

Lochaber Forest District

Land Management Plan

South Laggan 2016 - 2026



Lochaber Forest District

FOREST ENTERPRISE

Application for Land Management Plan Approvals

Forest Enterprise – South Laggan

Forest District:	Lochaber FD
Property name:	South Laggan
Reference Number:	030/519/408
Nearest town, village or locality:	South Laggan Village
OS Grid reference:	NN29449742
Local Authority:	Highland Council
Plan Area	1740 Ha
Conifer Felling	154ha
Broadleaved Felling	0

1. I apply for Forest Design Plan approval for the property described above and in the enclosed Forest Design Plan.
2. I apply for an opinion under the terms of the Environmental Impact Assessment (Forestry Scotland) Regulations 1999 for new road as detailed in my application.
3. I confirm that the initial scoping of the plan was carried out with FC staff on 11/07/2012 Updated scoping carried out during March 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.
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.

*CRISTINA TRACY
DISTRICT FORESTER PLANNING*

Signed.....

 pp Forest District Manager

Signed.....
 Conservator

Date.....*20/7/16*.....

Date.....

Date of Approval.....

Date Approval Ends.....

Plan Reference no. 030/519/151

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.



The mark of responsible forestry



Request For Determination Under The E.I.A. (Forestry) (Scotland) Regulations 1999	
Operation	Road construction
Location	South Laggan LMP Ref: 030/519/408
Grid Reference	NN29449742
Is The Location Of The Proposed Works Within A "Sensitive Area", As Defined In The Regulations? If So, What Type Of Sensitive Area?	No
If Operation Is Afforestation, Deforestation or Forest Quarries, What Area Is Involved?	N/A
If Operation Is Forest Roads, Tracks, or Paths, What Is Specification And What Length And Width is Involved?	New forest road access = 350m of category 1 road. The running surface will be 3.5m wide and the overall footprint (including ditches and verges) will be approximately 8m wide.
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
State Any Perceived Impact On The Following	
Archaeology	No adverse impact, archaeological sites identified and protected.
Conservation	No adverse impact
Landscape	No adverse impact
Water	No adverse impact
Recreation/Access	No adverse impact
People	As above
Other Information	A relatively small scale project to access and harvest first rotation commercial conifers. Restocking will be with native broadleaved species.

Signed	Signed
 CHRISTINA TRACEY DF PLANNING  Andrew Hunt Forest District Manager	Conservator
Date	Date
20/7/16	
Approval Date	Approval Ends

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1.0 Analysis of Previous Plan

1.1 Aims of Previous Plan

The management priorities of the previous plan were identified as;

- A sustainable and good quality timber resource.
- The development of appropriate recreation in consultation with the local community.
- A level of local community involvement in the management of the woodlands.
- The enhancement of native tree species on sites designated as PAWS by the phased felling of clearfell coupes then natural regeneration from local seed sources.
- Establish areas of Continuous Cover Forestry (CCF).
- Control the woodland deer population.
- Preserve archaeological sites.

While most of these objectives have been met and continue to be met, the district was unable to establish areas of CCF in the forest. This was mainly due to much of the woodland having passed the age for sustainable thinning.

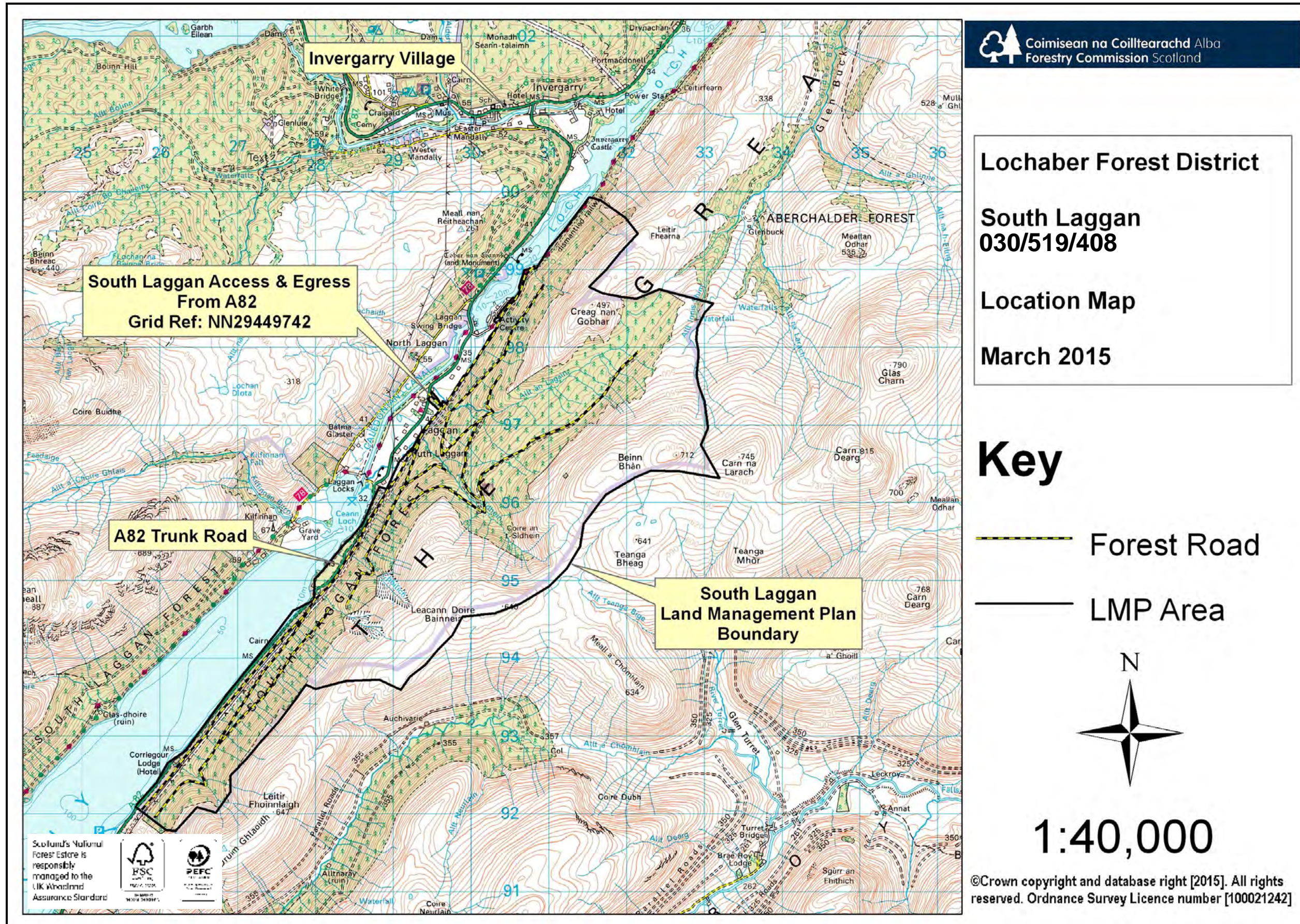
1.1 How Previous Plan Relates to Today's Objectives

While the multi-purpose objectives of the original plan remain very relevant today, the main changes relate to the external environment with climate change and associated issues being major drivers. Increasing forest resilience to both disease and economic storms are now important considerations, and the value of productive forestry in mitigating climate change is generally accepted. With woodland expansion targets proving challenging, maintaining productivity from established forests is an important strategic and economic and environmental consideration.

- **A82 Steep ground working:** - The importance of transport links and power infrastructure are now important considerations within the Land Management Plan. Mature tree crops in storm conditions may impact adversely on both road links and power lines. This consideration needs to be balanced against the desire to retain trees for a range of very valid aesthetic, landscape, cultural and ecological reasons.
- **Landscape Quality:** - Re-designing the upper margins needs to be continued into the new plan, with opportunities likely to be forthcoming with successive felling and re-stocking.
- **Water Quality:** - Ensure that management of the riparian zones maintains and, if possible, enhances the water quality.

- **PAWS:** - While much of the restoration of native woodlands will be concentrated in areas designated as PAWS, expansion of native woodland will also take place where soils, aspect, biodiversity, aesthetics, costs and production dictate that this would be the most appropriate choice.
- **Low Impact Silviculture Systems (LISS):**- Identify areas suitable for LISS in the future and manage on that basis.
- **Biodiversity:** - Continue the policy of enhancement of habitats for squirrels, water voles, riparian zones, montane woodland and open ground.
- **Climate change:** - Diversity of tree species will be desirable to ensure future resilience. Opportunities should be taken to match soil types to tree species and encourage a mixture of native woodland and commercial plantation where appropriate.

2.0 Location Map



3.0 Background - Description and Implications for Management

Factor	Description	Implications for Management
Location	The South Laggan LMP is situated on the east side of the Great Glen, above Loch Lochy and Loch Oich, approximately 37Km north of Fort William in the district of Lochaber. The forest is accessed from the A82 at the village of South Laggan.	The South Laggan LMP area is visually prominent from some sections of the A82 trunk road. It is also highly visible from the Great Glen Way, National Cycle Network route, and boats on Loch Lochy, Loch Oich and the Caledonian Canal and also from the peaks of Meall na Dearcag and Ben Tee.
Tenure	<p>The land within the South Laggan LMP was acquired in 1921 with a further acquisition in 1930 of the Corriegour Woods.</p> <p>There are no sporting rights associated with this area.</p> <p>Statutory Designations: - South Laggan Wetland Fen/Mire SSSI lies adjacent to the forest.</p> <p>Great Glen Way along the old railway line to the north of the forest area.</p> <p>3rd party access rights to inspect and maintain the private water supplies.</p> <p>Lochaber Forest District has agreed a 21 year lease of the disused Railway Station platform and a section of the railway line with the South Laggan Railway Preservation Society.</p>	Forest operations must be managed and planned in a manner that will protect the designated sites and official access agreements adjacent to and within the forest area.
History of the Forest	<p>The Great Glen within which the forest sits has been a communication route for centuries with sections of Wades Military Road in the northern end of the forest.</p> <p>The woodland also has sections of the abandoned route of the Fort William to Fort Augustus railway branch line running through it. Now serving as the base of a forest road. This was acquired together with three cottages and the station platform in 1956 from British Rail. A band of mature Beech trees line the route of the old railway line and mature Scots pine can be found in the area of forest opposite Laggan Locks.</p> <p>Part of the area now covered by the South Laggan LMP had woodland cover prior to its acquisition by the Forestry Commission in the 1920s. A remnant of native woodland has survived to the north of the area and in the inaccessible gullies. Ruins of livestock pens can be found in parts of the forest, left over from previous agricultural land use in this area.</p> <p>Afforestation began in the 1920's soon after the first acquisition with the purpose of growing commercial conifers. The principal species choice was Sitka spruce but Norway Spruce, Larch and Lodgepole pine were also planted.</p> <p>Around 125ha of the original native woodland was converted to conifer and is now designated as Plantation on Ancient Woodland Sites (PAWS).</p> <p>Felling of the original crop commenced in the 1970's and has continued through to the present day with some small less accessible or slower growing areas retained into the 2nd rotation.</p>	<p>Past forest policy and economics have played a significant role in determining the present structure of the forest e.g. even-aged, conifer dominated and under thinned. Forest policy will continue to influence the way the forest area develops e.g. the current policy is to restore almost all areas of PAWS to native woodland while the economics of managing the steep slope for timber production are under review.</p> <p>The historic tree line in South Laggan reflects the limit of productive planting but the open hill beyond will be investigate in the light of the growing interest in tree line and montane woodland expansion</p>

Factor	Description	Implications for Management
Access	<p>The South Laggan LMP area is accessed from the A82 at Grid Reference: - NN29459740</p> <p>A new access to coupe between the loch and A82 will be required within the next 10 years to allow the harvesting of the current stand.</p>	<p>Ongoing road and bridge maintenance.</p> <p>New road opening permission, prior notification and EIA determination will all be required.</p>
Physical site factors		
Geology and Soils	<p>The underlying geology of the forest is drifts derived from arenaceous (sandy) schists and strongly metamorphosed argillaceous (clayey) schists of the Dalradian period.</p> <p>The lower slopes of the South Laggan LMP consists of Brown Earths, Podzols and Ironpans giving way to Ironpans and Surface Water Gleys at mid elevation and finally Calluna Blanket Bog and Shallow Hagged Eroded Bog on the upper margins, mostly above the current tree line.</p> <p>See Appendix 9.0 Soils Map</p> <p>Landslip within the forest at Glen Buck</p>	<p>Soil is one of the critical factors when deciding on tree species for a particular area. The range of soils within the South Laggan LMP area will allow for species diversity and assist in meeting the objectives of the plan.</p> <p>The areas on the lower slopes which consist mainly of brown earths, podzols and ironpans are suitable for a wide range of native broadleaf species and alternative conifers such as DF, NS, SP, EL and WRC.</p> <p>At higher more exposed elevations where upland gleys and peaty soils dominate; there will be a shift to a mixture of SS and LP.</p> <p>Much of the ground at the highest elevations which is classified as blanket bog or hagged eroded bog is above the productive tree line, though there may be some opportunity here for the creation of a montane scrub zone. The principal species in these areas will be Scots pine, birch, willow, juniper and rowan.</p> <p>Although most of South Laggan is silviculturally suitable for the continuation of productive conifer, the stability of steep slopes and the economic sustainability of working these will need to be taken in to consideration in developing the plan.</p>
Landform	<p>South Laggan lies on the steep side slopes of the Great Glen created by the movement of the fault line and glacial erosion.</p> <p>There are frequent water channels on the hillside which will carry water rapidly off the hill. There are 4 or 5 more significant burns which have eroded steep sided gullies collecting above the tree line and forming steep channels down the slopes. The main gullies form strong vertical features in the landscape. Glen Buck is a shallow sheltered basin on the mid slope.</p> <p>The forest has been assessed for slope stability as part of the FSC wide project and a number of recommendations on road and culvert management made. Areas of higher risk for operations have also been highlighted to aid the planning of individual coupe operations.</p>	<p>FCS will monitor the culverts and bridges with South Laggan annually.</p> <p>Each harvesting site will be assessed for specific slope stability issues prior to operations commencing.</p> <p>The steep slopes of South Laggan will require skyline systems for the extraction of the current crop. This type of extraction will dictate the coupe shape and size to a greater degree than a more conventional wheeled machine harvesting.</p> <p>Appropriate woodland cover affords valuable erosion protection on steep slopes. The steepness of the terrain, together with future stability, will be a significant factor in determining future type of woodland cover on the steeper slopes of South Laggan.</p>
Water	<p>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 in the aquatic environment are addressed.</p> <p>The whole of South Laggan LMP drains westwards into the freshwater lochs, Loch Oich and Loch Lochy which are linked by the Caledonian Canal. Numerous small streams drain straight down the hill into these lochs. The Water Body Data Sheets from the River Basin Management Planning (RBMP) confirms that all water bodies within or adjacent to the LMP which</p>	<p>Forests and Water Guidelines 2011 will be the primary guide in forest design and operations to protect and enhance water bodies.</p> <p>All operations will be managed according to the Scottish regulatory framework with respect to the water environment. This includes the general binding rules (GBR)</p>

Factor	Description	Implications for Management
	<p>are currently at least of good ecological status/potential. This standard should be maintained and if possible enhanced. For both Loch Lochy and Loch Oich SEPA have set the overall environmental objectives for the first, second and third RBMP cycle as GOOD.</p> <p>See Appendix 10.0 Hydrological map</p>	
Climate	<p>The climate is cool, with most of the forest between 1200 and 775 degree days of accumulated temperature, and wet, with a mean annual rainfall of 2032-2286mm.</p> <p>The forest exposure to wind is measured using the DAMS score and is moderately exposed with scores up to 16 for the forested ground. The exposure rises sharply about the current tree line at 400m-450m. See Appendix 11.0 DAMS score map.</p> <p>The climate change predictions for the west of Scotland under a high emissions scenario are for a rise in accumulated temperature and maintenance or rise in summer rainfall. There is also likely to be an increase in extreme rain and wind events. NB These predictions carry a considerable level of uncertainty at a regional level and local conditions need to be taken into account when considering impacts at a forest level.</p>	<p>Overall the growing conditions for productive conifer are good, although it can become challenging at higher elevations. The upper productive tree line may lower over time with changes in the wind climate. The higher elevations, beyond the current tree line may be suitable for montane woodland development. The area suitable may increase over time with increasing temperatures.</p> <p>The principal approaches to managing the risk associated with climate change in planning the future forests are diversification of species and age structure, reducing fragmentation of native woodlands and adapting forest operations.</p> <p>The climate models indicate that the area below c200m and higher into the Coire an t’-Sidhein is very suitable or suitable for a range of conifers – DF, EL, NS, WRC as well as redwood, Japanese cedar and grand fir. Species that are also suitable for high elevations to the current tree line are SS, LP, SP as well as WH and NF.</p> <p>For South Laggan the management of the western slopes need to consider the potential impact of more extreme rain and wind events and potentially greater waterlogging of soils.</p> <p>Climatically the site is suitable for mixed oak and birch woodland to c200m (W11 and W17) grading into mixed upland (W9) to the current tree line along with Pine woodland (W18). The actual distribution will depend on the soil suitability.</p>
Non Native Invasive Species	<p>Throughout the South Laggan LMP area there is the presence of <i>Rhododendron ponticum</i>.</p>	<p>Lochaber FD has a rolling programme to identify and monitor the species (<i>R. ponticum</i>, Himalayan balsam, and Japanese knotweed) and scale of Invasive Non-Native Species within its boundaries and to deal with these species in the recommended manner.</p>
Biodiversity & Environmental Designations		
Biodiversity & Environmental Designations	<p>South Laggan Wetlands Fen/Mire SSSI. The majority of the site supports fen and swamp vegetation with associated open water, grassland and woodland. It is one of a very small number of species rich, lowland fens with moderate nutrient levels found within Lochaber and is notable for its size, naturalness, diversity of vegetation types and range of plant species. It is watered by a number of springs and base rich flushes as well as from lateral water movement.</p> <p>While the SSSI is not within the LMP area, it is immediately to the west and adjacent to it and a significant part of its catchment lies within the</p>	<p>The District will liaise with SNH regarding the management and forest operations within the SSSI catchment area. UK forest standards for water management will be adhered to.</p> <p>Roadside drain and culvert management needs to be undertaken with care to avoid changes to the water flows onto the fen.</p>

Factor	Description	Implications for Management
	<p>forest.</p> <p>See Appendix 16.0 SSSI map</p>	
<p>Ancient woodland</p>	<p>There is a good quality area (c30ha) of hazel coppice and ash standards (W9) at the north end of the forest. This woodland type forms a more species rich habitat in the forest and here has a relative low level of browsing. The presence of the relatively dense hazel stools indicates a long history of woodland management in the area.</p> <p>An upland birch wood refuge (3ha) in one of the gullies on the open hill holds mature birch trees and a good assemblage of lower plants. It has been fenced and the woodland is responding with tree and ground flora regeneration.</p> <p>See Appendix 15.0 AWS Map</p>	<p>Continue to monitor and remove non-native invasive species from the ash/hazel woodland area.</p> <p>The ash component is at risk from Chalara infection and is likely to be lost from the woodland over time.</p>
<p>Restoration of Plantations on Ancient Woodland Sites (PAWS)</p>	<p>C125ha of PAWS has been identified within the South Laggan forest area.</p> <p>A number of the steep gullies on the western facing slopes still hold remnant native trees and ground flora although the conifer crop is increasing the shading. These have a high potential for restoration.</p> <p>The area of PAWS parallel to the A82 up to the power line has some remnant flora and native trees. Concern over the safety of the A82 with increasing windblow in the conifer crop has brought forward the felling of the roadside coupe. Selective felling was not possible due to the steep ground and winch system deployed.</p> <p>The larger areas of PAWS are under second rotation conifer on steep ground. There are fewer remnants in these areas and the potential for restoration is low. However, they are adjacent to remnants and AWS and provide suitable sites for native woodland expansion.</p> <p>See Appendix 15.0 AWS Map</p>	<p>The full restoration of areas identified as PAWS back to native woodland will be one of the priorities of this LMP.</p> <p>Conifers to be held back from the top of the gullies where there are important remnants at restocking.</p> <p>Monitor the natural regen on the public roadside where a more rapid re-establishment of vegetation is desirable and consider restocking if necessary.</p> <p>Remove the conifer crop once economic to do so and return to native woodland.</p>
<p>Open hill ground</p>	<p>Most of the land to the SE, above the current tree line (C690ha), is outside the stock fence and currently may be grazed by domestic stock. The open land around Creag nan Gobhar is ungrazed by domestic stock.</p> <p>An open habitat assessment was carried out in 2009. The higher ground is predominantly blanket bog with a significant area badly hagged around Beinn Bhan and Leacann Doire Baineir as a result of overgrazing by sheep. This generally grades into upland heath and acid grassland close to the tree line. There is a series of spring line across the hill many of which have a calcicolous element in them giving greater flora diversity. The craggy sides of the gorges are likely to hold interesting bryophytes and other flora.</p> <p>Conifer natural regen is beginning to encroach on the open hill in places.</p>	<p>The current planting line will remain the upper limit for productive woodland establishment and in practice is likely to be lower.</p> <p>Management of the open hill to enhance its biodiversity quality based on the habitat survey needs to be reviewed. This will be undertaken at the 5 year review when the intentions of the neighbouring landowner are clearer as this may allow for a wider landscape scale management unit.</p> <p>There is opportunity in the future to expand the woodland edge through the establishment of montane woodland provided that this does not impact on an area of valuable open habitat or result in fragmentation of existing habitat. This may be a suitable alternative habitat to the hagged blanket bog areas.</p>
<p>Open ground</p>	<p>An area of saddle mire blanket bog in Glen Buck has been restored in the last 5 years through the removal of failing conifers. Although it has been damaged by past forestry activities, the mire is in good condition</p>	<p>Monitor tree regeneration</p>
<p>Water vole</p>	<p>Water voles are present in Glen Buck where suitable wet habitat occurs.</p>	<p>Water vole is a target species given their current low population levels. Improvements to the habitat through leaving wider riparian corridors (min 40m buffer either side of burn) in this known site will be incorporated into the design for South Laggan.</p>

Factor	Description	Implications for Management
Deer	<p>The South Laggan woodlands are home to red, roe and sika deer. Red are the predominate species with roe and then sika following.</p> <p>Lochaber Forest District is represented on the local 'Deer Management Group'.</p>	<p>High levels of grazing are increasingly recognised as a major barrier to maintaining and increasing biodiversity in Scottish woodlands. All deer 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.</p> <p>Given the desire to restore and expand the native woodland in south Laggan effective deer control and/protection of vulnerable sites will be essential Control by culling is the primary method but some internal deer fencing has already been deployed in Glen Buck.</p>
The existing forest		
Existing Forest – Age Structure, Species and Yield Class.	<p>In the current South Laggan LMP area around 1,000ha or 59% is open ground including with almost 700ha above the tree line. Of the 700ha (41%) under woodland 17% is broadleaf and 83% is conifer.</p> <p>Sitka spruce is the dominant conifer of the second rotation making up 84% of the conifer area with Lodgepole pine and Norway spruce a further 9%</p> <p>There is a wide range of yield classes for Sitka spruce ranging from a low of YC4 in the poor soils at high altitude to YC 24 on the better soils on the lower slopes.</p> <p>See Appendix 14.0 Yield Class</p> <p>While there are still some small areas of original planted 1920s commercial conifers the bulk of the woodland is much younger, planted between 1960 and the present day. The areas planted after 1970 are second rotation. The west facing slope has limited structural diversity and restructuring. The upper planting line is currently beyond the economic tree line.</p> <p>See Appendix 13 & 14 Age and Species Map and Graphs.</p> <p>There are also some "feature" trees such as the beech and Scots pine. These provide some structural diversity and colour to the forest as well as cavities etc for nest sites.</p>	<p>Restructuring The restructuring of Glen Buck is progressing according to the original proposals and can be continued. Wind exposure will limit the restructuring of the west facing slopes to sequential felling and restocking.</p> <p>Harvesting The west facing slopes will need to be felled in sequence beginning at the NW end to limit the number of vulnerable edges exposed at any one time. Harvesting challenges for the upper part of the slopes with lack of large trees both for supports and also for making a positive return on harvesting.</p> <p>Restocking In the upper margins where the YC has been less than 8 on first rotation crops they will not be restocked with commercial conifers. These areas which generally are on the upper margins of the forest suitable for the development of montane woodland. The economics of restocking the western slopes with productive conifer needs to be taken into account in developing the planting proposals. The recommendations of the steep ground working group will be used to inform the decision. It is likely that there will be a reduction in the area of productive conifer planted on the western slopes.</p> <p>There is 125.0 Ha designated as PAWS and these areas will gradually be restored to native woodland from local seed sources either by nat regeneration or planting.</p>
Roads	<p>The present forest road network is sufficient to access the programmed clearfell coupes within the 10 year life span of the LMP for the main forest area. However, one new public road access and internal road will be required in the next 10 years to access the coupe between the A82 and the loch.</p> <p>Low Ground Pressure Haulage Network 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.</p>	<p>In the challenging terrain it is essential that we maintain the current road network.</p> <p>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. South Laggan is one of the forests, where 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. See Appendix 20.0 Low Ground Pressure Network</p>
Low Impact Silvicultural	Most of the present woodland has now passed the thinning window and,	Recent restocking area should provide more potential for LISS

Factor	Description	Implications for Management
<p>Systems (LISS) Potential CCF – Continuous cover forestry NR Natural reserves LTR Long term retentions</p>	<p>therefore, not suitable for selection or uniform shelterwood CCF systems. Some of the P90 crops on the west facing slopes are just within the window but the terrain is such that thinning is not a viable option here. However the next rotation of the forest in Glen Buck may offer an opportunity for CCF provided the first thinning is undertaken at the correct time silviculturally.</p> <p>Natural regeneration of conifer has developed in one of the Glen Buck coupes and may do so on the western slopes as the felling progresses. Some areas of broadleaf natural reserve have already been identified in South Laggan and there may be further opportunity with some of the remnant first rotation crops for LTR or NR</p>	<p>management on 2nd and 3rd rotation crops. Early first thinning is essential as the DAMS become less favourable further up the hill. Natural regen of conifer needs to be monitored – both to manage for a future crop and also for removal from broadleaf areas. Retention of some of the 1st rotation crops provide benefits for red squirrel and raptors.</p>
<p>Landscape and landuse</p>		
<p>Landscape character and value</p>	<p>Scottish Natural Heritage (SNH), Publication 97, Lochaber Landscape Assessment 1998 describes the area of South Laggan as being on the cusp of several landscape types, but principally is defined as Smooth Moorland Ridges of which the key Characteristics are;</p> <ul style="list-style-type: none"> • Gentle undulating hills with smooth elongated ridge profiles developing a more undulating landform in transitional areas with Rugged Massif; • Simple large scale landscape pattern dictated by uniform land cover and uncomplicated landform; • Plateau summits generally draped in a mixture of grasses, heathers and sedges, with exposed peat hags; • Large blocks of conifer plantations along the hillsides and lower foothills; • Broadleaved woods on lower slopes and along loch edges, often framing crofts; • Scattered croft settlements with stone dykes concentrated on lower slopes, particularly on lower roads and south facing slopes; • Roads & Transmissions lines follow the base of hills. 	<p>Pressures for change are dominated by commercial forest operations, although encroachment of new build development and neglect of traditional landscape features are also evident; the landscape is sensitive in that its smooth open slopes are highly visible.</p> <ul style="list-style-type: none"> • Smooth, open profiles are sensitive to changes in texture and land cover which arises due to changes in management or commercial forestry operations; • Broadleaf woodlands on the lower slopes which provide a landscape framework are sensitive to replacement by conifers; • Distinctive grazed heather slopes which provide a landscape framework are sensitive to replacement by conifers; • Distinctive grazed heather slopes, important for wildlife, archaeology and landscape amenity, are vulnerable to forest encroachment.
<p>Visibility</p>	<p>South Laggan is a highly visible forest due to the terrain and its location above a major communication corridor for both road and water transport. The upper margin of the forest is relatively straight and above Glen Buck in particular does not follow the landform. The A82 runs along the lower edge of the forest and dominates the uphill perspective</p>	<p>The visual impact of the design will be significant driver in the development of both the felling and restocking plans. View points for the assessment of different options need to be carefully selected. Roadside corridor needs to be planned both for reducing risk of large trees falling onto the carriageway while still retaining an attractive woodland edge. Rapid recolonization of the roadside coupes is also important both for stability and to revegetate the harvesting sites.</p>
<p>Neighbouring Land Use</p>	<p>The main neighbouring land uses are sheep farming, both in-bye and hill land, and deer stalking. The woodland along the lower slopes continues beyond the forest boundary to the south east. The upper boundary is a stock fence.</p> <p>There are private water supplies on the Allt an t-Sidhein and the Allt an Lagain</p>	<p>All neighbouring land uses have the potential to impact on the management of the South Laggan LMP area. The main issues regard deer control, sheep incursions, fencing, water supplies and the impact of the South Laggan SSSI. The District liaises with neighbours when undertaking operations that may impact on adjacent land management.</p> <p>The District is a member of the local deer management group.</p>
<p>Infrastructure (3rd party)</p>	<p>The A82 runs along the western edge of the forest with around 13ha of woodland between the loch and the public road.</p> <p>A 132kv pylon line also runs along the western edge of the forest above and then below the lower forest road This is the Fort Augustus to Fort William line and critically also carried the</p>	<p>There has been a gradual removal of trees from above the A82 to reduce the risk of the wind bringing trees down onto the road. This work needs to continue with careful consideration of how to restock these areas.</p> <p>The pylon line is a significant constraint on operations on the steep</p>

Factor	Description	Implications for Management
	line to the Western Isles.	ground in the southern part of the forest. SSE is also concerned about the long term resilience of this line where it passes within falling distance of the standing crop i.e. for most of its length.
Renewables	South Laggan is currently being assessed for its potential for a micro hydro scheme. See Appendix 21.0 Indicative Micro Hydro Scheme	If the scheme is approved there will be some tree felling required to accommodate the construction. On this terrain and crop condition it is likely that a more extensive area than the footprint of the hydroscheme will be needed.
Social factors		
Recreation & Tourism	<p>The forest is open to all within the framework of the Scottish Outdoor Access Code (SOAC).</p> <p>The Great Glen Way and part of the National Cycle Network route follows the old railway line to the north of the main forest access.</p> <p>There are 2 tourism businesses adjacent to the forest boundary - Great Glen Water Park and Corriegour Hotel?</p>	<p>We will continue to promote best practice in relation to access in accordance with SOAC.</p> <p>The forest design needs to take account of the Great Glen Way at a visitor zone level.</p> <p>During all Forest Operations public safety will be paramount and where necessary sensible temporary diversion routes will be created.</p>
Heritage	<p>There are a number of sites of heritage value identified within the LMP area although none are scheduled. All known features have been added to the GIS database.</p> <p>The sites include old agricultural pens, sections of Wade's military road by Loch Oich, disused Fort William to Fort Augustus railway line and station platform. Forest roads have made use of the route of the old railway.</p> <p>Much of the area covered by the South Laggan LMP was the scene of the Battle of Blar na Leine on the 15th July 1544, between a group of Fraser's and Mackintosh's under Lord Lovat and Ranald Gallda (pretender to the chieftom of Clanranald) and a group of MacDonal'd's and Cameron's under John Chief of Clan MacDonal'd of Clanranald. The battle settled the issue of the leadership of Clanranald in favour of the MacDonal'd's.</p> <p>See Appendix 18.0 Scheduled Battlefield Area map</p>	<p>These sites will be protected and preserved from damage by forest operations as far as possible.</p> <p>All known heritage/archaeological features will appear as an operational constraint in contract maps and work plans. Site planning will seek to protect any known and as yet undiscovered sites as appropriate and in accordance with the relevant guidelines.</p>
Community	<p>The small village of South Laggan is situated to the west of the LMP area in the Strath between Loch Lochy and Loch Oich which is represented by the Invergarry Community Council.</p> <p>The South Laggan Railway Preservation Society (SLRPS) has entered into a 21 year lease with the Forestry Commission for the abandoned railway station platform, plus a section of abandoned railway track within the boundaries of the South Laggan LMP.</p> <p>Forest management and timber processing are important rural industries in Lochaber and depended on steady supplies of softwood timber.</p>	<p>Liaise with Invergarry CC and attend meetings.</p> <p>Liaise with the SLRPS to co-ordinate work activities in the area.</p> <p>Maintain a core of productive commercial conifers. This is likely to be focused in the area known as Glen Buck and where soil, aspect and climate dictate, consider the establishment of 'premier' conifers such as DF, WRC, EL, NS.</p>
Statutory requirements and key external policies		
	Prevent any negative impact on the SSSI and where possible improve its	Prevent any negative impact on the SSSI through altering the quality and

Factor	Description	Implications for Management
	status. Resilience of pylon line and visual impact	quantity of water flowing into it from the forest above. Work with SSE to create a resilient corridor for the pylon lines which also addresses the visual impact.

4.0 Analysis and Concept

Factor	Opportunity	Constraint	Concept Development
The steep slope The west facing slopes above the A82 and South Laggan Village.		Costly forest operations limited to motor manual felling with skyline extraction and roadside processing Mechanised ground preparation not possible	The reestablishment of a productive conifer crop on the steep western slopes is no longer economically viable option.
Slope stability	Role of woodland cover in providing protection to slopes	Higher cost associated with harvesting operations	However, the retention of woodland cover remains an essential land use to help protect the soils from erosion and to stabilise the slopes. Annual monitoring of roads and culverts and after significant storm events to removal any obstructions.
Coupe shape and sizes	Restructuring of the Glen Buck area to create a more varied age structure.	Coupe shape constrained by the technical limitation of cable harvesting systems and the frequency of the vertical burns. Coupe size in the upper slopes can be relatively large in the large scale landscape	Restructuring of the Glen Buck area Sequential felling of the conifers on the western slopes to make way for broadleaf expansion while reducing the risk of premature windblow in the remaining conifer crops
Road and bridge infrastructure	As this is largely second rotation forest the road infrastructure is mainly in place. A significant programme of bridge upgrade on the old railway line has been completed	Costly road operations due to slope and type of harvesting systems Substantial gullies on the hillside and multiple small water courses	No further roads proposed on the western face. New access and road in the coupe between the loch and the A82. Glen Buck additional road potentially but outside 10 year period. Maintenance of the current network essential.
Altitude range from lochside to c700m	The opportunity for montane woodland development and a gradation of habitats from shore side to hill top Westerly aspect	Upper limit to productive conifer crops at c400m	Encourage the development of an area of montane woodland above the current tree line. A phased transition from native broadleaf species and premium commercial conifers on the lower slopes to a Sitka spruce/Lodgepole pine mix in the higher less fertile soils of Glen Buck.
Exposure and windthrow risk	Fell into the prevailing wind	Opening up of too many edges to the wind will destabilise the remaining crops	Felling from NE to SW direction in sequence rather than restructuring on western face where a change of species from conifer to broadleaf is proposed
The visual prominence of much of the Forestry Commission woodland	To improve the external and internal margins. Gradual removal of conifer on the western slopes and the establishment of native woodland	Technical constraints of the steep slope Windthrown risk of opening up the SW forest edge Slow rate of natural regeneration.	Design the coupe size and shape, species choice and external boundaries so that the LMP area fits more comfortably into the surrounding landscape and complement the existing character of the Great Glen. Working from the NE end of the western face and only opening up one face at a time. Monitor natural regeneration and be prepared to undertake enrichment planting.
The high potential for restoration to native woodland	125ha of PAW for restoration and as a seed source for expansion of native woodland. Remnant native woodland in some of the steep gullies. 14ha already cleared as part of roadside tree removal and beginning to regenerate Montane woodland restoration at and above the current tree line	Current productive conifer crop on much of the potential expansion area. This has to be removed and the subsequent natural regeneration controlled. May be limited scope for suitable natural regeneration of broadleaf? Deer pressure to allow natural regeneration to establish	The concept is to restore the PAWS area and to expand the native woodland across the western face. The removal of commercial conifer by a process of phased felling of clearfell coupes. To allow each to regenerate or to be planted – aiming to keep a 2m height separation - before the next is felled

Upper area of Glen Buck	Gentler slopes and more sheltered make this suitable for productive conifers with much of it is accessible by Harvester/Forwarder.	Water vole habitat area	Enhance the water vole habitat, linking with the saddle mire and establish productive conifers on all the suitable areas of Glen Buck
Long distance routes and railway heritage activity	Enhancement of the environs of the trail and railway line. Enhancement of the forest access	Age of crop and challenge of access for harvesting will limit what is possible	We work closely with the Access Authority to promote both the Great Glen Way and the National Cycle Network (NCN) route. Design for the entrance strip of woodland.
A82 road side	Creation of attractive roadside forest and removal of conifer crops which could fall across the road.	Difficulty of working on the road side where management traffic is necessary. Access to the coupe on the loch side of the A82 for removal of the current conifer crop.	Broadleaf to be the main species on the roadside coupes.
Pylon line	Improve the design of the corridor to reduce the visual impact of the line	Potentially significant constraints on harvesting of the slopes above the pylon line using a skyline – the only system currently possible on these slopes	Will need further agreement with SSE when harvesting operations are being planned.
Age structure	Improve the age structure diversity of the steeper west facing slopes of the current forest which have a fairly narrow age structure from the late 70s to early 90s arising from sequential felling of the first rotation crop.	Steep slopes and prevailing wind will constrain the ability to break up the age structure and limit the coupe boundaries to following the vertically descending burns and gullies.	Sequential felling against the prevailing wind aiming to achieve age separation between each coupe felled. The change in species from conifer to broadleaf on the mid slopes will also help to increase the visual diversity.

5.0 Land Management Plan Proposals

5.1 Management including restructuring

The phased felling of the 2nd rotation conifers began during the last plan period and will be continue for the next 50 years. In and around Glen Buck the forest will be restructured to achieve a diversification of the age structure over the area.

Most of the forest above South Laggan village and the A82 sits on very steep slopes and as a result costly motor manual felling with skyline extraction and roadside processing is the only suitable harvesting system. Here the limitations of slope and prevailing wind dictate a sequential felling from the NE to SW, still aiming to achieve a 2m height difference between felling area. The direction of felling is to try to reduce the risk of premature clearing of the remaining stands as a result of windthrow.

In addition to the steep slope, the Fort William and Western Isles power line will also have a significant impact on the rate and nature of the felling on the lower slopes of the southern half of the forest. A more detailed plan for the felling of trees to increase the resilience of the line is required. The protocol between SSE and FCS for this type of work is close to completion and SSE will initiate the work following a survey of the line. Felling approval will need to be obtained for this work in due course. The landscape design of the corridor will form part of any approval.

The A82 is both a constraint on harvesting and at risk from falling trees. The felling of the current conifer crop above the road is ongoing as part of the larger A82 project and most should be cleared by the end of the first year of this LMP. Below the A82 will also need traffic management as well as improved access in order the felling the crop.

If the hydro scheme is progressed this will necessitate some additional crop removal. At present the potential area is not confirmed but will be included in the local authority planning application.

LISS

As stated earlier there is no opportunity for CCF development in the present crops due to a lack of thinning and steep slopes with costly harvesting. There may be scope in the next generation of forests in the Glen Buck area if early thinning can be achieved and the system is appropriate for the management objectives.

There are some small areas of 1st rotation conifer remaining and these will be left in future as long term retentions.

The broadleaf areas on the steep slopes at the north end of the forest have been designated as a natural reserve area. Here the intention is to allow the woodland to respond to natural processes with only minimum intervention in the form of deer control and removal of exotics.

See Appendix 14.0 Management Map.

5.2 Future habitats and species

Over the next 60 years there will be a gradual change in the character of the forest with a significant increase in native woodland, development of montane woodland and reduction on productive conifer area.

There will be a relative decrease in the area allocated to commercial conifers than was previously the case in South Laggan due to proposals to restore all of the PAWS area to native woodland and concern over the unsustainable economic cost of harvesting and replant. Sitka spruce will still be the dominant commercial conifer but where suitable soils and more sheltered slopes indicate other species like Douglas fir, European larch, Norway spruce and Scots pine will be considered. The higher elevation more exposed and less fertile areas will be restocked with a Sitka spruce/Lodgepole pine mixture.

PAWS. This plan brings the restocking proposals in line with the current policy on PAWS restoration with all the areas identified as PAWS within South Laggan being returned to native woodland as felling takes place. See Appendix 4 for location of PAWS. The nature of the ground and the current stands of trees means that clear fell is the only option for these areas; early intervention and thinning are unlikely to be viable options on this site. Restocking of native tree and shrub species in the designated PAWS sites and riparian zones will predominantly be by natural regeneration from local seed sources. These areas will be monitored at year 5 if necessary or appropriate enrichment planting may take place after a further 2 years monitoring. The plan also expands the native woodland from the core PAWS areas onto the steeper slopes no longer considered economically viable for productive conifer crops. The reduction in harvesting activity in the longer term on these areas will also benefit future slope management.

The commercial planting line above Glen Buck will be lower in the next rotation allowing a pine/birch mixture tree line woodland to be established.

See Appendix 16.0 Future Species and Habitat Map.

5.3 Species and age structure tables

See Appendix 17.0

5.4 Management of open space

The area of open ground above Coille Leitir Fhearna and Creag nan Gobhar are currently not being actively managed. They are fence against stock but still subject to deer browsing. Colonisation of woodland and shrub through natural processes will be accepted if it occurs.

The larger area of open hill ground above the tree line to the east is largely unfenced and has both sheep and deer grazing pressure. The management of this habitat will be reviewed at the next 5 year review once opportunities for wider landscape scale habitat management have been explored with the neighbouring land owner.

Montane Woodland Restoration There is potential for the development of a montane woodland area on part of this ground which is shown in Appendix 6. This includes areas of poorly growing conifer (Below YC8) close to the tree line and could create a continuum of woodland cover up the hill enhancing biodiversity and creating a softer visual boundary between the forest and open hill. The development of this woodland is not a priority in the first 5 years of the plan and further work is needed to define the suitable areas to avoid valuable open habitats, determine the local seed sources and method of protection from browsing during establishment. FCS native woodland advisor will be engage to support the development of the vision.

5.5 Environment

A programme of *Rhododendron ponticum* eradication has been started in South Laggan and follow up treatment of the area will continue during the period of this plan. As resources are made available nationally further areas can be brought into the programme.

The detail of the planting within the water vole management area will be prepared at the time of restocking and will take the form of the wider riparian areas (c40m on either side of the burns) and lower density conifer and broadleaf planting. This will also link into the restored saddle mire area.

Monitoring of AWS and mire area for non-native regeneration will continue through the period of the plan.

All known heritage/archaeological features will appear as an operational constraint in contract maps and work plans. Site planning will seek to protect any known and as yet undiscovered sites as appropriate and in accordance with the relevant guidelines.

5.6 Deer

The main objective of deer management within the South Laggan 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. Lochaber Forest District will be represented on the local 'Deer Management Group'.

See Appendix 1.0 Deer Management Programme.

5.7 Access

New road access will be required to access the coupe between the A82 and the loch. See **Appendix 14.0 Management map** for indicative line. The proposed new road shown on the management map has not yet been surveyed. Once the road has been surveyed an application for EAI determination will be made. All the information relevant to a prior notification will be prepared and submitted with the EIA determination request. Once the EIA requirements have been satisfied a prior notification will be submitted to the Highland Council. Roads will be constructed following best practice in TTF (2014) on 'The design and use of the structural pavement of unsealed roads', SEPA General binding rules and the UK Forest Standard.

5.8 Operations

All operations will be carried out in accordance with the UK Forest Standard and guidelines.

Private water supplies will be identified on the ground and protected from contamination prior to any operations
FCS staff will liaise with neighbours to ensure that external fences are fit for purpose.

During all Forest Operations public safety will be paramount and where necessary sensible temporary diversion routes will be created.

5.9 Critical success factors

Resources – in particular resources need to be available for the expensive harvesting of the crop on the western slopes

Natural regeneration - Sufficient natural regeneration of the desired species within the agree time scale is very important for achieving the best results for the PAWS restoration. On the lower slopes there is a balance between waiting for natural regeneration and a more rapid tree establishment along the visible face of the forest. This may also be an issue on some of the slopes where a rapid revegetation is desirable for slope stability.

Crop stability – to achieve restructuring and to avoid opening up too much of the steep slopes at any one time it is necessary that windthrow does not cause premature clearing of stands.

Deer control - it is vital that deer are prevented from damaging restocking, including broadleaves on the PAWS, and controlled to allow the development of montane woodland.

Resilience – the plan expands site native woodland in larger continuous areas as well as looking to introduce more conifer species on the lower slopes to increase the resilience of the forest to climatic change and against pest and diseases. There is much uncertainty about the future climate and disease trends and these may still impact significantly on the plan.

Infrastructure Resilience – Collaborative working with SSE, the Highland Council and Transport Scotland in relation to powerline and road resilience issues is essential, and this process should seek to bring considerations of the multi-purpose benefits of forestry into resilience planning; particularly in relation to landscape, aesthetics & amenity.

6.0 Programme of Work 2016 - 2026

Coupe	Period	Felling	Objective	Restocking	Objective	Notes
Felling						
70072	1	P20 SS/NS P36 SS P76 SS/DF/HL	Timber Production. Boundary Landscape improvement.	Native Broadleaves in both PAWS and non-PAWS areas.	Mainly PAWS restoration area but with some potential for productive broadleaves.	Ensure appropriate restocking method and tree numbers for desired objectives.
70413	1	P68/71 SS/LP/HL P87 SS	Timber production. Boundary Landscape improvement.	Scots pine and birch	Lower yield class areas <6 YC mix of native woodland to allow the forest to sit more comfortably within the landscape	On the poorer soils & more exposed sites replace exotic commercial conifers with native woodlands
70079	1	P32/34/38/39 NS/SP/EL/LC	A82 SGW Felling. Road Safety, slope stability	Native broadleaves	Slope stability	Mix of native woodlands by natural regeneration from local seed sources.
70115	2	P21 NS/SS P63 SS/LP P86 SS	Timber Production.	Productive conifers 90% SS 10% SP	Area designated for productive commercial conifers.	
70141	2	P32 EL/SS	Timber Production. Landscape Improvement.	Native woodlands by natural regeneration from local seed sources.	Landscape enhancement	
Road Construction						
70141	1/2		Road required to access woodlands below the A82 for harvesting and extraction.			The road line is indicative it has not yet been surveyed on the ground.
Enrichment						
Various	1/2				All broadleaf restock sites where the initial objective is to restock by natural regeneration from local seed sources will be monitored over a 5 year period and if necessary enrichment planting will take place.	
Monitoring						
LP for DNB	1 & 2		DNB Survey monitor for presence of disease/monitor progress and plan removal if needle retention is only 1 year over a couple of years.			Any felling and road construction will require an amendment.
Great Glen Way	1 & 2		Monitor of vegetation growth adjacent to route			
Roadside			Annual visual inspection of trees adjacent to the A82			
Resilience	1					Agree corridor and compensation from SSE for the resilience corridor.
Deer Mgt	1 & 2				Manage deer populations to allow for the successful establishment of native BL trees and softer conifers to establish and develop saw log potential.	
INNS (Invasive non-native species)	1 & 2		The district has a rolling programme to eradicate rhododendron ponticum from the estate with this LMP area included in the programme.		Monitor the forest for the presence of other INNS such as Himalayan balsam and Japanese knotweed and deal with appropriately in the recommended manner.	

7.0 Land Management Plan Consultation Record South Laggan 2015.

Consultee Type	Consultee	Date Contacted	Reply Received	Issues Raised	FD Response to Issue
Statutory Consultees	SEPA	10/03/15	21/03/2015	<p>The plan should include mitigation measures to conserve the balance in the adjacent SSSI lies adjacent to the LMP.</p> <p>New native woodland proposals should include general information on how wetland features such as springs, flushes fens and bogs will be protected.</p> <p>SEPA have requested that the Plan should show on maps of 1: 2500 scale or more detailed areas of peat greater than 50cm, watercourses, lochs and wetlands.</p>	<p>All forest operation work plans will contain mitigation measures to preserve the integrity of the adjacent SSSI.</p> <p>This will be highlighted in the forest operation work plans</p> <p>Due to the extremely large numbers of streams and wet areas within and adjacent to the LMP area it is not feasible to produce these maps at that scale in the LMP. However large scale maps will be produced for all forest operations showing the watercourses, lochs and wet lands within or adjacent to the operation area.</p>
	Scottish Natural Heritage		11/09/2015	<p>SNH, South Laggan SSSI map gives the SSSI boundary as the forest road which would indicate a small strip of FC land is within the SSSI.</p> <p>Concern that road maintenance may be the biggest risk to the integrity of the SSSI. FC should inform and consult with SNH regarding roading operations.</p>	<p>Lochaber FD to consult with SNH regarding SSSI boundary and future management of any ground in FC ownership.</p> <p>Important that Lochaber FD roads maintenance does not have an adverse impact on the SSSI. All work plans should detail mitigation factors with regard to the SSSI.</p>
	Historic Scotland		31/03/15	<p>Historic Scotland were concerned that in the original draft of the LMP the site of the inter clan battle of Blar an Leine was not mentioned.</p>	<p>This omission has now been rectified with a brief description of the battle and its significance, with map showing the battle site. The site of the battle should not affect the districts plans for the LMP area.</p>
	Highland Council (Planning & Transport) Forestry Commission				
Other Consultees	Community Council	09/03/15	01/06/15	<p>Feral Pigs concerns over increasing numbers of feral pigs on FCS land</p>	<p>SNH are currently working on a national policy regarding feral pigs. Currently Lochaber FD is installing CCTV cameras to monitor the numbers and movement of pigs in the Invergarry area.</p>
				<p>Water Supply concerns about Forest Operations affecting private water supply situated</p>	<p>All forest operations will comply with the Water Environment (Controlled Activities) (Scotland) Regulations (CAR) and will follow the related elements of the Forests and Water Guidelines 2011 General Binding Rules</p>
Internal FES	Planning	19/10/12	23/10/12 Updated 31/03/15	<p>Larger coupes > 15 ha if possible.</p> <p>Coupes meet roads on up or down extraction routes (SGW winches).</p> <p>No corners at top of coupes.</p> <p>Coupes at south end of LMP to be felled later rather than sooner due to major road investment.</p> <p>WB in Glen Buck area needs harvesting within the next 2 years.</p>	<p>A balance needs to be met regarding the practicalities of timber harvesting/extraction and coupe shapes that fit with the landscape.</p> <p>The coupes at the south end of the LMP area will be allocated for clearfell later in the life of the FDP > 2025.</p> <p>The wind blow in Glen Buck will be given priority.</p>

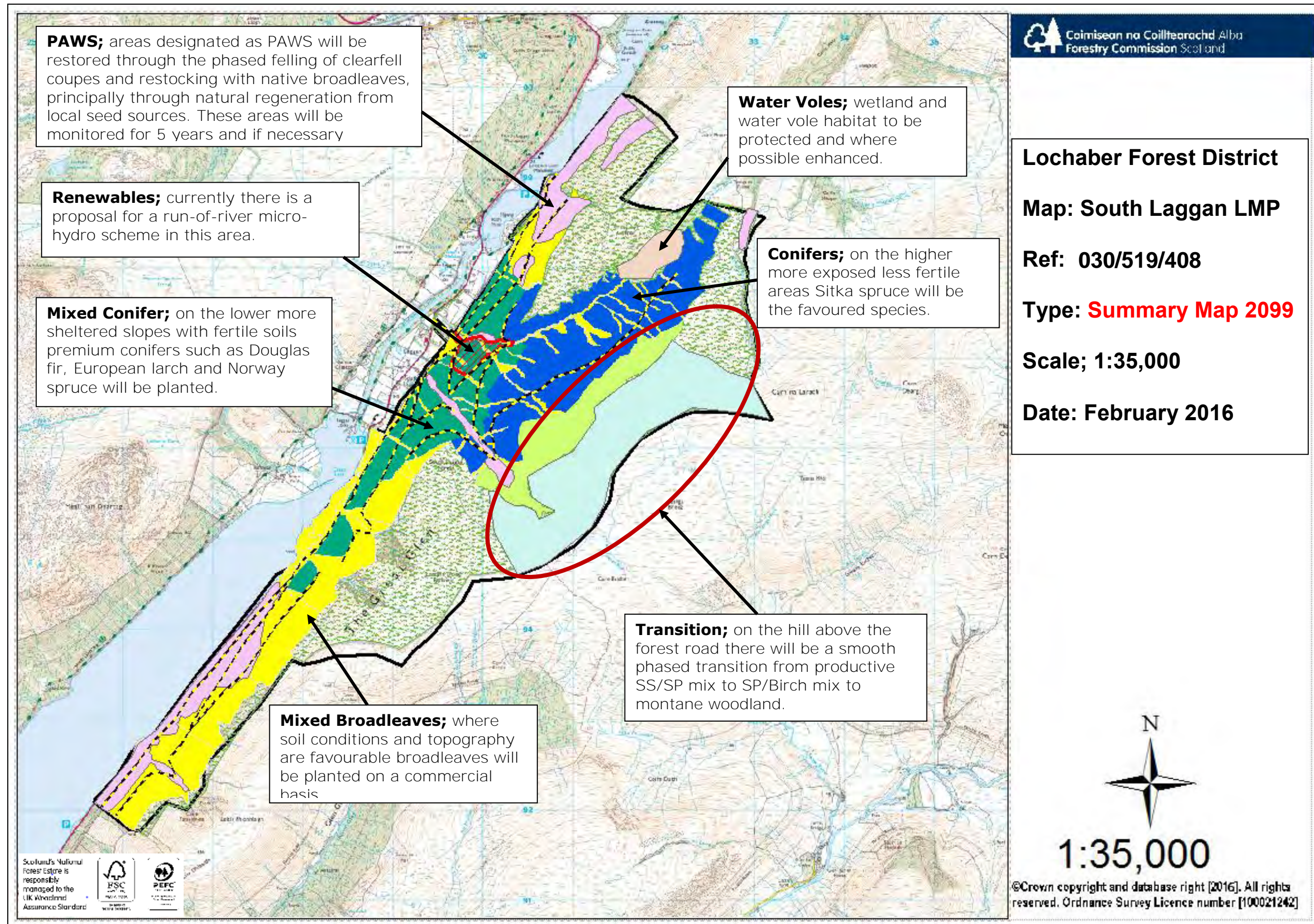
	Renewables	19/10/12	11/01/13	Proposed run-of-river Micro Hydro Scheme	Lochaber Forest District will work with renewable energy company to assist development of this project. Felling coupes have been designed to cause minimum disruption to proposals Map of proposed development included in the Land Management Plan.
	Wildlife Management	19/10/12	23/10/12 Updated 31/03/15	Deer control on the faces in the south of the LMP area difficult due to lack of open ground. This area holds the highest density of Sika deer in the FD.	Consideration will be given to well-maintained deer fencing and open glades for ease of deer control.
	CRT	19/10/12	23/10/12 Updated 31/03/15	South Laggan Community Group (SLCG) would like to but the disused railway platform under the NFLS scheme. SLCC have also expressed an interest in the area of forest from directly above the platform to the northern boundary above Loch Oich. There are currently plans to designate and upgrade the Great Glen Way to National Cycle Network status though there is no clear timescale for this. Good opportunity to use this LMP to review the strategy in the above areas.	Discussions will continue to identify the best way forward for these areas.
	Environment	19/10/12	23/10/12 Updated 31/03/15	Nature Reserve as a result of fell to waste non indigenous conifer, the reserve was never formalised, though there are good native woodlands in this area which has been stock fenced, large numbers of deer on the site. the rhododendron along the front margin will be cleared in the next 3 to 4 years which is in line with district strategy. Upper woodland margin expansion possibilities with PAWS, new fence will aid regeneration.	While the "Nature Reserve" was never formalised the native woodland above Loch Oich has the potential to be a rich Atlantic woodland and will be protected and enhanced. Rhododendron eradication will be ongoing in the early years of the new FDP.
	Native Woodland Ecologist	19/10/12	23/10/12 Updated 31/03/15	The native woodland above Loch Oich looks (from a distance!) like it has the potential to be a rich Atlantic woodland - I hope to visit this soon to confirm. It's good to see that PAWS restoration has been acknowledged as a key aspect of this plan. Any opportunity to link areas of PAWS to form a more contiguous network would be good. I am also interested in the extent to which native woodland is seen as a solution to slope stability.	The forest district appreciates the conservation and aesthetic value of the native woodlands. In line with PAWS restoration the district will protect and enhance these woodlands.
	Landscape Design		23/10/12 Updated 31/03/15	Forest and its surrounds are within AGLV (Area of Great Landscape Value). Please add information and alignment to map. Also add Great Glen Way routes. Please refer to Highland Council Assessment of Special landscape areas http://www.highland.gov.uk/NR/rdonlyres/A91EA583-83CF-4699-B7AD-072263B9A3F7/0/Item12SpecialLandscapeAreasCitations.pdf). Identifies steep wooded slopes as important distinctive element of this area. Also states: 'Many existing forest plantations contrast in scale, colour, texture and line with the glen slopes. Associated forest tracks are also often prominent, particularly where they cross the steep side slopes of the glen in cutting or on embankment.'	The Forest District appreciates the high aesthetic value of the LMP area. The FD will endeavour to design the felling coupes and subsequent restocking to fit in well with the landscape Character of the Great Glen. The majority of the restocking visible from the adjacent public roads, lochs, canal and villages will be native woodland, established by natural regeneration from local seed sources. This will give a more natural feel and look to the area and enhance the landscape.

				<p>Shape of coupes, upper margin and internal species boundaries and the long term appearance of forest roads on steep side slopes are a high priority within this highly visible location. - Opposite the Great Glen Way.</p> <p>Key viewpoints are from the range of points along Great Glen Way, Caledonian Canal and Loch Oich mountain summits, A82, car park at Loch Oich, and properties along A82.</p> <p>Note also qualities of internal landscape alongside the Great Glen Way.</p>	
<p>Members Of the Public. LMP advertised in the August 2015 edition of Lochaber Life</p>	South Laggan Community		August 2015	<p>Concerned about any forest operations having an adverse effect on the private water supply that runs to local houses from the forest</p>	<p>David Robertson met Alastair Fraser and explained that the water supply tank and its intake pipes have been identified by FC and all necessary precautions will be taken when working in areas that may affect that may have an impact on the identified supply.</p>

8.0 Tolerance Tables

	Adjustment to felling coupe boundaries	Timing of restocking	Change to species	Windthrow response	Adjustment to road lines
FC Approval not normally required (record and notify FC)	<10% of coupe size. On A82 coupes up to 1 Ha or 10%.	Up to 7 planting seasons after felling (allowing fallow periods for Hylobius).	Change within species group E.g. Scots Pine to Birch. Non-native conifers e.g. Sitka Spruce to Douglas Fir. Non-native to native species (allowing for changes to facilitate Ancient Woodland policy).	Low sensitivity area Where wind throw represents more than 60% of the crop the area including standing trees may be felled plus up to 5Ha beyond in order to seek a wind firm edge.	Low sensitivity area Creation of turning points/loading bays. Deviation of <100m either side of the predicted centre line of the road/ track. High sensitivity area Deviation <75m in either direction from centre of road/track.
Approval by exchange of letters and map	10-15% of coupe size. On A82 Coupes 1-5 Ha.	7 years +	Change of coupe objective that is likely to be consistent with current policy (e.g. from productive to open, open to native species).	Low sensitivity area As above to include 5-10 Ha of standing crop to seek a wind firm edge. Areas where wind throw represents <60%. High sensitivity area Areas where windthrow represents <60%.	Low sensitivity area Deviation of 100-150m in either direction from centre of road/track. High sensitivity area Deviation of 75-100m in either direction from centre of road/track.
Approval by formal plan amendment	>15% of coupe size. On A82 coupes over 5 Ha.		Major change of objective likely to be contrary to policy, e.g. native to non-native species, open to non-native.	Low sensitivity area As above. Windblown area + an area >10 Ha to find a wind firm edge. High sensitivity area Felling of standing trees beyond the area of windblow.	Deviations exceeding the above.

9.0 South Laggan Summary Map 2009



10.0 Summary Table (UKWAS requirement)

South Laggan LMP 1740Ha

Description	Percentage of Forest block	Location of data
1. Main conifer species	10%	Forester restock layer
2. Other conifers species	13%	Forester restock layer
3. Open space	27%	Forester restock layer
4. Native broadleaves	48%	Forester restock layer
5. Managed for conservation/biodiversity	30%	Forester management layer
6. Long Term Retentions	19%	Forester management layer
7. Natural reserve – plantation	0	Forester management layer
8. Natural Reserve - PAWS	1%	SNH PAWS layer cat 1a

NB will not add up to 100% e.g. area managed for biodiversity will also fall into other descriptions.

Note

1. Main Conifer species SS mainly in mixture with SP = 179Ha
2. Other Conifers including SP in mixture with SS = 269Ha
3. Open Space = 430Ha
4. Native Broadleaves (includes 125Ha PAWS, 35ha AWS & 242Ha Montane Woodland) = 842Ha
5. Managed for conservation (PAWS, Montane, Voles "Reserve") = 517Ha
6. Long Term Retentions (PAWS + Montane) = 381Ha
7. Natural Reserve – Plantation 0
8. Natural Reserve = 17.0Ha

Appendix 1.0 Deer Management

Main land use is productive forest with areas of native woodland and several ancient woodland sites. Deer are managed to attempt to achieve a balance with their habitat. This requires a low density population of 5/100ha or less.

Perimeter deer fences are important to separate the woodland from the higher deer populations densities maintained on neighbouring sporting estates. Internal fencing is used where particularly vulnerable sites and species require extra protection.

Previous Cull Records

Year	Red	Roe	Sika
09/10	45	6	31
10/11	53	2	28
11/12	53	6	40
12/13	93	10	23
14/15	49	9	20

Cull Records: Comment /Additional Information

Culls have increased in 2012/13 this is due to fencing and likely to continue to increase until damage levels decline. The very high reproductive rates show a very dynamic woodland deer population throughout the area.

Culls will be taken both in and out of season and night shooting is employed as necessary. Male deer of all species are shot throughout the year, while females are not shot from 1st April to 30th September.

SNH deer count 2013 recorded 10595 Red Deer on the West area of the Monadhliath Deer Management Group.

Nearest Neighbour assessments are also conducted annually on all P1 restocks. As one of our key objectives in deer management is the prevention of damage. Damage assessment is therefore given a high priority in terms of determining appropriate cull levels.

Woodland Deer Density Indicators

Evidence	4-8/100 Ha Low Density	8-15/100Ha Medium Density	15+/100Ha High Density
Tracks (Tick)	Difficult to find deer slot marks or defined paths.	Defined paths slot marks easy to find in areas of soft ground.	Many well defined tracks and paths often black with constant use.
Dung (Tick)	Difficult to find with just the odd isolated pellet group.	Pellet groups relatively easy to find, particularly on woodland edges and good feeding areas.	Pellet groups very easy to find. Highly concentrated on favoured feed areas.
Browsing of Vegetation	Natural regeneration of broad-leaved trees taking place with no or little damage to current years	Broad-leaved saplings present but showing significant damage.	No seedlings growing above dominant vegetation height. Often well defined browse lines on established shrubs and plants.

	incremental growth.		
(Tick)			

Management Plan Objectives

The main objective of deer management within the FCS Woodlands is to regulate deer populations at a level that is compatible with their environment and our other management objectives. This means that we 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. Venison income will be optimised and opportunities to create revenue from permit stalking and leasing will be taken, but without compromising the over-riding issue of damage prevention. This strategy should be read in conjunction with FC Operational Guidance Booklet 5.

All 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 by native tree species. This is increasingly recognised as a major barrier to maintaining and increasing biodiversity in British 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.

Method(s) used to assess if objectives are being met

Objective or issue	Method of assessment	Monitoring period and frequency	Who is responsible	Use of information
Deer numbers/ Density	EDU Clearance Dung Counts	5 yearly	FCS	Set cull levels
SSSI / SAC etc Impacts	Site Condition Monitoring		SNH	Set cull levels
	Grazing Toolbox		FCS	
Cull figures	Dung Counts, NN assessments, Site Condition Monitoring, Local Knowledge and Experience	Constant and ongoing	FCS	Set cull levels
Browsing, Bark Stripping, Fraying	NN Assessments	Annual		Set cull levels
Annual Recruitment	Cull data	Annual	FCS	Set cull levels