Tay Forest District

Foss

Forest Design Plan

Approval date: ***

Plan Reference No: ****

Plan Approval Date: *****

Plan Expiry Date: December 2023

CSM 6 Appendix 1b

FOREST ENTERPRISE - Application for Forest Design Plan Approvals in Scotland

Forest Enterprise - Property

Forest District:	Tay Forest District
Woodland or property name:	Foss
Nearest town, village or locality:	Tummel Bridge
OS Grid reference:	NN780 555
Local Authority district/unitary Authority:	Perth & Kinross Council

Areas for approval

	Conifer	Broadleaf
Clear felling	252HA	0HA
Restocking	155HA	43HA
New planting (complete appendix 4)	25HA	75HA
400m of new road & 3 Transfer Points		

1. I apply for Forest Design Plan approval*/~~amendment 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 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 **4/2/11**

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 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 and, where it has not been possible to fully 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 permissions necessary for the implementation of the approved Plan.

Signed …… Forest District Manager

Signed…… Conservator

District ……

Conservancy……

Date ……

Date of Approval

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Summary of Proposals:

Foss

The objective of this particular forest design plan is to continue with management interventions identified under the previous plan by consolidating continuous cover forestry in landscape sensitive areas and applying conventional thinning and clearfell regimes elsewhere, whilst promoting biodiversity. Also notable are areas of Plantations on Ancient Woodland Sites (PAWS) where there is potential for gradual conversion to native woodland through good thinning practice and small scale clear fell in conjunction with deer management.

In terms of native woodland establishment and expansion, Foss Hill carries good potential for this vision with suitable soil types and remnant pockets which will serve as seed sources. The largest challenge in achieving this goal will be excluding and controlling domestic livestock and red deer. This will entail erecting or upgrading existing fences and a measured reduction in the local deer population.

- Expand areas of native woodland through PAWS restoration, natural regeneration and new planting
- Maximise thinning potential within woodland blocks
- Improve riparian zones through management interventions which will enhance bio-diversity
- Maintain landscape quality by carefully designing areas of clearfell

Introduction:

1.1 Setting and context

The Forest Design Plan (FDP) covers eight individual forest blocks (Braes of Foss, Drumnakyle, Frenich, Kynachan, Aquaduct, Tombreck, Foss and Lassintulloch) which fall under the generic title of Foss. In total the area covered under the Foss forest design plan is 2706 hectares.

1.2 History of plan

The previous forest design plan covering Foss was approved on the 1st of April 2003 and expires in March 2013.

Under the previous plan, a structured programme of multi-purpose forest management has been delivered within the ten year FDP time frame. This new plan is a continuation of previous FDP with additions to reflect change brought by windblow.

1.3 Planning Context

The management of the Forestry Commission Scotland's national forest estate is guided by Scottish Forestry Strategy (SFS) 2006, which sets out seven key themes:-

- **Climate change**
- **Timber**
- **Business development**
- **Community development**
- **Access & Health**
- **Environmental quality**
- **Biodiversity**

Table 1. Relevant issues under the SFS and Tay Forest District Key Themes

SFS Key Themes	Relevant issues identified for Foss FDP
Climate Change	Opportunities for contributing towards national targets for renewable energy via woodfuel.
Timber	Continue to grow quality timber sustainably.
Business Development	Through tourism, timber harvesting, woodland establishment and maintenance. Consider landscape value with regard to woodlands and tourism.
Community Development	Encourage communities who wish to become more involved in the management of, or outputs from, their local forest
Access & Health	Formal and informal access routes.
Environmental Quality	Continue to work with local archaeologists and Historic Scotland to protect the ancient monuments in our care.
Biodiversity	Continue to expand the area of native woodland and open bogland. Work with SNH to protect and enhance the scheduled and locally important sites in our care.

Table 2. Initial brief and objectives for developing management proposals

Brief	Objectives
Climate change	• where soil stability and rooting depth will not currently allow extended rotations, shorter cycles can be used to supply woodfuel market • utilise resilient species most suited to the site conditions (like Sitka spruce, Scots pine and Birch) to provide insurance for the future
Maintain production of quality timber	• carry out continued programmes of thinning and clearfell • restock according to good silvicultural practice for species selection and planting density • manage the suitable broadleaved woodland areas for future timber potential
Maintain and enhance existing natural habitats	• maintain areas of native shrubs and mixed grassland corridors along the pylon routes to promote species like the pearly bordered fritillary and skylarks • continue to expose areas where limestone outcrops or calcareous soil conditions exist under scheduled operations and manage those areas already exposed by removing non-native conifer regeneration. • protect statutory sites and species according to agreed guidelines • extend locally important habitats (birds, butterflies, badgers) as opportunity arises through other forest operations
Preserve historic features	• Protect all known features which include Unscheduled Ancient Monuments found at Frenich, Drumnakyle, Braes of Foss, Tombreck and Foss Hill.
Access and health	• The only formal recreation area is the car park at Braes of Foss, which acts as the main access point for Schiehallion. • In other areas, normal open access will be available for walkers, cyclists and riders. • We will also ensure that public permits are available through the fishing tenants on Loch Kinnardochy.
Landscape	• Within the Foss FDP area, Frenich, Drumnakyle, Foss Hill is covered either entirely or in part by National Scenic Area status. Consequently careful landscape design must be applied to management interventions likely to have a significant impact.

2.0 Analysis of previous plan

The previous plan covering 2003 – 2013 saw the completion of programmed management and restocking plans.

Overall, the objectives of the plan have been met and include not just commercial and silvicultural benefit from management interventions, but also habitat creation, safeguarding key species and providing an attractive forest environment for local users of the forest and those passing through this scenic area.

3.0 Background Description

3.1 Physical site factors

3.1.1 Geology Soils and landform

The underlying geology within the forest blocks covered by this plan is precambrian (Dalradian) quartzite & quartzose mica schist with limestone. Soil composition is from glacial and boulder clay deposits which have created in conjunction with time, climate and land form, a diverse range of soil types within the forest. Lower areas host brown earths of stoney loam texture, surface water gleys of stoney sandy texture and peaty gleys and deep peats increasing with elevation.

3.1.2 Water

Watercourses within the FDP area form part of the River Tay catchment which is designated as a Special Areas of Conservation (SAC).
Private water supplies are found at Lassintullich and on Foss Hill. The active aquaduct carrying water to the Tummel Bridge power station borders Aquaduct forest block but does not present a major impact on the FDP. The forests of Foss also serve fishing catchments for Loch Tummel, Dunalastair Water and Loch Kinardochy.

3.1.3 Climate

There is an element of oceanic influence but overall interior conditions in a UK context tend to dominate. On account of the altitudinal variation which ranges from 200 meters to 442 meters ABSL, significant climatic differences occur with the forest area.

Elevation (m)	144	250	350	442
Annual rainfall		1000		1050
Accumulated temperature (day – deg C)	1400	1245	1110	990

3.2 Biodiversity and environmental designations

The forest block at Lassintulloch falls within the Rannoch and Glen Lyon National Scenic Area while Foss (hill), Drumnakyle, Kynachan and Frenich are in the Loch Tummel National Scenic Area.

The upper sections of Lassintulloch fall within the Schiehallion SSSI which also marches with Dunalastair Reservoir SSSI.

The River Tay SAC has a major impact on the forest blocks in this area; all watercourses in the Foss area form or flow into this designated watercourse.

Significant parts of the lower slopes of Frenich, Drumnakyle, Tombrek and Lasintulloch are PAWS (plantation on ancient woodland sites). The preservation and restoration of native woodland remnants within these areas will continue to be a major conservation objective.

A programme to remove trees from valuable habitat on limestone and calcareous soils began under the previous forest plan and presents two challenges in ensuring that tree regeneration does not encroach onto areas currently open and that clearance continues as part of scheduled harvesting operations.

3.3 The existing forest

3.3.1 Age structure, species and yield class

The forest blocks which form Foss saw the bulk of afforestation over a twenty year period between 1960 to 1980 and have a reasonable range of species. Since this period, opportunities have been taken following first rotation felling to enhance species diversity e.g. increase in broadleaved woodland.

The average yield class (YC) for Foss 11 with a species range of YC 24 Sitka Spruce to YC8 Japanese Larch in terms of conifers.

Species	Yield Class
SS	**24**
NS	**20**
SP	**12**
LP	**12**
DF	**16**
MB	**4**
HL	**16**
BE	**2**
EL	**16**
JL	**8**
NF	**16**
OMS	**10**
GF	**22**
NF	**16**

3.3.2 Access

Drumnakyle
There are two main vehicular points for the forest block and both of which are located from the B846. The most northerly access is shared with MI Drilling Fluids UK who work a barytes mine.

Kynachan
A single forest road which is shared with private home owners is located off the B846 south of Tummel Bridge.

Aquaduct
Entry into Aquaduct is from a forest road located within Tummel Bridge via the B846.

Braes of Foss/Tombreck
There are three points of access into this block, all of which are from the single track public road which runs from the B846 to Kinloch Rannoch.

Lassintulloch
A single access point into the forest block is found off the single track public road which runs from the B846 to Kinloch Rannoch.

Frenich
Entry into Frenich is gained off a single track public road that runs between the B846 and the A9 north of Pitlochry.

Foss Hill
Access onto Foss Hill is restrictive in terms of vehicular use. The main vehicular route is via the mine road at the foot of Drumnakyle however a number of hill access points are found along its perimeter.

3.3.3 LISS potential

There is a varying degree of potential for LISS within the Foss forest blocks on account of species, soil types, age and previous interventions which have in recent years been thinning towards final trees. LISS areas are concentrated within Frenich, Aquaduct, Drumnakyle, Braes of Foss and Lassintulloch while Tombreck and Kynachan are not currently considered suitable on account of limited thinning history.

The application of LISS is an important feature not just in silvicultural terms but also in maintaining a mixed woodland structure which is beneficial both in landscape terms but also for wildlife habitat including management of PAWS area. During the period of this forest plan, all LISS areas should be thinned in accordance with site dynamics to maximise silvicultural potential and maintain management continuity.

3.4 Landscape and land use

3.4.1 Landscape character and value

As a group, the forest blocks of Foss form an important feature of the local landscape which is characterised by lochs, farmland, open moorland, mixed woodlands and mountains. This is a complex landscape with a number of constants which relate mainly to a diverse range of woodland at low elevation and moving to open upland with dominant features like Schiehallion on the skyline.

Summary of individual forest blocks in terms of landscape:

Frenich
High status owing to National Scenic Area designation. The forest is particularly prominent from the North side of Loch Tummel and makes a valuable contribution to the landscape. A major wayleave runs through the northern section of this forest which creates a strong linear feature that is in part hidden by tree cover.

Drumnakyle

Moderate status - National Scenic Area designation covers approximately half the forest block. The north & east boundary do not blend well with surrounding landscape & woodland owning to liniar edges. The southern boundary is more broken and integrates with the neighbouring open hill, but access is poor.

Kynachan

Low status - Forest block is a low level woodland with considerable amount of broadleaves and open space. The block is visible from points along the north side of Loch Tummel using public roads.

Braes of Foss

Moderate status - Main views when driving along the unclassified road which splits the woodland. Two way leaves run through the east end of the woodland and are particularly visible from Schiehallion. Current boundaries are harsh in the landscape – Beauly to Denny powerline is scheduled to run through Braes of Foss using existing wayleave areas which have been modified.

Tombreck

Moderate status – A visible forest seen from the unclassified public road running between Aberfeldy & Kinloch Rannoch, this road also serves as access to the popular schiehallion carpark. Although lacking in diversity the boundaries fit in reasonably well with the landform.

Aquaduct

Low status – This is a low level woodland with a strong riparian influence on its northern boundary. Its diverse woodland structure fits in well with the surrounding landscape which is formed of scattered woodland and low impact agriculture.

Lassintulloch

High status- Visible from the B846 approaching Kinloch Rannoch, this is a distinctive forest located on Schiehallion lower slopes which makes it particularly prominent. The north of the woodland, on the Loch Dunalastair roadside has improved through felling a proportion of roadside trees.

Foss Hill

High status - National Scenic Area designation covers majority of this area which runs from Loch Tummel to near the summit of Tairneachag at 780m above sea level. Currently tree cover is limited to clumps of birch & regeneration from deep gulleys on lower slopes. The hill is prominent in the view from the north side of Loch Tummel.

3.4.2 Visibility

The forest blocks within Foss vary in visibility on account of elevation and position to public roads, population centres and the wider landscape. As recognised in section 3.4.1, landscape is a key feature of this forest plan and consequently requires careful management to avoid the creation of features which would clash with the immediate and wider landscape.

3.4.3 Neighbouring landuse

Frenich

On the north-western borders of Frenich, neighbouring land use is mainly agricultural grazing coupled with game shooting which has been enhanced by the planting of small woodland enclosures. The presence of a tower and other minor overhead power lines creates a significant area of wayleave both in and surrounding Frenich. To the east there is native woodland on the lower slopes with open hillside higher up which is used for rough domestic grazing and sporting purposes.

Drumnakyle

Within Drumnakyle there is access to an active barytes mine operated by the Aberfeldy based M.I Drilling Company who have worked this resource under licence for over 30 years. The mine site is outwith the forest area (on Foss hill) and therefore the major constraint in terms of forest management is access which is taken via a shared forest road which is taken off the B846 which runs between Aberfeldy and Tummel Bridge. Other land uses in this area include a new native woodland scheme and deer stalking on available open ground.

Kynachan

The generation of electricity is a prominent feature at Kynachan with a major switching station and infrastructure of associated overhead power lines located close to the forest block. On the margins of the forest are a number of farms and private properties including Mains of Kynachan which has shared use of the forest road.

Braes of Foss

Neighbouring Braes of Foss to the west is the John Muir Trust property of East Schiehallion which is being managed for conservation purposes and relies primarily on deer control for encouraging habitat regeneration. Access onto the mountain has in recent times been gained via a carpark on Forestry Commission ground which links with a re-routed footpath. Members of the public are charged £2.00 for parking by the Forestry Commission with revenues generated being channelled back into maintenance. To the south of Braes of Foss, a significant area of land is owned by the Dun Collich Community Land Trust who established a large native woodland protected by deer fence which marches with Forestry Commission ground. Significantly, the area surrounding Braes of Foss is also actively farmed with sheep being the dominant livestock.

Tombreck

This forest block is located next to Loch Kinardochy which is leased to a local angling association who operate a permit system for game fishing on this upland loch. Significantly, the Beauly to Denny powerline runs through the block on its western boundary with one of its towers being located on a newly created wayleave which was created in 2011.

Aquaduct

As its name suggests, the Aquaduct is dominated on its southern boundary by man made channel which takes water from the River Tummel and into a power station located below Tummel Bridge. The natural river flows around the northern part of the forest block to form a near peninsula.

Lassintulloch

External land uses at Lassintulloch are mainly agricultural use with large scale grazing by sheep being the dominant feature. A number of private residences are found close to the forest boundary which calls for careful management in respect to private water supplies.

Foss Hill

The main external land use at Foss Hill is domestic grazing and deer stalking which encompasses most of the southern boundary. Within this block is the barytes mine creating a localised industrial feel to this otherwise open, mountainous area.

3.5 Social factors

3.5.1 Recreation

The main recreation site is Braes of Foss carpark serving the most popular route onto Schiehallion.This site attracts visitors year round, frequently in the summer sees parking at capacity forcing drivers to use roadside verges to secure a space. In 2011, the existing toilet was removed for replacement in 2013 by a new style unit which will remain open year round and act as a significant enhancement in facilities for the public.

Use of the loch side at Tummel has increased over the years and has led to some problems in relation to anti-social behaviour through wildcamping, damage to trees and depositing rubbish. This situation has had a minor impact at Frenich where rubbish and defecation have been the main issues. In order to tackle this problem a multi-partner approach involving the police, Perth & Kinross Council, Forestry Commission and local landowners was started in 2011 to both educate and dissuade campers from acting irresponsibly.

At Drumnakyle, the forest road shared with M.I. Drilling is also used by Highland Safaris who use landrovers to transport clients onto this high elevation road for views across Loch Tummel and Loch Rannoch. Most of the forest blocks within the Foss plan area are used for walking by local residents who use a combination of forest roads and informal footpaths which have evolved over time.

3.5.2 Community

The main population centre for this forest plan is Tummel Bridge which is relatively central for the majority of forest blocks. Located just outside of Tummel Bridge on the B846 leading towards Aberfeldy is the Kynachan Hall which serves as a focal point for community activities. Outside of Tummel Bridge there are numerous private residences scattered within the general area of the forest plan. Community interest in local matters is high and previous public meetings held to discuss forest plans have been well attended.

3.5.3 Heritage

Within most of the Foss forest blocks, there are a number of archaeological features, of which many are significant but are not currently scheduled. In view of this rich cultural heritage, all operations in the vicinity of known features will follow the Forestry Commission's forestry & archaeology guidelines (1995). Known features will also be monitored and encroaching vegetation controlled as required.

3.6 Statutory requirements and key external policies

The forest block at Lassintulloch falls within the Rannoch and Glen Lyon National Scenic Area while Foss (hill), Drumnakyle, Kynachan and Frenich are in the Loch Tummel National Scenic Area.

The upper sections of Lassintulloch fall within the Schiehallion SSSI which also marches with Dunalastair Reservoir SSSI.

The River Tay SAC has a major impact on the forest blocks in this area as all watercourses in the Foss area form or flow into this designated watercourse.

4.0 Analysis and Concept

4.1 Analysis of constraints and opportunities

Factor	Opportunity	Constraint	Concept Development
Braes of Foss carpark	Maintain a high standard of visitor facilities and follow principles of Visitor Zone Management.	High numbers of public use the carpark during the summer months which forces drivers to park on roadside verges.	Ensure that new toilet block and associated facilities are of a high standard and in line with approved corporate branding design and DDA regulations.
Continuous cover forestry	Potential to expand areas of CCF and promote further natural regeneration for both conifer and broadleaf species.	Areas of steep ground place limitations on thinning activities.	Maximise use of hill climbing harvesters on suitable sites and an alternative to cable crane.
Black Grouse population	Protect and expand population through increase in suitable habitat where possible	Due to climate change, national black grouse populations are in a period of decline. However, at present, this is not the case for Perthshire – although vigilance must be maintained.	Monitor population, mark fences, time operations to avoid breeding season and safeguard lek sites.
Sporadic and group windthrow occurrences	Opportunity to review coupe design and increase levels of deadwood.	Re-sequencing of design plan to target significant areas of windblow. Costs involved with 'chasing' windblow and effect of removal on remaining crop.	Survey extent of windthrow and where possible include within scheduled harvesting operations. Clear wind throw and establish windfirm boundary within new or existing coupe.
Nutrient deficient areas on spruce restock areas	Increased use of pine – providing "nursing" benefits and enhancing habitat/landscape value.	Future loss of high volume species which could impact of market supply. Expense incurred with treating heather areas.	Treat checked spruce areas. Use ESC techniques to recognise these sites at time of restocking and include more pine – both in mixture and pure (Scots pine) – and reduce fallow period.

Limestone ridges	Continue to expose areas of lime stone pavement and manage locations already cleared	Available resources required to both monitor effects of clearance and remove encroaching vegetation.	Map cleared areas onto GIS data base and programme future work to maintain or expand limestone areas. Allocate funding through biodiversity budget annually for project work.
Dothistroma needle blight	Where possible, utilise other alternatives to Lodgepole Pine as nurse species and further strengthen presence of native species.	Moratorium on planting of Lodgepole Pine has been removed as of December 2013.	Monitor and map extent of disease distribution and feed data into operational plans relating to restocking in order to avert further spread. Undertake early thinning to ensure sufficient airflow in canopy which greatly reduces the influence of the pathogen.
Landscape	Continue to apply landscape sensitive management interventions through assessing/modelling future impacts before actioning operations.	Negative visual impact from poorly designed forest felling coupes in landscape sensitive areas.	Create internal and external forest boundaries which complement local and wider landscape. Ensure that consultation with FC architect is made in all aspects of forest design prior to submission of forest plan for approval
Expansion of native woodland at Foss Hill	Increase current levels of native woodland by new planting coupled with natural regeneration. Foss Hill has been surveyed and found favourable for woodland establishment.	Area is currently vulnerable to heavy deer browsing and is grazed under licence. New deer fence required to protect new planting and development of natural regeneration. Local concerns over losing open hill ground to woodland and impact on local deer population.	Seek feedback from local stakeholders. Produce a detailed planting plan based on findings from soil and habitat surveys. Ensure route of fencline is located with a high consideration to landscape and wildlife. Control deer numbers in & outside of fenceline to maintain sustainable population levels.

4.2 Concepts of the plan

Frenich

There is a diverse management requirement for Frenich which combines CCF and conventional sivlicutural regimes. Within the bounds of this plan a continuation of thinning to improve tree quality, encourage natural regeneration, enhance landscape and native woodland habitat value will be maintained. This process of thinning should also include areas of suitable mixed broadleaf woodland which have previously been omitted from significant interventions.

Drumnakyle

Increased focus will be placed on sequencing clearfell coupes on Drumnakyle's southern boundary in order to lower the treeline and CCF requirements in the forest blocks northern coupes. A large section of the forest remains outwith the design plan due to age of crop which prevents thinning at the present time.

Kynachan

In terms of management interventions, the forest block has been sequenced into two clearfell phases which are separated by a ten year period. The intention is to remove all sitka spruce and lodge pole pine while retaining residual stands of mixed broadleaves and Scots pine.

There will be a component of restocking with supplementary planting to increase diversity of native woodland using enclosures.

Braes of Foss

As with Drumnakyle, a combination of CCF and conventional silvicultural prescriptions will be applied against a back drop of large areas being omitted from the current plan due to slower growth. Within the period of this FDP, construction work on the Beauly to Denny powerline will have been completed and will constitute a significant new landscape feature which should be mitigated where possible by reviewing wayleave design.

In order to address access problems relating to harvesting operations in this block, a request to install a transfer point (TP) off the Braes of Foss public road has been made. Having such a facility will not only ensure that harvesting is more efficient but also lower levels of environment damage and safe guard the public from timber loading and stacking activities.

Further work in the vicinity of Braes of Foss carpark should be undertaken by applying "Visitor Zone" principles during planned operations on adjacent ground to Forestry Commission recreation facilities. A new forest toilet block has been installed and is in operation as of December 2013.

Tombreck

Owing to poor access and slow rates of growth, there has been no thinning undertaken at Tombreck todate. Two coupes are scheduled to be clearfelled during Phases 2 & 3 of this plan. In 2010 wayleave clearance by Scottish & Southern Energy was done on the blocks western boundary to facilitate the Beauly to Denny powerline upgrade. A spin off of this work is the retention of a new access track which terminates close to the forest edge giving improved harvesting options. It is the forest districts wish to further develop this road by creating a transfer point (TP) which can accommodate timber and allow haulage vehicles space to safely turn. An application has also been made for an additional TP in this block as a means of reducing forwarding distances and avoiding the scenario of extracted timber being channelled through one point on the blocks western edge.

Aquaduct

A significant feature of management invention within this forest block will be the clearfelling of commercially viable coupes located in natural reserve areas. Due to access difficulties, this will be carried out as a one-off operation. There will be no restocking following this operation as there are good local seed sources which should provide natural regeneration.

Elsewhere at Aquaduct, CCF prescriptions dominate in terms of silvicultural prescriptions as a means of improving tree quality, encouraging a more diverse age structure through natural regeneration and enhancing habitat value.

Lassintullich

Over this FDP, there will be a continuation of clearfelling on the southern section of this forest block, bringing down the treeline from the slopes of Schielhallion and creating a greater proportion of open ground. A consequence of this action will be expose further areas of lime-stone ridge as started under the previous plan.

There is a need in the north of the forest to begin thinning before crop sizes become too large and make the crop vulnerable to wide spread windthrow. In the same locality, previously clearfelled areas have not yet produced significant levels of natural regeneration and will be considered for restocking with native species.

In order to undertake thinning and clearfell operations in the forest blocks south-eastern coupes. A 400 meter section of new forest road is required to access coupes located away from the existing forest road network.

Foss Hill

Under the previous forest plan, Foss Hill was maintained as an open area composed of 922 hectares which is was generally devoid of woodland other than pockets of mature trees and sporadic patches of generation suppressed by browsing.

It is the Forestry Commission's intension under this current plan to take advantage of the opportunity presented by Foss Hill from a woodland perspective and expand native tree cover over part of this area by means of planting and natural generation. This increase of native woodland will greatly enhance bio-diversity by strengthening habitat networks and giving continuity in a landscape that is increasing being influenced by native woodland.

On account of the National Scenic Area designation which covers Foss Hill, careful attention has been made to detail of the new planting proposal which covers an approximate area of 100 hectares. Using soil survey data combined with ground truthing, a mosaic of planting shapes and species have been identified to compliment the immediate and wider landscape. Within the planting matrix, features such as rocky outcrops, open habitats (upland flushed fen and blanket bog) and areas where tree regeneration should occur have been taken into account. Other areas will remain open on account of poor soils. The new planting and regeneration areas will be protected by existing fencelines and a new fence which will be carefully routed to avoid being visible by keeping off prominent ridges and using the landform to hide its presence.

Located below the Foss Hill new planting area is a previously enclosed area and native woodland regeneration is occurring at a moderate pace. In order to bolster tree expansion, supplementary planting with Scots pine and other species will be is to be done to tie in existing and new planting and give connectivity within the wider landscape.

For the ground which remains above and out with the new woodland scheme, there will be a continuation of sporting management set against the back drop of the barytes mining operation which operates via a lease.

5.0 Management Proposals

5.1 Forest stand management

Stand management of Foss is split between zones of continuous cover and clear fell regimes, with thinning as a key component and areas of natural retention on account of landscape and biodiversity.

5.1.1 Clear felling

As a general rule within Foss conventional clearfell regimes, coupled with thinning, will be worked over an approximate 45 to 70 year rotation subject to yield class, location and species.

Following winter gales in December 2011, occurrences of localised windthrow have effected the forest blocks at Braes of Foss and Frenich. The scale of windthrow has been sufficient to prompt clearance on a large scale within affected coupes, resulting in a re-sequencing of planned felling dates.

5.1.2 Thinning

Thinning will be undertaken wherever possible. The basis of all thinning will be on stand basal area which will in turn determine thinning intensity and expected volume. Close on-site monitoring will be applied during the operational phase to ensure that target basal area is being reached and appropriate adjustments are made when required.

5.1.3 LISS

The LISS prescription for Foss is based on the early identification of frame trees in conjunction with removing a range of canopy classes through a number of thinning cycles to ensure sufficient natural regeneration and future frame trees are present. Designated LISS coupes are allocated bespoke thinning prescriptions via the Forest District operational Work Plan process which is actioned two years prior to work commencing.

It is expected that in some areas differing species of regeneration will be present. including broadleaves, which could potentially have an influence on future frame trees and mark a transition to more mixed woodland.

5.2 Future habitats and species

The potential for greatest change in terms of future habitats lies on the more fertile, free-draining slopes by the side of Loch Tummel where remnant semi-ancient native broadleaves area can be found.

It is envisaged that over a period of several thinning cycles an emerging component of broadleaves will develop. Some degree of intervention may be required to favour desirable species (oak, sycamore,cherry) on specific sites such as Frenich and Foss Hill.

With the proposal to undertake new planting at Foss Hill, there lies an opportunity to not only expand native woodland internally but also link with neighbouring schemes which are found both east and west of Foss Hill. This will both increase the connectivity of the wider habitat network in Tummel area as well as a more balanced landscape.

5.3 Restructuring

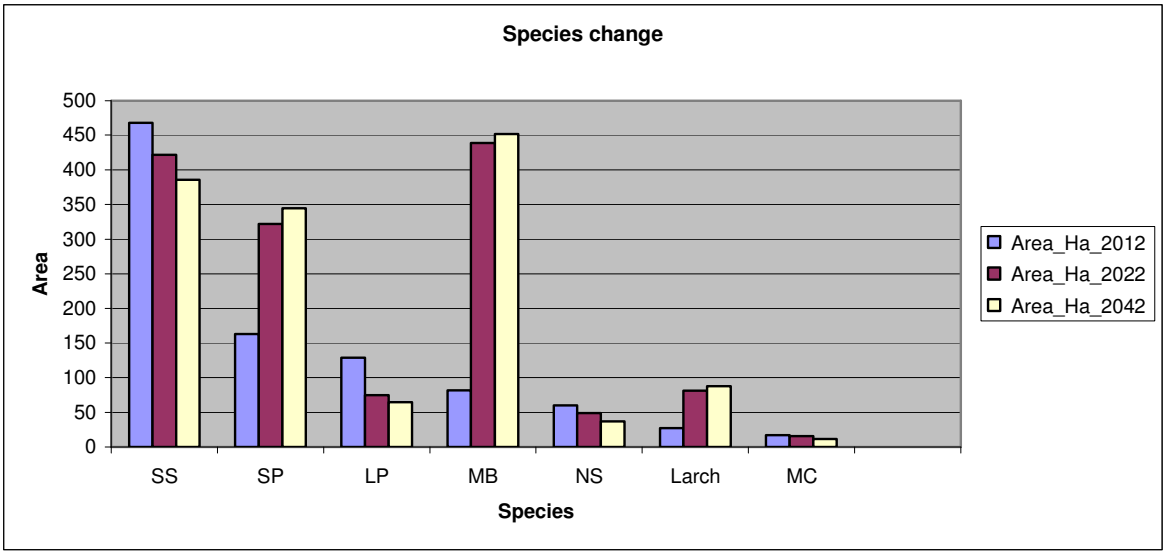
As depicted in tables 5.5 & 5.6, the general structure of Foss is set to change with a significant increase of mixed broadleaves and reduction of spruce over the next twenty year period. This is also reflected in the forests age class distribution where a large increase in trees aged between 0 and 10 ten years old is seen and set against a decrease of open land.

5.4 Future management

The most significant aspect of future management will be to incorporate areas of forest not currently included within the management plan on account of crop development. This essentially refers to areas recorded as beyond 2045 which are depicted on the management map. An other significant component for the next FDP will be bring areas under suitable thinning regimes once threshold volumes have been attained.

In terms of crop protection, regular inspection of boundary fences and particularly high elevation lines will to be undertaken. A consistent approach must also be taken with vegetation control on new planting and restock sites where a range of conditions prevail as a threat to tree development.

5.5 Species tables



5.6 Age structure

5.7 Management of open land

Open ground within the Foss FDP area is divided between higher elevation, heath, blanket bog, upland flushes, lime stone pavement and riparian zones. The heath will be managed as open ground with no significant interventions in areas not identified for afforestation other than grazing.

The riparian zones will be treated on a more realistic and biologically significant basis than in previous plans. Enrichment planting with native broad leaves and encouraging natural regeneration will eventually mean that elements of what is currently open ground will gradually have a greater percentage of native woodland.

In areas such as Lassintulloch and Drumnakyle where limestone pavement are present and have been exposed on account of scheduled harvesting operations. It is important to ensure that vegetation encroachment is controlled to avoid future of this locally valuable habitat. Other area marked as 'open' will be maintained as such through periodic interventions to control tree regeneration.

5.8 PAWS restoration

Restoration of PAWS areas is an important component of this plan and one taken as a rule in conjunction with programmed operation like thinning and to a lesser extent clearfell.

As a general rule the restoration of PAWS is a slow process which takes a series of thinning cycles to effectively expose fragile remnant trees and provide conditions suitable for regeneration to occur. The long term vision for all PAWS areas within Foss is to restore native woodland gradually through scheduled harvesting operations and deer management. These areas including gorge woodlands will subsequently act as catalysts for the expansion of native species through natural regeneration.

At Tombreck where ASNW exists, this area will be monitored on regeneration development with findings filtered into the five year design plan review to determine future management. Within Kynachan where no PAWS designation however there are good levels of mainly birch woods which carry the potential for future expansion and habitat connectivity.

5.9 Deer management

The forests within the Foss Design Plan cover some 3700 ha.The predominant species are red and roe, with sika deer expanding their range on the periphery of the design plan area from the West. The forests are enclosed with a mix of stock and deer fence, including the creation of a strategic perimeter deer fence on the higher fringes of the open hill at Foss - a prerequisite for the planned native woodland expansion.

The overall will be to continue to monitor deer populations and trends by dung counts and culls to reduce densities to less than 10/100ha. In addition, we will monitor impact of deer on young restocking, areas of natural regeneration and important habitats. All wider deer management issues will be discussed at deer management group level.

The Forest District maintains a Forest Deer Management Strategy for all its forest blocks as a mechanism for identifying deer management issues at both strategic and operational level. Feeding into the strategy is captured data from cull records, boundary fence condition, browsing impacts, and estimated deer population figures within forest blocks and on neighbouring land. This information is collected by local staff and external bodies to give a holistic view of deer dynamics effecting individual forest blocks.

5.10 Critical success factors

Success of this plan is very much dependant on the timely delivery of the key management objectives and the associated operations - be it restocking, thinning or clearfell. In terms of the LISS areas, the critical factor will be in the level of natural regeneration which develops as an understorey over a period of thinnings, what the species and stocking density will be and how recordable this data will be for future crop prediction. It is likely that local staff will have to up-skill with regard to managing natural regeneration for plotting and determining what levels of respacing should be applied to each species – all of which will take more time to manage. Given the high landscape value of Foss and its surrounding area, coupe design and timing of felling are critical in avoiding any detrimental effect to what is an iconic woodland landscape and key component of the Loch Tummel NSA. The issue of thinning on the steepest ground is a challenge given the small scale of volume and high costs involved in this operation.

Appendix I: Forest Design Plan Consultation Record

Statutory Consultee	Date contacted	Date response received	Issue raised	Forest District Response
Chris Stark Forest Authority Chris.stark@forestry.gsi.gov.uk	29/08/11	29/08/11	What type of meeting is scheduled at Kynachan Hall awareness raising or scoping?	The meeting at Kynachan Hall is a scoping meeting.
John Burrow Scottish Natural Heritage	29/08/11	12/10/11 Helen Taylor	With regard to the Schiehallion SSSI which is contiguous with Lassintulloch, continue to expose limestone pavement through grazing and re-alignment of the western fence. In order that limestone pavement and montane assemblage habitats are in favourable condition, they require grazing to keep birch and willow in check. Consider marking Schiehallion & Dunalastair SSSI boundaries on maps for clarity.	Grazing of exposed limestone pavement will limited and fall too resident deer population those numbers are controlled.In terms of scrub control of limestone pavement, this task will be undertaken mechanically following site monitoring and recording. The presence of designated sites is included within the forest design plan Key Features map.

Bruce Meikle Scottish Environmental Protection Agency	29/08/11	No response		
A Condiffe Perth & Kinross Council	29/08/11	No response		
Bruce Anderson Royal Society for the Protection of Birds	29/08/11	No response		
Alec Duthie 01887 820387 PH15 2JG	4/10/11	4/10/11	Use of Foss Hill for community based agricultural project	While the concept of a community based agricultural enterprise is welcomed. Opportunities for agriculture grazing are limited at Foss Hill on account of being marginal ground and consequently not suitable.

Attendee – Community Consultation Kynachan Hall	20/10/11	2/11/11	Previous plan has opened up forest and improved the outlook from the south of Loch Tummel. Opening up areas of spruce at Frenich to improve access and archaeological sites. More native species is appreciated. Either option 1 or Option 2 would be an improvement.	We will continue to maintain all known archaeological sites by means for cutting regenerating trees to set distances made under internal guidance notes in relation to archaeological features. Scheduled clearfell operations will facilitate the clearance around archaeological features.
Attendee – Community Consultation Kynachan Hall	20/10/11	20/10/11	Increased number of paths through Kynachan and Drumnakyle as forest is very dense. Good extension of natural forest on Foss Hill – in favour of option 2.	Options to remove dense areas of tree cover will be possible under scheduled clearfell operations which will remove exotic conifers and leave native species
Attendee – Community Consultation Kynachan Hall	20/10/11	20/10/11	Request to see thinning or clearfell within Kynachan. Preference for Option 1.	The forest block has been divided into two clearfell zones which will target spruce and lodgepole pine over two design plan phases. Tree species such as birch, scots pine and other native species will be retained and allowed to regenerate or increase through supplementary planting.

Attendee – Community Consultation Kynachan Hall	20/10/11	3/11/11	Plan to put in an all abilities route at Kynachan in order to direct hotel guests from walking on public road. Would like to see Scots Pine on Foss Hill, in favour of option 2.	This is essentially a community matter and should be discussed between local stakeholders.
Attendee – Community Consultation Kynachan Hall	20/10/11	20/10/11	Frenich – good idea to plant mixed broadleaves. Restoration of boundary dykes which are in need of repair. Tombreck – Plant mixed broadleaves to compliment Scots Pine and encourage Black Grouse. Foss Hill – Regeneration levels are sufficient not to require supplementary planting in the option1 area. If you planting takes place behind Craig Loisgate, ensure that trees are not seen on the skyline from Foss. Important to keep area around Dubh Chnocan open for aesthetic reasons.	The repair of boundary fences and dry stone walls is an ongoing operation. Identified repair work is actioned either as emergency work or as a programmed operation depending on what is required. Within the Option. One area, we would like to see an increase of Scots Pine beyond current levels. To achieve this new planting is our best option. Given the National Scenic Area designation of Foss Hill, a high level of detail will be placed on the visual appearance of any new planting. Much of the proposed planting will be hidden by natural landform and will have minimal impact with respect to the Frenich area.

Strathtay Deer Management Group	03/10/11	2/11/11	The Strathtay Hills is unusual as it has an enclosed deer population. Foss open hill forms 14% of the group area. The Strathtay Deer Mangement Group is perhaps one of the smallest areas in Scotland. Any further reduction in acreage to the extent of your proposals would have an impact on this deer population, in terms of quantum. To that extent and in view of the considerable effort which has been put into the Group over the last twenty years. We believe that it would best serve the interests of our Group were you to consider the smaller option of afforestation.	The Forestry Commission acknowledges the hard work done by the Strath Tay Deer Management Group and wishes to continue our good working relationship. From the stand point of native woodland expansion. Option 2 is a desirable path to follow on the grounds of increasing native woodland and enhancing and habitat networks. The erection of the new enclosure will still mean that over 600 hectares of ground remains open, which is significant. There will be a small impact on grazing however a significant area remains including wintering ground. The creation of new native woodland at Foss will greatly enhance the area ecologically and will compliment existing native woodland areas on neighbouring ground by increased habitat.

Strathtay Deer Management Group member	01/10/11	03/10/11	FCS need to decide whether they are interested in letting Foss Open Hill for stalking or not since if it is reduced by a further 410 hectares then the remaining ground would be unviable and act more like a corridor. The current ground also has the potential for grouse. Expansion of woodland would; • Reduce the Open Hill for the SDMG which would be unwelcome • Destroy a winter area often used by the deer at the Frenich Burn west bank • Interrupt deer passage between Lick and Foss at the north/east end	The Forestry Commission envisage a continuation of deer stalking by agreement at Foss Hill within both on the remaining open hill and within the new native woodland. The extent of disturbance to deer movement is unlikely to be significant given the scale of remaining open area which is in the region of 600 hectares within Forestry Commission ground. As a member of the SDMG, the Forestry Commission would seek to update the group on a regular basis on the new woodland project.

Attendee – Community Consultation Kynachan Hall	20/10/11	3/11/11	Option one is already fenced and would seem the most economical, sensible option. Option two The area enclosed by the new fence and the actual area planted are disproportionate with no guarantee that trees will regenerate over the remaining area. In recent times, Strathtay DMG had the second largest density of deer in Scotland. With hard work and co-operation numbers have been reduced to correct levels with sufficient grazing. Planting in the Option 2 area would have a detrimental effect on the view from Queens View to Tummel Bridge.	In terms of woodland regeneration, it is envisaged tree colonisation will take place in certain areas and not in others leaving a mosaic of afforestation and open areas. Tree density in afforested areas will be varied creating a natural woodland edge. Within the Option 1 area, supplementary planting with Scots Pine on the drier knolls will bolster tree cover at higher elevation and give greater landscape continuity.

Strath Tay Deer Management Group	19/08/12	19/08/12	The draft Forest Design Plan was presented to Strath tay DMG by FC Wildlife Manager Mark Duncan. The group were concerned over the loss of ground on both at Foss and neighbouring Glen Gourlandie and the displacement of deer from both properties.	It is important to recognise that two thirds of open area will be retained as range for red deer. The Forestry Commission will regularly monitor deer movement as part of its ongoing management and feedback to the DMG.
Strath Tay Deer Management Group - Minutes	19/08/12	19/09/12	The Forestry Commission at Foss have produced a plan for a native woodland scheme which is likely to be fenced in 2014/15 with ground preparation taking place in 2015. Approximately 1/3 of the hill will be fenced off and taken from the Deer Management area. The decision to plant follows government initiatives for more planting ground being made available.	

Appendix II: Tolerance Table

	Adjustment to felling coupe boundaries	Timing of restocking	Change to species	Windthrow response
FC Approval not normally required	0.5ha or 5% of coupe – whichever is less	Variation of less than 2 planting seasons from standard restock year, 4 years post-felling	Change within species group, e.g. conifers: native broadleaves	Up to 1.0ha
Approval by exchange of letters and map	0.5ha to 2.0ha or 10% of coupe – which ever is first		Greater than 15% species change	1.0ha to 5.0ha – if mainly windblown trees between 5.0ha to 10ha in areas of low sensitivity.
Approval by formal plan amendment	Greater than 2.0ha or 10% of coupe	Variation of greater than 2 planting seasons from standard restock year, 4 years post-felling	Increased native woodland component. Increase in native broadleaves and open/bog restoration	Greater than 5.0ha in areas of medium to high sensitivity

Appendix III. Design Plan Brief

FOSS PLAN BRIEF

The management of the Forestry Commission Scotland's national forest estate is guided by Scottish Forestry Strategy (SFS) 2006, which sets out seven key themes:-

- **Climate change**
- **Timber**
- **Business development**
- **Community development**
- **Access & Health**
- **Environmental quality**
- **Biodiversity**

Table 1. Relevant issues under the SFS and Tay Forest District Key Themes

SFS Key Themes	Relevant issues identified for Foss FDP
Climate Change	• Opportunities for contributing towards national targets for renewable energy via woodfuel. • Carbon sequestration is increased by extending low impact silvicultural systems (continuous cover forestry)
Timber	• Continue to grow quality timber sustainably • Increase the future quality broadleaved resource
Business Development	• Through timber harvesting, woodland establishment and maintenance. Continue to consider the landscape value of woodlands to tourism/recreation
Community Development	• Encourage communities who wish to become more involved in the management of, or outputs from, their local forest

Access and Health	• Maintain formal and informal access routes in all forest blocks and especially where established visitor points exist such as at Braes of Foss
Environmental Quality	• Maintain landscape by extending low impact silvicultural systems (continuous cover forestry). Continue to work with local archaeologists and Historic Scotland to protect the ancient monuments in our care. • Ensure forest & water guidelines are adhered to during operations and that appropriate machinery is employed for specific tasks • Reduce planting elevations and restock /replant with species appropriate to individual sites. • Create, develop and retain riparian corridors to improve water quality and improve habitat quality
Biodiversity	• Continue to expand native woodland through PAWS restoration • Work with SNH to protect and enhance the scheduled and locally important sites in our care. • Protect and expand limestone pavement at Lassintulloch and safeguard red squirrel population in each forest block

Table 2. Initial brief and objectives for developing management proposals

Brief	Objectives
Minimise impact of forestry on the landscape	• Appropriate coupe size, shape and sequencing • Riparian corridors
Maintain production of quality timber	• Grow high quality spruce, Douglas Fir, Scots Pine and Larch in all forest blocks through thinning where possible, applying site, species selection and ensuring that effective crop protection is in place
Maintain and enhance existing natural habitats	• convert plantation conifer to native woodland on PAWS sites • protect statutory sites according to agreed guidelines • extend locally important habitats (particularly riparian corridors) as opportunity arises through other forest operations
Preserve historic features	• protect all known features including Unscheduled Ancient Monuments