Tay Forest District

Glen Doll

Forest Design Plan

Approval date: ***

Plan Reference No: ****

Plan Approval Date: *****

Plan Expiry Date: ******

Approvals page GLM6 - Insert here and delete this page

Glen Doll Forest Plan

Detail for Environmental Impact Assessment

1.0 Site Location & Character

Glen Doll is the subject of an existing Forest Plan: T/G/00-108, signed in 19/12/2000. Glendoll is part of the Deeside and Lochnagar National Scenic Area and part of the Cairngorms National Park. The forest is directly adjacent to the Corrie Fee National Nature Reserve. The Red Craig SSSI (geological) is located partly within the forest boundary. The rivers within the Glen form part of the South Esk Special Area of Conservation.

2.0 Scheme Brief

Forest Plans are reviewed on a 10 year cycle, but the revision of this plan has been brought forward to reflect increasing demand for recreation and ongoing policy adjustments in relation to sustainable forestry. The construction of a Ranger base* beside the car park at the entrance reflects the need to improve services to the growing numbers of visitors and a growing emphasis on recreation and landscape. The potential clear felling and removal of significant areas of the existing forest presents new challenges, such as harvesting on steep slopes, restocking in an area of high deer numbers and management of the newly created open space. At the same time more and more species are being discovered in the forest, and the local importance of the area for red squirrels has been recognised.

*Not part of this plan – built by Angus Council on behalf of the partnership supporting the Angus Glens Ranger Service (Angus Council, CNPA, FCS, SNH).

3.0 Scheme Impacts

Human Impacts:

Visitor numbers are rising (75 000). New paths have been created in the lower parts of the forest and a Ranger centre is installed to meet demands. Opening up the riparian zone, and repairing and maintaining the major access paths to the mountains remains a priority. Further attention to the visual aspects from the mountains will be necessary. Recreation remains a main driver in this forest.

Flora, Fauna, Water and Soil Impacts

Opening up the clearfell areas and a flexible approach to fencing will allow more creative management of some of the edge species. It is hoped that many of the rarer species in the Corrie Fee National Nature Reserve can be encouraged to migrate into the newly opened areas. Deer control remains a major issue as, although the local Deer Management Group has significantly reduced numbers, the populations are still higher than desired for successful tree establishment. Water vole and butterfly conservation remains a priority, with close liaison with volunteer groups and professionals essential. We intend to create two forwarder routes to expand the area of thinning and continuous cover forestry - one parallel to Jocks Road and one behind the old Youth Hostel. These will mainly be constructed from branches gleaned from harvesting operations providing a thatch for machines to run on. However, some minimal excavation to remove side slope in critical pinch points will be required. Previous plans to build roads on the Moulzie side of the forest have been dropped to minimise future landscape impact. Climbing harvesters have been successfully deployed in recent operations and will be used extensively for the upper margin felling.

Archaeology/Landscape Impacts

No major archaeological sites lie within the plan. Landscape impacts will be considerable over time, with the forest edge retreating and some more natural vegetation taking over. Landscape design will be a key driver for the revision of the plan. Much of the landscape is seen from the surrounding hills, and the interior landscape is an important part of the experience for people passing through.

Contents

5.6 Age structure
5.7 Management of open land
5.8 Critical success factors

Support documents: Maps

- Map 1: Location map
- Map 2: Key Features Map
- Map 3: Analysis Map
- Map 4: Concept map
- Map 5: Proposed New Forest Edge
- Map 6: Management map
- Map 7: Future Habitat and Species Map
- Map 8: Continuous Cover
- Map 9: Thinning Map
- Map 10-16 Stages of forest edge reduction
- Visualisations

Appendices:

i) Consultation record
ii) Tolerance table
iii) Continuous Forestry and Open Space prescriptions
iv) FP brief
v) Designed open space and restock area.

Summary of Proposals:

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

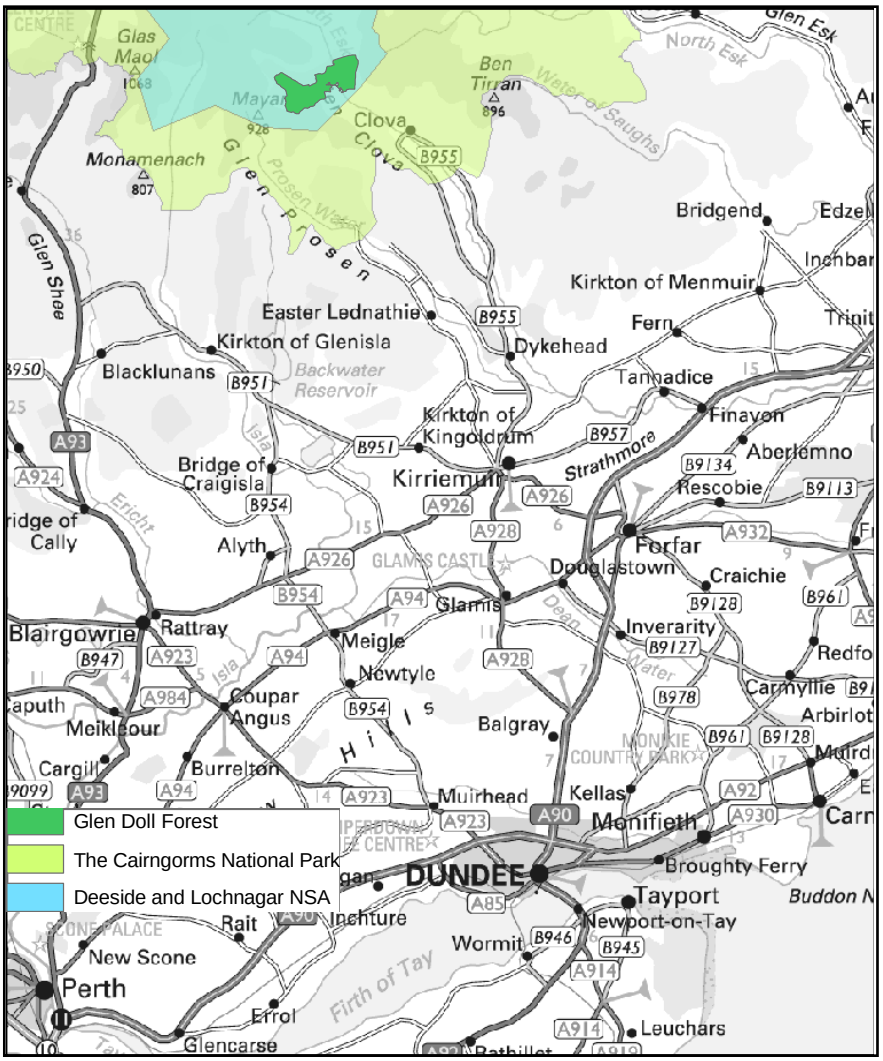
SFS Key Themes	Relevant issues identified for Glen Doll FDP
Climate Change	Some opportunities for contributing towards national targets for renewable energy via woodfuel (particularly areas of larch of very poor form) and brash harvesting. Carbon sequestration increased by extending low impact silvicultural systems (continuous cover forestry). Increase in open space, particularly the upper margins.
Timber	Continue to manage for a sustainable supply of quality timber. Establish markets for lower quality and niche market products.
Business Development	Through timber harvesting, woodland establishment and maintenance. Recognise the landscape value of woodlands to tourism. Work in partnership with local groups and the National Park Authority to promote sustainable tourism.
Community Development	Encourage communities who wish to become involved in the management of, or outputs from, their local forest. Be open to local people identifying opportunities for developing sustainable businesses.
Access and Health	Maintain formal and informal access routes to cater for all abilities and improve links to neighbouring networks. Work with partners to encourage better public transport links.
Environmental Quality	Enrich the riparian zones with more broadleaves to safeguard water quality and improve the habitat. Maintain landscape by implementing low impact silvicultural systems (continuous cover forestry). Lower the forest margin and encourage a more attractive and diverse boundary zone.
Biodiversity	Continue to expand the area of native woodland. Continue to work with SNH to protect and enhance the scheduled and locally important sites in our care, and promote the blending of the forest into the National Nature reserve. Monitor key SAP species e.g. water voles, red squirrels.

1.0 Introduction:

1.1 Setting and context

Glen Doll is situated at the head of Glen Clova and together with Glen Esk is one of the southern gateways to the Cairngorms National Park. As a gateway site, Glen Doll attracts a wide range of visitors from the summer picnicker to the winter ice-climber.

It also sits in the Deeside and Lochnagar National Scenic area and provides a striking feature on the edge of the Cairngorms massif, having been heavily influenced by past glacial activity. This steep-sided and enclosed glen provides a marked contrast to the broad, flowing landscape of Glen Clova.



Tay FD's Strategic Priorities	Relevance to this Forest Plan
Developing exemplars of multi-purpose forestry.	High – balancing recreational usage, landscape enhancement, habitat improvement and timber production.
Ensuring that local forests are an important part of the green tourism product for the area.	High – through working with local partners.
Testing and demonstrating continuous cover forestry.	Medium – the drive in Glen Doll is to find cost-effective ways of delivering this type of forestry in remoter locations (e.g. methods of working. sales strategies).
Working with communities and partners to realise the cultural heritage value of their forests.	High – ongoing work with the Glen Doll Partnership to develop a shared interpretive strategy.
Improving timber quality by maximising thinning programme.	Medium - creating forwarder routes for improving access for thinning.
Maintaining and enhancing the visual contribution of forests within National Scenic Areas and the Cairngorms National Park.	High – enhancing the external (upper margin) and internal views are important aspects for future management proposals.
Delivering high quality recreation experiences for locals and visitors.	High – maintaining the shared Ranger Service, recently created infrastructure (paths, bridges and Ranger Centre), key facilities (car park, picnic area and forest walks) and installing improved interpretation.
Playing a leading role in expanding the national forest estate in the lowlands.	High – increase in open space offset by planned plantings near Alyth and Dundee.

1.2 History of plan

Glen Doll is the subject of an existing Forest Plan: T/G/00-108, signed on 19/12/2000. Glendoll is part of the Deeside and Lochnagar National Scenic Area and part of the Cairngorms National Park. The forest is directly adjacent to the Corrie Fee National Nature Reserve. The Red Craig SSSI (geological) is located partly within the forest boundary. The original plan was quite radical in its landscape led proposals for bringing the upper tree line down the hill. This work is on schedule and this plan continues that ethos with limited changes to the original proposals.

Instead it shows a refining of the objectives, and some further adjustments to the forest edge.

2.0 Analysis of previous plan

2.1 Analysis from previous plan

The previous plan was quite radical in its proposals for dealing with the upper margins of the forest. These were driven by the landscape led need to deal with the unsympathetic forest edge as seen from the mountains and to provide more attractive and diverse transitions from the forest to the surrounding open land. Much of this upper margin planting is unproductive in terms of poor tree growth, species selection and habitat. The riparian zone proposals for Low Impact Silvicultural Systems were also quite radical for the time and still stand up, so little has been done to change these proposals. The establishment of a footbridge over the White Water has provided an alternative access to the hill to Jock road and so enabled some larger coupes to be designed, to expose some of the scree slopes in the north, while minimising disruption to recreational access. The forest edge has been re-designed in several locations, and the policy of retaining Scots pine stands where possible has been strengthened. Apart from this, and the establishment of a new Ranger Centre in the car park, no serious changes have been made as most of the proposals established in the previous plan are still seen as quite robust.

3.0 Background Description

3.1 Physical site factors

3.1.1 Geology Soils and landform

Glendoll Forest is located at the head of Glen Clova around the confluence of the River South Esk and the White Water, on the lower slopes of an area of mountain and moorland known as the Mounth (see Map 1: Location map). The glen forms a striking feature on the edge of the Cairngorms massif, having been heavily influenced by past glacial activity. This steep-sided and enclosed glen provides a marked contrast to the broad, flowing landscape of Glen Clova. The Red Craig SSSI is located partly within the forest boundary.

3.1.2 Water

Two private water supplies arise within the forest (see Map 2: Key features map). One supplies the Lodge, the new Ranger base, and the houses at Acharn. The other serves the Boys Brigade Hostel and the Cairn Dearg Mountaineering Club hut. The South Esk and its tributaries are part of the South Esk Special Area of Conservation. There are several burns running down the steep slopes, and the two main burns are a strong feature of the attraction for walkers.

When felling and restocking are carried out the Forest and Water Guidelines (3rd Edition) will be strictly adhered to. Timber extraction will normally avoid crossing the burns or main drains but, where necessary, each crossing point will be piped or bridged. Branches will be kept out of watercourses and trees will generally be felled away from the watercourses. When restocking, planting will normally be kept back from the watercourses, although broadleaves may be planted or regenerated to provide dappled shade. In order to harvest successfully the areas around Jock's Road temporary bridging will be necessary.

3.1.3 Climate

The climate can be severe, and the changes can be rapid. At the edge of the forest the trees approach the limit of 600m, and growth is therefore slow. The retraction of the forest edge will help to ensure that all the restock trees will show better health and growth. In the past the glen was often blocked by snow; but over the past few years there have been very few days when access was impossible.

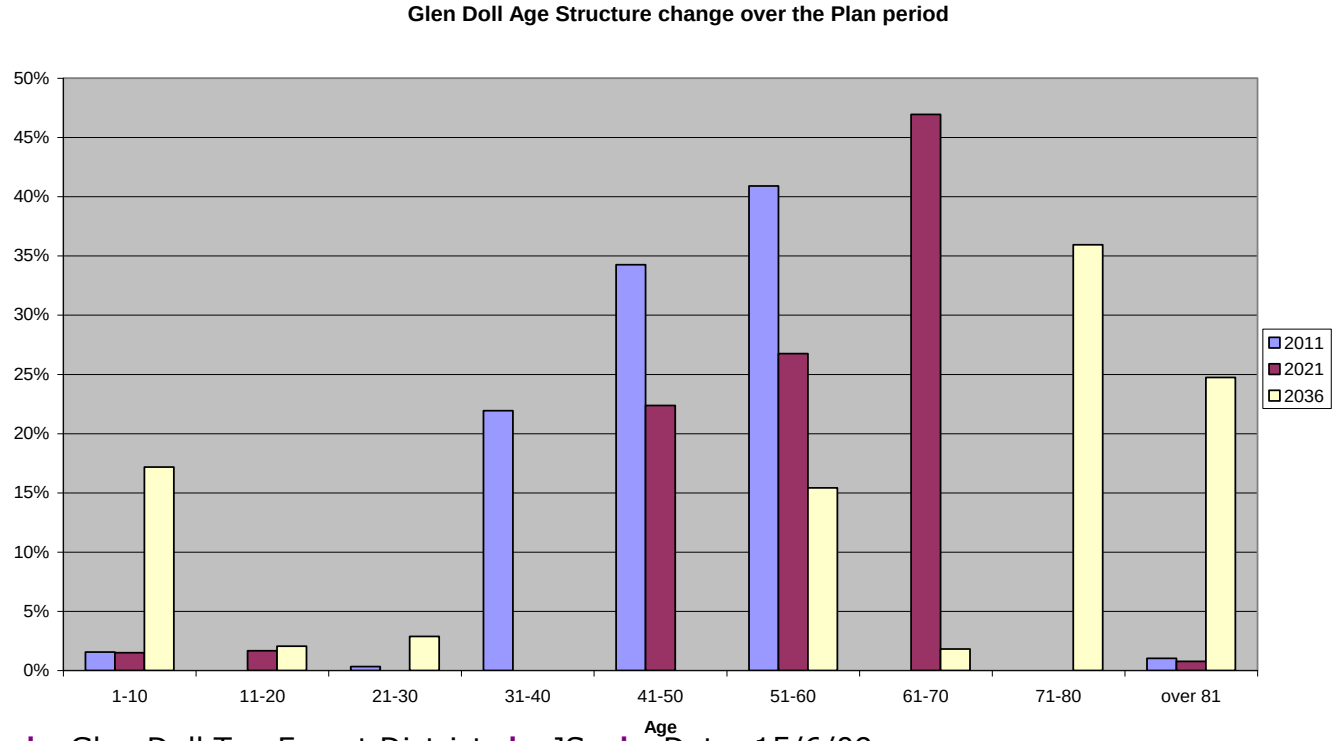
3.2 Biodiversity and environmental designations

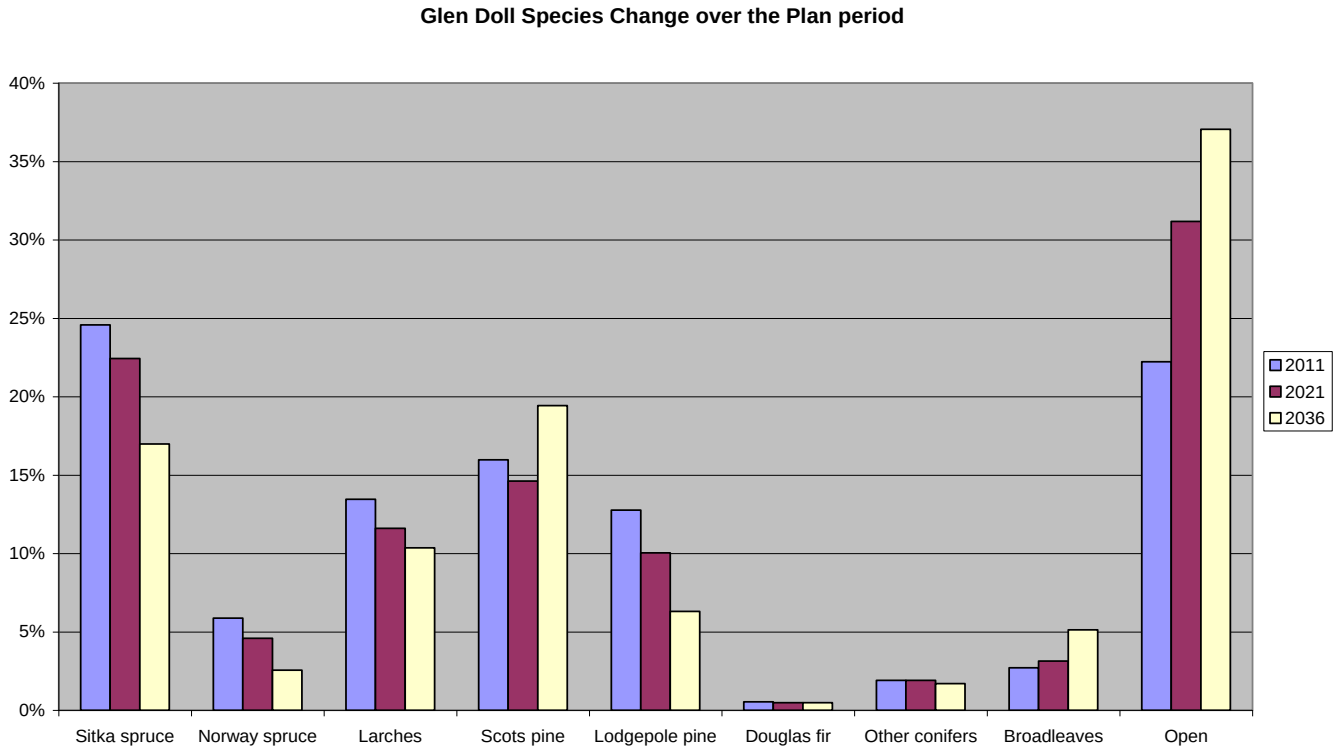
The forest area is considered to be of high conservation value. Much of the floral interest is concentrated along the riparian zones and includes species such as spignel, lesser twayblade, frog orchid and bugle. Twinflower, a nationally rare plant subject to a Species Action Plan, has an established habitat on the upper margins of some north-facing areas of the forest.

The forest edges provide habitat to birds such as black grouse, golden eagles and several small bird species as part of their habitats. There is also a good range of forest and riparian fauna, such as dippers, crossbills, red squirrels, wildcats, otters, water voles and adders. There are a wide range of butterflies (e.g. painted lady, small pearl-bordered fritillary, green-veined white, small heath and meadow brown), moths (e.g. northern eggar) and other invertebrates (e.g. large red damselfly). Amphibians are present in many of the wetter areas. There is a large resident red deer population and much movement of deer through the older fence sections.

3.3 The existing forest

3.3.1 Age structure and species





Species and Open Space over the Plan period	2011 ha	2021 ha	2036 ha
Sitka spruce	173	158	119
Norway spruce	41	32	18
Larches	95	81	73
Scots pine	112	103	137
Lodgepole pine	90	71	44
Douglas fir	4	3	3
Other conifers	13	13	12
Broadleaves	19	22	36
Open	156	219	260
Total	**702**	**702**	**702**

The main changes will be a widening range of age classes, with significant areas of older trees on the lower areas. In due course these should shelter a younger generation of trees as well – following the "drawing-in" of the forest and the long-term plan to provide a secure march deer fence at a lower elevation. There will also be an increase in Scots pine, broadleaves and open space with corresponding reductions in spruce, larch and lodgepole pine.

3.3.2 Access

Several main access routes traverse the forest. (See Map 2: Key features Map). Jock's Road is one of the most historically important; but all the routes are regularly used throughout the year in all weather conditions. Around 6 000

people per year go through the forest heading for the high ground. There are also four waymarked forest walks, and the intention is to expand their number during the period of the plan. Total visitor access through the car park is in the region of 65 000 per year, and throughout the seasons there is a steady flow of people.

3.3.3 LISS potential

Much of the older woodland around the Lodge has high potential for conversion to continuous cover forestry (LISS). The riparian zone and the surrounding Scots pine are also candidates. Further up the glen the potential diminishes; but there are still areas of Scots pine especially where they have been stabilised by thinning that offer long term potential. Some areas (e.g. north-western stand of Scots pine above Moulzie) will be set aside as areas of minimal intervention.

3.4 Landscape and land use

3.4.1 Landscape character and value

Most of the character of the landscape is visible from outside the forest, and close attention has been paid to the creation of a semi-natural forest edge. The internal landscape is also important to visitors and the creation and maintenance of an attractive riparian zone is of high priority.

3.4.2 Visibility

The forest sits in a steep-sided glen, and is not readily visible except as detailed above. (See Visualisations)

3.4.3 Neighbouring land use

The main neighbouring land use is deer stalking, though some farming takes place around Acharn. The transition from farm to forest to hill ground is quite striking, and adds to the interest of the area. The National Nature Reserve in Corrie Fee is managed to preserve biodiversity and rare alpine species.

3.5 Social factors

3.5.1 Recreation

One of the main drivers of the plan is the recreational potential of the site. The establishment of the Angus Glens Ranger Service Base is an example of the importance of this location. While resources will limit the expansion of facilities in the near future, care must be taken to ensure that the public is well catered for. We will continue to play an active role in the strong local partnership between SNH, Angus Council, Cairngorms National Park Authority and Forestry Commission Scotland, with input from local people and the mountaineering groups, to ensure a consistent approach to the necessary provision. The

capacity of the car park at Braedownie is reasonable but not big enough to meet peak demands. However, no major expansion plans are envisaged - except the creation of another short forest walk up to the viewpoint on existing tracks.

3.5.2 Community

The small local community has been very supportive and is directly involved in the informal partnership mentioned above. This has been successful on a strategic level - making sure that all are informed, and involved, in current and future developments.

3.5.2 Heritage

There are no major monuments or physical remains within the glen; but it has great social importance to many people. Firstly, due to the presence of Jock's Road, which was the first in a line of legal victories during the development of Scotland's unique approach to access. Secondly, is the strong attachment many people feel for the area, in some cases stretching over two and three generations.

3.6 Statutory requirements and key external policies

There are many designations in Glen Doll. The whole area lies within the Cairngorms National Park and is part of a National Scenic Area. The river system is part of the South Esk Special Area of Conservation. The forest borders on the National Nature Reserve in Corrie Fee, and the Red Craigs Site of Special Scientific Interest lies on the southern edge. (See Key features Map 2)

Proposals to increase the amount of designed open space must take into consideration the Scottish Governments policy on Woodland Removal.

The following indicators of acceptability increase the public benefit of the proposed increase in open space.

Enhancing nationally important landscapes
Unsympathetic straight edges along the upper margins of the forest were identified as a priority for action by stakeholders during the consultation process. These areas were considered to significantly reduce the landscape value of the area, especially when viewed from outside the boundary on higher ground. Landscape designations outlined above reinforced this need and a process of adjustment to the current tree line was agreed and put into action over the last plan period. The high level fringes of poor quality lodgepole pine and Sitka spruce have been very susceptible to winter snow damage - subsequent re-growth and seeding would leave a legacy of highly visible poor quality trees with few options

for future management. Clear felling to redesign the upper margin will create a new forest edge sympathetic to this nationally important landscape.

Increasing the quality of Scotland's woodland cover
Poor quality Lodgepole pine and Sitka spruce in the upper margins has very little economic or environmental value. As a timber crop it is only be suitable for wood fuel markets, however the steep terrain associated with scree and boulder slopes make timber production in these areas unsustainable. From a productive timber stand point the growth rate of trees in these areas is so slow that any commercial plantation will never meet the requirements set out in the UK Forestry Standard. Whilst the retention of these areas would maintain woodland cover this benefit would be outweighed by the negative impacts of unwanted regeneration. The only tree species capable of surviving the combined effects of climate and altitude are alpine varieties found growing in the steep rock outcrops of Corrie Fee. One of the main factors to the continued survival of these trees is the protection from deer browsing offered by this inaccessible terrain. In order to replicate this across the remaining upper margins would necessitate either complete deer fencing of the march or the installation of fenced enclosures. The first option has been rejected primarily as the construction and maintenance of fences in these areas has proved unsustainable in the past due to rockslide and snow damage. The success of small scale enclosures would also be limited by high deer numbers along the upper boundary making the continued survival of regeneration unlikely. This plan aims to retain existing groups of Scots pine on the upper margins, complemented by planting of broadleaves in enclosures along adjoining burnsides where deer pressure is lower and ongoing removal of regenerating non-native conifers where it threatens native species or compromises the landscape. This should provide a higher elevation native woodland to enhance the overall environmental value of the forest and provide an attractive upper margin.

4.0 Analysis and Concept

4.1 Analysis of constraints and opportunities

The Map 3: Analysis map and the table below show the factors which, through our consultation and review, have significantly influenced the design and long term vision of this forest.
The main issues are:

- Landscape – primarily the straight unsympathetic upper margins
- Trees planted too high for timber production

- High deer populations and a high fence line vulnerable to avalanche and landslide
- High working costs due to remote location and poor county road access
- High recreation, landscape and conservation importance

4.2 Concepts development

Map 4: Concept map and Map 5: Proposed New Forest edge, together with the table below show how the how the issues raised in the analysis are being addressed.

Maps 10-16: Stages of forest edge reduction, demonstrate how sequential clear felling and restocking over a 60 year period creates the new upper margin of the forest.

The table found in Appendix V Designed open space & restock area, shows the area breakdown of restocking and planned open space for each felling phase over the 10year period of this plan.

In summary:

- The upper margin proposals from the last plan have been kept with some refinements, such as the scale changed to help resolve some of the fencing and harvesting logistical issues.
- The plan proposes to improve the internal forest views and the approaches to Corrie Fee, the forest edge on and above Jock's road, the Kilbo path and the Capel Mounth to create a more natural transition from forest to hill.
- The concentration of continuous cover forestry in the riparian and main recreation zones will consolidates a stable and attractive core of productive timber and wildlife habitat.

Factor	Opportunity	Constraint	Concept Development
High Conservation and recreation importance	Develop good working partnerships, and increase educational value	Work plans will need careful planning and consultation. Recreational usage all year.	Development of forest edge. Focus on riparian LISS. Development of study areas
Distance from markets	Small scale working within the glen. Development of local uses	Very difficult marketing situation and low prices.	Larger coupes and thinning combined with clearfelling to attract buyers.
Adverse landscape impacts	Liaison with other interests, such the Mountaineering Council for Scotland and the Scottish Wildland group.	Coupe shapes very important, difficult harvesting access and high costs.	One forwarder track proposed. Future felling eased by establishment of alternative routes with consultation. Improvement of forest edge and clearance of scree slopes.
Current forest beyond the climatic boundary for good timber production	Reduce forest edge. Greater chance to establish other species	Difficult to market low grade timber, timing and size of coupes critical	Larger coupes and sensible arrangement of felling years. Concentration on CCF and establishment of commercial conifers only where good growth is feasible
High deer population within the wood and outside.	Joint working with neighbours and local Deer Management group	Difficult to establish the softer species without fencing. A full scale deer fence is not possible until the full forest edge is established.	Focus on CCF areas and fence restocks where necessary. New fence lines to be carefully sited to avoid landslides and to merge in with changing forest edge

5.0 Management Proposals

5.1 Forest stand management

5.1.1 Clear felling

The felling coupes (see map) have been slightly changed since the original plan, mainly to ensure proper sequencing and minimise disturbance to the recreational use of the forest. The deforestation proposals will make future management of the felling less problematic. There is one new forwarder track proposed, and there are several possible temporary bridging sites proposed across the Whitewater burn. Areas not accessible to machinery will be hand felled over a longer period.

5.1.2 Thinning

Thinning will not be confined to the continuous cover areas. Wherever possible, crops including Larch and Scots pine will be thinned. See Map 9:Thinning Map.

5.1.3 Continuous Cover Forestry (CCF)

The management of the CCF areas is as follows: (see Continuous cover map 8)

Area number	CCF type	Management prescription
1 see CCF map 8	Irregular shelterwood	Continue conventional thinning where possible. Cycle of around 7 years. Isolate and fell around areas of Scots pine and larch. Conversion period around 90 years. Clear riparian zone and thin to improve views
2 see CCF map 8	Irregular shelterwood	Conventional thinning should continue for some cycles. Open up riverside and path to NNR. Cycle around 7 years, conversion period around 80 years. Possible establishment of broadleaves in fenced exclosures.
3 see CCF map 8	Irregular shelterwood	Good candidate for continuous thinning on grassy slopes. 7 year cycle. Conversion period around 70 years. Forest edge will need particular attention.

4 see CCF map 8	Irregular shelterwood	Forest along Jock's road and the river. Conventional thinning on around 7 year cycle. Emphasis on retaining Scots and Larch. Close attention should be paid to the internal views and the riparian zone. Conversion period around 100 years.
5 see CCF map 8	Irregular shelterwood	Contains several excellent specimen trees, and some exotic conifers. Regeneration will need to be carefully managed to ensure acceptable species choice. Conventional thin in other areas with a 7 year cycle. Conversion period varies from 40 to 80 years. New forwarder track will allow access.

5.2 Future habitats and species

The restructuring of the forest will undoubtedly have an effect on many of the current habitats. The loss of large quantities of low value conifers should not have a major impact, indeed the survival of the twinflower in harvesting brash has already been observed. The upper slopes should revert to vegetation similar to that on the surrounding hills. The Forest Edge Group has come up with several proposals to deal with the deforestation; but these will need ongoing careful consideration before and during implementation. The riparian zone should be enriched with the removal of some of the riverside spruce, and the increased light and planting of native broadleaves should create greater diversity.

Continuous cover within the main red squirrel areas should ensure maintenance of the population, and the increase in coning as the Scots pine areas mature will also help supplement the seed sources from other species (most notably Norway spruce).

5.3 Management of open land

The management of the open land created by the deforestation proposals will be one of the main objectives during the plan period. A Forest Edge group was formed in 2006 to discuss the options, (see Appendix I). Careful study and wide consultation have taken place, and some of the conflicting views have been resolved. Most of the open land will be allowed to revert to a semi-natural state over the plan period. Any significant regeneration of potentially invasive non-native conifers, such as Lodgepole pine, will be removed, and small fenced

exclosures will be used to establish seed sources of preferred species along the burnsides

5.4 Deer management

This is a significant issue that will be addressed in several ways. The deer population in the surrounding hills is high, and the lack of a deer proof fence around the whole forest will mean that, in the medium term, new restocking areas will need to be individually fenced. Once the major felling is complete, a new outer fence line at a lower level will be feasible and remove the need for fencing individual restocks. There is a Section 7 agreement on the whole of the Deer Management Group area (for the whole of the Caenlochan) and we are working in conjunction with our neighbours to make this effective.

5.5 Critical success factors

1. Resources - the distance from markets, the poor quality of some of the timber and the constraints of a single-track public road, mean that some of the felling proposals may not be met without considerable input.
2. Deer control - it is vital that during the period of reducing the forest edge the deer are prevented from damaging restocking by a combination of short-term fencing and culling. Once a secure and practical forest edge has been attained a new ring fence should be a possibility - resources permitting at that time.
3. Bridging - removal of the forest on the Jock's Road side of the glen beyond the main forest road will, sequentially, entail the construction of several temporary bridges over the White Water. This is essential to deliver the felling and future forest plans in this area while minimising the impact on Jock's Road.

Appendix I: Forest Design Plan Consultation Record

Statutory Consultee	Date contacted	Date response received	Issue raised	Forest District Response
SEPA Tony Allan	28/5/07	19/6/07	South Esk SAC	Water guidelines will apply. Further consultation about bridging sites.
RSPB Suki Fleming	28/5/07	19/6/07	Not present	No issues
SWT Bob Fryer	28/5/07	19/6/07	Enrichment of riparian Zone with native species	Included in the plan
Scottish Native Woods. Victor Clements	28/5/07	19/6/07	Further establishment of native woodland in new forest edge	Forest Edge group set up to discuss and recommend proposals. (see attached minutes)
FCS Hazel Maclean	28/5/07	19/6/07	Deforestation	New planting will take place elsewhere in the district
Angus Council Mick Pawley	28/5/07	19/6/07	Provision of recreation	New Ranger base to be built and new walks established.
Ramblers Assosciation Mike Whitehead	28/5/07	19/6/07	Improvement of main transit paths through the forest	Path maintenance scheduled. Clearfell adjusted to leave Kilbo clear.
SNH Shona Hill	17/9/09 Drop in meeting in Ranger centre	17/9/09	Concerned about details of access to NNR	Plan amended to take into account entrance to Corrie Fee through the existing forest

Statutory Consultees	Date contacted	Response date	Issue raised	Forest District Response
Dougal Roy Mountaineering Councill of Scotland	11/7/06	11/7/06	Concerned about landscape from above, and access during felling	Forest edge shaped to be seen from the mountains, bridges to make sure diversions are a minimum
Glyn Jones Balmoral Estate Ranger	11/7/06	11/7/06	Deer control and stalking on the northern flank. Forest Edge group member	Forest edge and fencing issues discussed and agreed
Stewart Roberts Angus Council Planning	10/6/06	17/7/06	Possibility of EIA and recreational issues	EIA designation decision applied for. New recreation routes discussed and agreed
Richard Thomson FCS Ecologist	11/7/06	17/6/06	Member of Forest Edge group, concerned with management of clearfelled area	Several proposals from the Forest Edge group discussed and agreed (see attached minutes)
Alan Ross Scottish Nature	10/6/06	17/6/06	Concerned about amphibians on new road and track lines. Butterfly surveyor. Forest Edge group member	New tracks to be examined and amphibians relocated.
Forest Edge group met 4 times to discuss treatment of the forest upper margin.	11/4/06 11/7/06 13/10/06 15/03/07	11/4/06 11/7/06 13/10/06 15/03/07	Many issues raised and discussed: How far to take the forest back? Should we expose the scree slopes and risk further erosion? Is it possible to encourage the alpine species on the cliffs to migrate lower down? Should the glen be forested at all? What is the best policy for the deforested areas?	General agreement on the plan forest edge slightly amended at the Kilbo path. Scree slopes to be exposed and Scots pine groups to be left. No species gardening proposed. Fencing of restocks agreed. Retention of core forest and productive conifers agreed.

Appendix II: Tolerance Table

	Adjustment to felling coupe boundaries	Timing of restocking	Change to species	Windthrow response
FC Approval not normally required	0.5 ha or 5% of coupe – whichever is less.	Variation of less than 2 planting seasons from standard restock year, 4 years post-felling.	Up to 5% species exchange	Up to 1.0 ha.
Approval by exchange of letters and map	0.5 ha to 2.0 ha or 10% of coupe – whichever is less.		>15% species change	1.0 ha to 5.0 ha – if mainly windblown trees. Between 5.0 ha to 10.0 ha in areas of low sensitivity.
Approval by formal plan amendment	Greater than 2.0 ha or 10% of coupe.	Variation of greater than 2 planting seasons from standard restock year, 4 years post-felling.	Change from broadleaf to Conifer	Greater than 5.0 ha in areas of medium to high sensitivity.
			Reduction in native broadleaves by >5%	
			Reduction of >10% of productive net area	

Appendix III: Continuous Forestry and Open Space prescriptions

Plan ref and compt range	**FCIN 40 Score**	**Reason for selection**	**Long-term structure* or objective** and expected species**	**Silvicultural system**	**CCF: Rotation/ Conversion /Return period (years)**	**BLVD: Target tree cover (%) – Timescale (years)**	**Observations** (e.g. likely barriers to achieving objective)	**Next treatment required**	**Proposed monitoring**
1 Cpts 4012 4013 See Map 8: CCF	G3	Potentially stable, but under thinned SP/EL in the riparian zone. Important internal views from recreation routes	Simple SP/EL/BLs	Irregular shelterwood	150/90/7	10% 50 years	Deer	Isolate and fell around areas of Scots pine and larch.	Next FDP review
2 Cpts 4015 4016 Map 8: CCF	G3	Potentially stable, but under thinned SP/EL in the riparian zone. Important internal views from Corrie Fee access	Simple SP/EL/BLs	Irregular shelterwood	130/80/7	10% 50 years	Deer	Heavier thinning on riverside and path to NNR. Introduce broadleaves in fenced exclosures	Next FDP review

Plan ref and compt range	**FCIN 40 Score**	**Reason for selection**	**Long-term structure* or objective** and expected species**	**Silvicultural system**	**CCF: Rotation/ Conversion /Return period (years)**	**BLVD: Target tree cover (%) – Timescale (years)**	**Observations** (e.g. likely barriers to achieving objective)	**Next treatment required**	**Proposed monitoring**
3 Cpts 4017 4018 Map 8: CCF	G2	Stable and slightly better thinned. Important internal views for the Kilbo and Corrie Fee access	Simple SP/NS/larch/BLs	Irregular shelterwood	130/70/7	20% 50 years		Introduce broadleaves in fenced exclosures	Next FDP review
4 Cpts 4007 4009 4012 Map 8: CCF	G3	Forest along Jock's road and the river. Emphasis on retaining Scots and Larch. Close attention should be paid to the internal views and the riparian zone.	Simple SP/EL/BLs	Irregular shelterwood	150/100/7.	20% 50 years		Introduce broadleaves in fenced exclosures	Next FDP review
Plan ref	**FCIN**	**Reason for**	**Long-term**	**Silvicultural**	**CCF:**	**BLVD:**	**Observations**	**Next**	**Proposed**

and compt range	**40 Score**	**selection**	**structure* or objective** and expected species**	**system**	**Rotation/ Conversion /Return period (years)**	**Target tree cover (%) – Timescale (years)**	(e.g. likely barriers to achieving objective)	**treatment required**	**monitoring**
5 Cpts 4003 4006 Map 8: CCF	G3	Contains several excellent specimen trees, and some exotic conifers. Regeneration will need to be carefully managed to ensure acceptable species choice.	Simple MC/MB Complex MC	Irregular shelterwood Single tree selection	150/80/7 100/40/7	20% 50 years		Introduce broadleaves in fenced exclosures. Identify specimen trees	Next FDP review
6 Cpts 4005	G4	Very visible on the approach to Glen Doll	Simple SS/NS/HL/MB	Irregular shelterwood	150/100/7	20% 50 years	Fairly steep	Favour broadleaves and maintain the diversity.	Next FDP review

Appendix IV. Design Plan Brief

Brief	**Objectives**
Minimise impact of forestry on the landscape and increase recreation potential	• reduce forest area for better fit with the landscape • extend low impact silvicultural systems (continuous cover forestry) in the riparian zones especially • introduce structural diversity by replanting and reshaping coupes whilst maintaining a distinctive age difference between adjacent coupes, and increase visual pleasure for visitors
Maintain production of quality timber	• carry out continuing programme of thinning and clearfell • restock according to good silvicultural practice for species selection and planting density • develop more broadleaved woodland for timber sales • establish good practice for deer control and fencing
Maintain and enhance existing natural habitats	• protect statutory sites according to agreed guidelines within the National Park • extend locally important habitats (particularly wetlands, open space and for Black grouse) as opportunity arises through reduction of the forested area • increase access for visitors to the National Nature Reserve and other sites

Appendix V. Designed open space and restock area

Felling Phase		Felling Coup Area ha.	Restock area ha.	Designed open space
1	2010-2014	24.8	10.03	14.8
2	2015-2019	75.6	36.7	38.9
3	2020-2024	91.2	43.9	47.3
4	2025-2029	58.7	30.1	28.6
5	2030-2034	62.8	29.7	33.1
6	2035-2039	74.7	24.4	50.3
7	2040-2044	5.7	5.3	0.4
After 2045		74.9	58.9	16
Totals		468.4	239.03	229.4