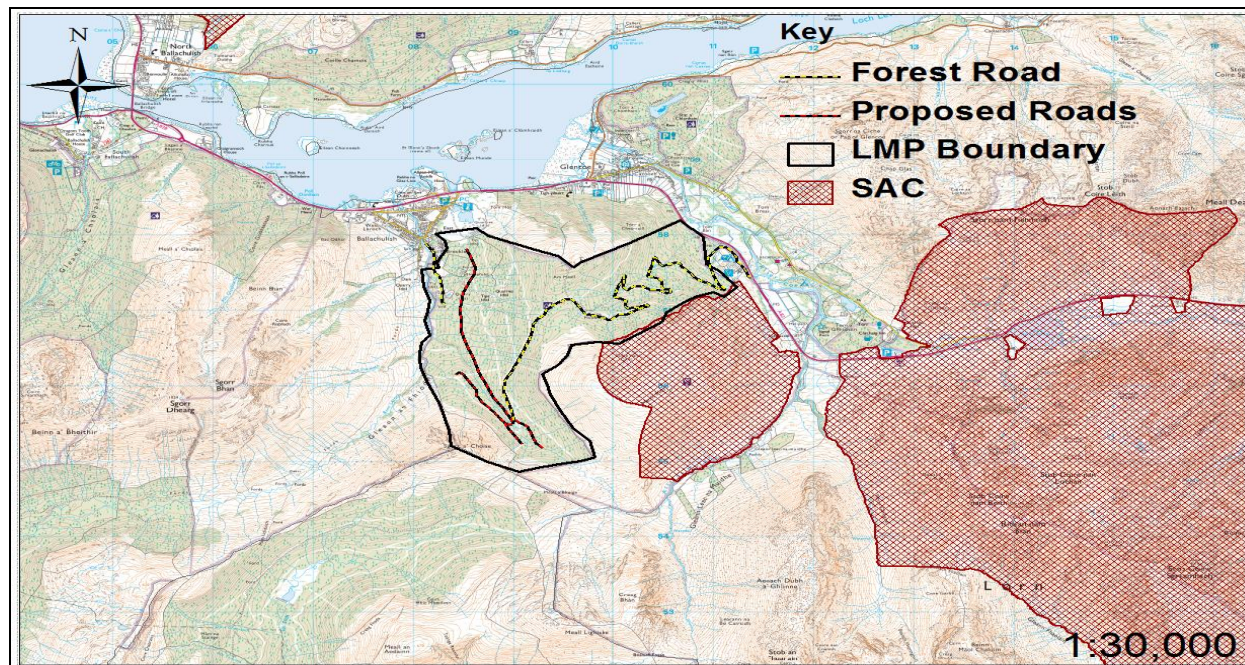
Map1. Glencoe and Carnoch Wood SSSI's



Map 3 SPA

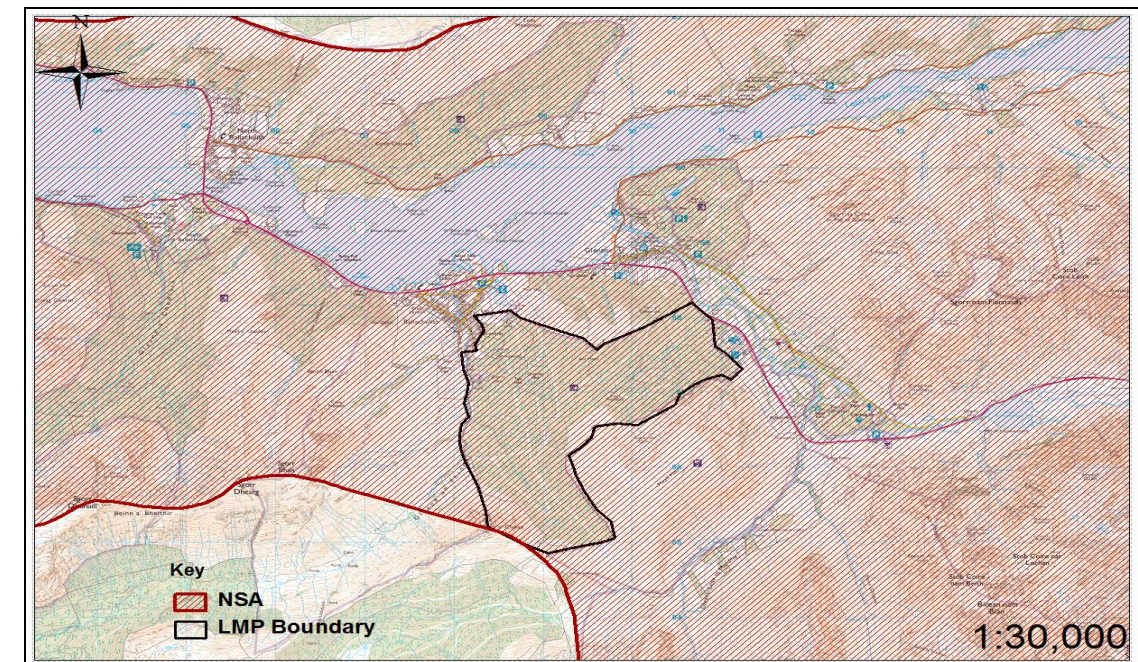


Map 2 Glencoe SAC



3.6.2 Ben Nevis & Glencoe National Scenic Area

The Brecklet Land Management Plan (LMP) area lies within the Ben Nevis & Glencoe National Scenic Area (NSA)



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3.6.2 River Basin Management Plan

The Brecklet forest drains into the rivers Laroch and Coe which in turn flow into Loch Leven, an inland sea loch. There are numerous small watercourses which drain down the hill into the two rivers. The River Laroch catchment was the original source of water for Ballachulish and the surrounding area; however this is no longer the case. The river Coe catchment was the original source of water for the National Trust centre and associated caravan and camping site though these sites are now on the 'Mains' supply.

The UK Forestry Standard identifies that forest management should contribute towards achieving the objectives of the RBMP to protect and improve the water environment, and ensure that forestry pressures on the aquatic environment are addressed. The Water Body Data Sheets from the RBMP confirms that there are no water bodies within or adjacent to the plan area which are currently at less than good ecological status/potential, this standard should be maintained and if possible enhanced.

Sustained forest management is essential to ensure the supply of good-quality fresh water, provide protection from natural hazards such as flooding or soil erosion and to protect the needs of aquatic species. Lochaber Forest district has identified several key areas that will maintain and enhance the water quality within the FDP area.

Riparian Zones

Riparian woodland buffer areas have an important role in intercepting sediments, nutrients and pesticides draining from the adjacent land. A variable density of tree cover is a key component of riparian habitat, although open areas are also important for more light demanding species. The binding action of tree roots helps to strengthen and stabilise river banks, reducing erosion and bank collapse. Tree stumps and underwater tree roots also provide important refuges for fish and other aquatic wildlife; they can also provide nests or Holts for otters. Natural accumulations of large woody debris increase habitat diversity in rivers and streams. Native riparian woodland generally provides an ideal cover for protecting river morphology. Floodplain and riparian woodland can link disconnected habitats to form an extended forest habitat network, benefiting the movement and dispersal of wildlife.

The variety and seasonality of leaf litter inputs and microbial processes in the root zone are critical to maintaining energy and nutrient flows and the effective ecological functioning of aquatic ecosystems. Twigs, leaves

and terrestrial invertebrates that fall from the woodland canopies into the water provide an important source of food for aquatic organisms. In line with the Forestry Commissions, Forest and Water Guidelines, after clear felling, appropriate buffer zones will be created in line with the following guidelines.

Buffer Guidelines

Buffer Width	Situation
10m	Along permanent watercourses with a width less than 2m wide (narrower widths of buffer may be allowable along minor watercourses with a channel less than 1m wide, especially on steep ground).
20m	Along watercourses with a channel more than 2m wide and along the edges of lochs, reservoirs, large ponds and wetlands.
50m	Around abstraction points for public or private water supply, such as springs, wells, boreholes and surface water intakes.

These riparian zones will be allowed to regenerate naturally from local seed source, though enrichment planting may be considered where natural regeneration is slow to establish.

Harvesting

The following guidelines will be observed when tree felling operations take place:-

- Minimise compaction, rutting and erosion during forest operations by selecting the most appropriate working method for site conditions.
- Monitor operations and modify, postpone or stop procedures if degradation starts to occur.
- On sites vulnerable to compaction and erosion, consider the weather and aim to carry out operations during dry periods; plan ahead for changes in the weather that could affect site conditions.
- Keep streams and buffer areas clear of brash as far as is practicable; avoid felling trees into watercourses and remove them or any other accidental blockages that may occur.
- Install culverts or log bridges to avoid crossing and blocking drains; restore the site and drains as extraction progresses.
- Maintain adequate brash mats throughout extraction operations.
- Avoid clear felling more than 20% of the catchment of a public water supply within any three year period.

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Ground Preparation for Restocking

Well managed forests and woodlands protect the soil from disturbance and improve soil structure due to high inputs of organic matter and the action of tree roots. These conditions enhance soil infiltration pathways and water storage capacity thereby reducing direct surface water run-off, erosion and downstream siltation. New woodlands can therefore help to reduce the higher rates of sediment delivery and resulting turbidity and siltation that are associated with more intensive land uses – such as arable cropping. A reduction in sediment delivery will also reduce soil carbon loss. Strategically placed woodlands in the form of shelterbelts or riparian buffer zones can help to intercept sediment-laden run-off from such sites and reduce delivery to watercourses. The following guidelines will be observed during ground preparation for restocking sites:-

Identify sites of protected aquatic and wetland habitats and species, including spawning areas, and ensure protective buffer. New woodlands can therefore help to reduce the higher rates of sediment delivery and resulting turbidity and siltation that are associated with more intensive land uses – such as arable cropping. A reduction in sediment delivery will also reduce soil carbon loss. Strategically placed woodlands in the form of shelterbelts or riparian buffer zones can help to intercept sediment-laden run-off from such sites and reduce delivery to watercourses. The following guidelines will be observed during ground preparation for restocking sites:-

- Identify sites of protected aquatic and wetland habitats and species, including spawning areas, and ensure protective buffer areas are established.
- Identify any private or public water supplies and ensure sources are protected from disturbance.
- Minimise the soil disturbance necessary to secure management objectives, particularly on organic soils.
- Avoid forest drains discharging directly into watercourses.
- Align forest drains to run at a maximum gradient of 2° (3.5%) and lead them towards the head of glens.
- No land to be cultivated within riparian buffer zones.
- Land must be cultivated in such a way that minimises the risk of pollution to the water environment.
- Run-off must be discharged in such a way as to minimise the risk of pollution of the water environment.
- No discharge from drains shall result in the de-stabilisation of the banks or bed of the receiving water course.
- Minimise compaction, rutting and erosion during forest operations by selecting the most appropriate working method for site conditions.

- Monitor operations and modify, postpone or stop procedures if degradation starts to occur.

Restocking, Species Selection.

With the advent of PAWS and a greater recognition of riparian zones an open space, there will be a relative decrease in the area allocated to commercial conifers than was previously the case in Brecklet. While Sitka spruce will still be the dominant commercial conifer, where soils and DAMS scores dictate other species like Scots pine, Norway spruce, Douglas fir and European larch will be considered. While there are already plans to increase the area managed under Continuous Cover Forestry, this will continually be under review and should the opportunity exist the area may be expanded, though again this will depend on soil conditions and DAMS scores. Restocking of native trees and shrub species in the riparian zones and designated PAWS sites will be initially by natural regeneration from local seed sources. These areas will be monitored and if necessary enrichment planting may take place.

NEW Planting

There are no plans for the new planting of commercial conifers or broadleaved species.

3.6.3 Enhancing Nationally Important Landscapes

Because of the good commercial productivity of the area, good regional access, and the potential contribution to the local economy, we wish to retain this forest as a sustainable productive forest producing high quality timber. However Brecklet forest lies within the Ben Nevis & Glencoe National Scenic Area, so the plan must be particularly sensitive to the local landscape and natural environment, with much of the lower sheltered ground taken into non-clearfell lower impact management in the second rotation.

There are six distinct parts of the forest.

1.0 Summit and upper slopes of Am Meall, Meall Mor, and the saddle.

These exposed areas will be felled as large coupes of between 30 -50 Ha and left open after felling in order to emphasise the sweeping succession of open summits, and the upper planting line lowered to improve the proportion of forest to open ground.

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2.0 Mid slopes of Laroach and Socaich Glens.

Simple slopes of gleyed soils and shallow gullies forming the core timber producing area. Managed by clear-felling in coupes of 10-15 ha, but with a varied age structure.

3.0 Lower Slopes of Laroach Glen above Ballachulish.

Back-cloth to the village, with greater age and species diversity. In future rotations much of the area could be managed by low impact alternatives to clear-fell systems.

4.0 The rivers Laroach and Allt Socaich

Mainly broadleaved woodland of Birch and Alder.

5.0 Allt Fhiodhan basin

Interlocking knolls and spurs, with coupe size smaller in the valley bottom (5-10ha) relating to the landform of small knolls to create a diverse recreation environment. Convex ground emphasised by larch and larch mixed with other conifers in restocking. Drainage pattern emphasised by broadleaves.

6.0 Lower slopes of Allt Fhiodhan

Sheltered, with a high proportion of brown earth and broadleaved woodland. In the longer term the area will have a higher proportion of broadleaved woodland linked to adjacent semi-natural woodland, and the conifer element could be managed by low impact alternative to clearfell systems, creating a setting of large policy trees

3.6.4 Non-Native Invasive Species (NNIS)

Lochaber Forest District has a rolling programme to identify and monitor the species and scale of NNIS within its boundaries and to deal with these species in the recommended manner. During the years 2012/2013 Lochaber FD will be embarking on a programme to eradicate *Rhododendron ponticum* in Brecklet forest. The area will also be checked on an annual basis for Himalayan Balsam, Giant Hogweed, Japanese Knotweed and North American Signal Crayfish. Should any of these species be identified within the Brecklet LMP area the FC will initiate a programme of eradication based on advice from SNH and SEPA.

4.0 Analysis and Concept

See Site Analysis and Design Concept Maps in appendix

5.0 Land Management Proposals

5.1 Management Vision

The Brecklet LMP lies within the Ben Nevis and Glencoe National Scenic Area, and is highly visible from approaching public roads, surrounding hills and the villages of Ballachulish, Glencoe and Onich.

It is proposed that overtime the landscape within the Brecklet LMP area will evolve from a predominately intensively managed commercial conifer forest, to one that also includes elements of semi-natural Oak & Ash woodland, montane woods, continuous cover management and open ground.

While there will always be room for commercial conifer woodlands, the greater diversity will shift the focus away from a purely commercial woodland to one that delivers a range of positive influences that will allow the area to sit more comfortably within the overall landscape.

The approach to creating a more natural woodland character, using native and semi natural cover, will see the expansion of the Ash/Alder woodland found in the neighbouring Carnach SSSI. The riparian buffer zones will be allowed to regenerate naturally with native species

In the long term, the total area of conifer forest will be 211Ha, broadleaved woodland 138Ha and open/successional ground at 194Ha.

In keeping with the aims of the previous plan, the upper edge of the forest will continue to be lowered to better reveal the characteristics of the hill summits and create a better scale relationship between forest and open hill.

The detail of the forest margins has been designed to reflect and emphasise the land-form and where this is weak, to achieve an uncontrived pattern that is neither too bland nor horizontal or one that is over complex. Deeply incised gullies are left unplanted and opened out onto the hill at the upper end, to allow scattered regeneration of native Broadleaves to take place.

Natural regeneration of any species will be accepted and the impact monitored along the upper margin to achieve a more diffuse edge, although regeneration of non-native species will be removed from Ancient Woodland Sites.

A large area of native broadleaved woodland will continue to be established concentrating on the PAWS areas with medium to high restoration potential. These are mainly found in the area adjacent to Carnoch Wood, but also along the Allt Socaich in west Brecklet.

Other areas of Broadleaved woodland will be established on the lower slopes of east Brecklet to link to and the forest with the patchwork of smaller woodlands on the lower slopes of Am Meall, within the NTS ground and along the River Coe.

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Exposed sites within the deeper peat soils, currently planted with lower yielding Lodgepole Pine, will not be replanted.

5.2 Clearfell

First rotation crops will continue to be removed through a process of phased clearfell coupes. However due to roading issues and wind-blow, the sequence felling and the shape of some of the coupes have been altered since the original plan, to maximise efficient crop removal and reduce the possibility of future windblow.

It is important to ensure coupes are readily accessible from roads and minimise disturbance to recreational use of the forest;

Fell smaller coupes within the area originally proposed as LISS where the crops are unlikely to sustain this form of management and where restocking offers the opportunity to establish a crop which can be managed as continuous cover in the future.

5.3 Thinning/LISS

All the first rotation crops have passed the window for effective thinning or LISS management. However now that the roading structure is almost complete it will be much easier to identify and manage suitable areas.

Restocking

5.4 PAWS Restoration

In areas designated as PAWS the favoured method of restocking will be by natural regeneration from local seed sources. These sites will be monitored over a 5 year period and if necessary enrichment planting may take place.

5.5 Future Habitats and Species

It is proposed that overtime the landscape within the Brecklet LMP area will evolve from a predominately intensively managed commercial conifer forest, to one that also includes elements of semi-natural Oak & Ash woodland, possibly montane woods, continuous cover management and open ground.

5.6 Cultivation

Where the terrain allows, excavator mounding will be the preferred cultivation method.

5.7 Species Choice

Conifers

Stocking density will not be less than 2500 stems per hectare at year five, except where Scots Pine is planted in a broadleaved mixture.

- **Sitka Spruce**
Sitka Spruce is the most commercially viable species and will remain dominant.

- **Sitka Spruce/Larch**

Hybrid Larch will be planted at 10% mixture with Sitka Spruce to emphasise landform.

- **Larch**

European Larch will be planted in pure stands.

- **Mixed Conifers**

Mixed conifers should be planted according to site type and may include a proportion of Sitka Spruce if necessary. Roadside species diversity and future long term retentions should be considered.

- **Scots Pine**

Scots Pine of local origin should be planted if available.

Broadleaves

Stocking density will depend on site conditions and the management objectives. Broadleaved areas may include up to 20% open land.

- **Broadleaves / Scots Pine**

Scots Pine should be scattered throughout the area, not in a blocky mixture. Approximate species proportions are 60% broadleaves, 20% Scots Pine, 20% Open.

- **Planted Broadleaves**

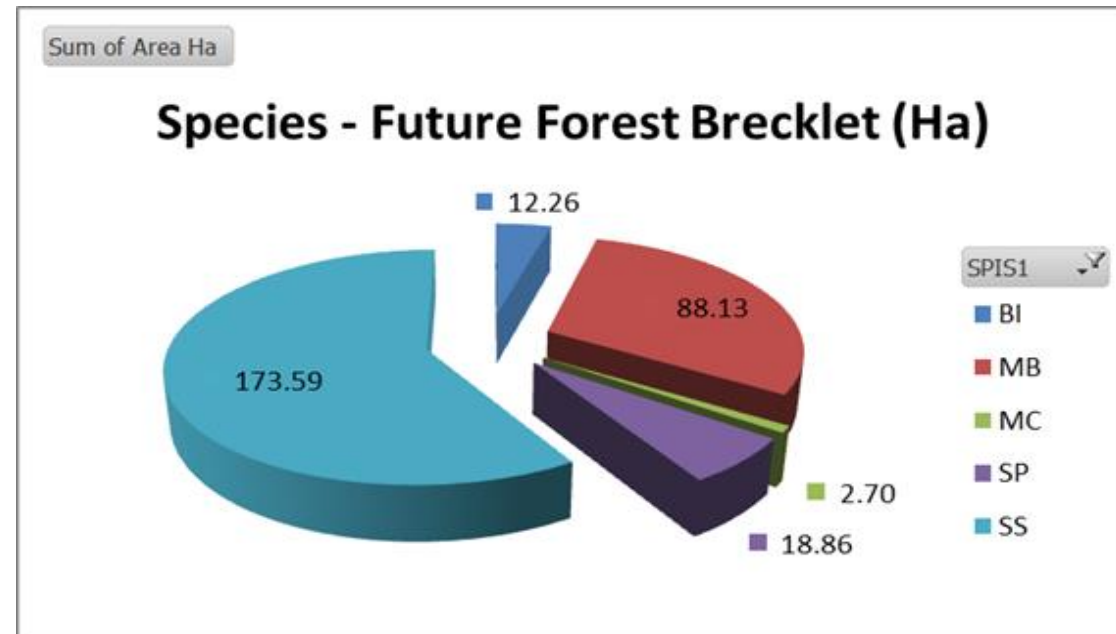
The aim is to extend adjacent woodland types given suitable sites, however more colourful species like Wild Cherry and Rowan may be planted on visible sites, particularly behind Ballachulish.

- **Natural Regeneration**

The progress of natural regeneration will be monitored quinquennially. Stocking density is expected to vary with site conditions, e.g. soil disturbance, proximity of seed sources, and altitude. Supplementary planting will be considered if required. Natural regeneration will produce upper margins more diffuse than those illustrated. Non-native regeneration will be removed from the areas adjacent to Carnoch Wood.

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Brecklet Future Forest (2099)



5.8 Management of Open Land

The area of 'open ground' within the LMP will eventually cover 194Ha. Natural regeneration of any native species will be accepted and the impact monitored. Regeneration of non-native species will be removed.

5.9 Deer Management / Protection

The Brecklet woodlands are home to Red and Roe deer with Red being the predominate species. Both species are capable of causing significant damage to productive forests and woodlands as well as reducing species diversity in the ground flora, resulting in the prevention of natural regeneration of native tree species. This is increasingly recognised as a major barrier to maintaining and increasing biodiversity in Scottish woodlands. At very high densities deer are prone to increased levels of parasitism and disease (rare in UK conditions), poor breeding success and early mortality. In impoverished upland habitats they can also suffer from starvation.

Regular close liaison with the SNH Deer Officer and the local Deer Management Group will be a high priority with assistance being sought where problems exist. It will be vital that SNH supports action on any contentious issues.

The main objective of deer management within the Brecklet LMP area, is to regulate deer populations at a level that is compatible with their environment and our other management objectives.

The aim is to reduce leader browsing on restocking sites to 10% or less on at least 75% of all restock coupes. This means that we will aim to prevent unacceptable damage to commercial tree crops and in key areas to maintain or enhance biodiversity. This will be done in a professional and humane way, ensuring the physical well-being of the remaining deer populations within the forest boundaries. See Appendix 1

5.10 Roads

Within the 10 year life of the LMP the final 4.1Km of forest road will be constructed.

Low Ground Pressure Haulage Network

Transporting timber from the National Forest Estate is a strategic requirement that requires a network of well-maintained roads. FES has been looking at ways to reduce the need and cost of road maintenance with the goal of providing greater open access to the network. Our aim is to ensure that the overall costs of maintenance and haulage are optimised, and that safety is never compromised.

Low ground pressure vehicles

Low ground pressure vehicles and those fitted with tyre pressure control systems, cause less damage to roads and provide an opportunity to significantly reduce maintenance costs. The Timber Transport Forum document, '[Tread Softly](#)' - provides further information.

The maintenance of existing forest roads and bridges will comply with the relevant guidance in line with appendix 1 of Forest Practice Guidance: Forest Design Planning.

Low Ground Pressure Network

After due consideration it is proposed to move in **April 2018** to a Forest Road network that will be, in part, restricted to use by only Low Ground Pressure timber haulage vehicles. To simplify things forest blocks have been classified as either, not *restricted* (can be used by all timber haulage vehicles), or *restricted* (timber haulage by low ground pressure vehicles only). **The following web link** <http://scotland.forestry.gov.uk/low-ground-pressure-haulage-network> provides further information including maps by Operations Area showing the classification of each forest block.

See Appendix 20 Low Ground Pressure Network

After the implementation date, April 2018, it will become a condition of future contracts to use low ground pressure vehicles when transporting timber over the low ground pressure network.

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5.11 Renewables

The forest district will work with and assist where possible local communities on the development of run-of-river micro-hydro electricity developments

5.12 Recreation

There are a number of trails associated with Brecklet Forest. On the eastern side the National Trust Scotland has built some short trails from its centre/camp site which link with the forest road and the Glencoe Orbital Route

To the west by Ballachulish village there is a short walk which partly runs through part of the LMP area. Within the next 10 years all the trails will be linked as the forest road network is completed.

On the lower slope on the western side of the woodland there is a very popular archery course.

5.13 Heritage

There are a number of heritage sites in the LMP area, ranging from agricultural structures to abandoned slate quarries reflecting much of the industrial and agricultural history of the area.

6.0 Critical Success Factors

The following have been identified as a critical success factors, as failure to achieve these targets will make delivery of the plans other objectives impossible.

- 6.1 The construction of 4.1 Km of forest road is essential to continue the planned programme of the phased felling of clearfell coupes
- 6.2 The phased felling of 96.2Ha of commercial conifers is critical to ensure that the other objectives of the plan can be met. As a result of this clearfell, the restoration of native woodland on PAWS sites, the creation of new external boundaries and the restocking of commercial conifers can continue as prescribed in the plan
- 6.3 Deer Control will be essential for the establishment of native broadleaved species within the prescribed timescale.