CORROUR ESTATE

FSC MANAGEMENT PRINCIPLES

July 2010

Contents

1 Property Details

1.1 Owner

The Corrour Property Company
c/o The Estate Office
Corrour
by Fort William
Inverness-shire
PH30 4AA

1.2 Agent and Main Contact

Corrour Lands Limited
The Estate Office
Corrour
by Fort William
Inverness-shire
PH30 4AA
Email philip@corrour.co.uk

1.3 Payee

The Corrour Property Company
c/o The Estate Office
Corrour
by Fort William
Inverness-shire
PH30 4AA

1.4 Forestry Commission Conservancy Office

Highland & Islands Conservancy
'Woodlands'
Fodderty Way
Dingwall
Ross-shire
IV15 9XB

2 Long Term Policy Statement

The last twelve months has seen a rapid expansion, through acquisition, of the forestry interests of Corrour Estate, rising from approximately 500 hectares in 2009 to a total of almost 4000 hectares in 2010.

These acquisitions have brought with them a realisation that woodland management on the Estate must now take a much more structured form

and approach. The Estate Management team have therefore begun the process of bringing all the woodlands into the recognised Forestry Commission Long Term Planning process. This plan represents the first step in that process, and aims to achieve certification under the Forest Stewardship Council scheme, to validate the Estate's management approach, systems and procedures.

The next stage in this process will be to extend FSC certification to cover other Estate woodlands, summarised in Table 1 below. In parallel to this, further intensive planning work will be carried out over the remainder of 2010 and into 2011 to provide the level of detail required to gain Forestry Commission approval of an Estate-wide Long Term Forest Plan. Therefore this document very much represents our starting point, and seeks to set out the aims and objectives, together with the methodology and reasoning, behind our forestry management ethos.

Table 1: Corrour Estate Woodlands		
Name	**Type**	**Area (Ha)**
Loch Ossian	Mixed amenity plantation	512
Treigside	Naturally regenerating native broadleaves	690
Corrour Forest	Conifer plantation	2615
Inverlair	Conifer plantation	647
Total		**4464**

NB. This plan covers *only* Corrour Forest.

3 Site Description

Source Material - Information has been gathered from a variety of sources, including the woodlands previous owner, available legal documents, site surveys and consultation with neighbours and statutory bodies. All available information is recorded on file or in the woodland database, and is readily available via the Estate Office.

3.1 Physical description

Location

Corrour Forest sits in Gen Spean in the district of Lochaber. It forms part of broken woodland cover stretching from Fort William in the west, to Newtonmore and Speyside in the east. Appendix 1 shows the detailed location of the forest within Glen Spean, adjacent to the main A86 trunk road.

History

The forest dates largely from the 1960s and 70s when the site was under the ownership of the Forestry Commission, although small fragments to the west represent earlier plantings when under private ownership.

Access

Appendix 1 shows the main access point at NN 432 830. This is directly onto the main A86 trunk road, which is an Agreed Route under the Timber Transport Agreed Routes framework. The access is shared with a number of third parties, and is also the main access for the wider Estate. Unsealed forest roads provide internal access and where shown as Cat1a on Appendix 1, are capable of handling 44 tonne timber lorries.

Topography and Elevation

The forest's northern edge borders the Laggan reservoir, at an elevation of some 250 metres above sea level. It then slopes gently upwards to the south, flattening out at around 320 metres above sea level. Within this, the unplanted peak of Meall Luidh Mor rises to 514 metres towards the eastern edge of the forest.

Geology and Soils

The wider district of Lochaber has a rich and varied geological heritage spanning millions of years. Underlying rock formations reflect a history of mountain building and volcanic activity, with granites predominating, interspersed with hardened outcrops of schist, formed from metamorphosed sedimentary rocks dating back some 1000 million years. This, when allied with the topology and climate, produces highly acidic, anaerobic soil conditions, with large areas of blanket peat bog, interspersed with peaty gleys and peaty podzols. Many of the more poorly drained areas have produced trees with very poor vigour. A soils map is included in Appendix 12.

Watercourses

There are no major water courses running through the forest, although the block is bounded to the west by the River Treig for a short distance, and to the east by the Abhainn Ghuilbinn. A number of smaller burns drain the area, including the Allt Creaga na Seabhaig, the Allt Lorraich, which is the main drain, running south to north, and the Allt no Feithe Buidhe. All of these water courses are captured and feed the RioTintoAlcan hydro-electric scheme at Fort William.

3.2 Woodland Cover

Please refer to Appendix 2 and Appendix 3.

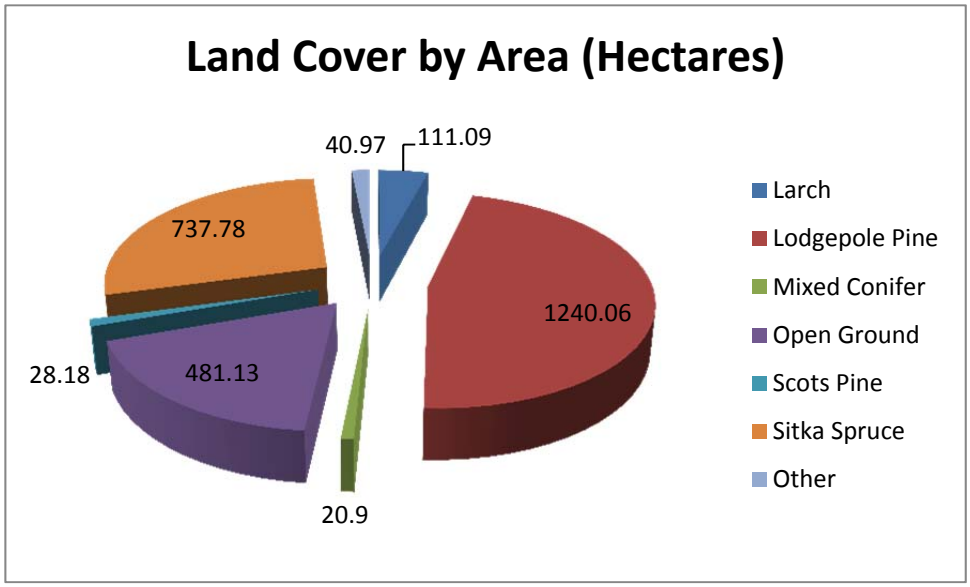

Figure 1: Tree cover and open ground

Figure 1 above shows tree cover and open ground within the forest. 46% of the forest is made up of Lodgepole pine, with 27% Sitka spruce, and 18% open ground. As already stated, the bulk of the forest was planted by the Forestry Commission in the late 1960s and throughout the 1970s, and this is shown dramatically in the age-class structure shown in figure 2 below. This figure illustrates that almost 63% of the tree cover was planted between 1970 and 1975, resulting in a largely even-aged structure. This is further illustrated in Figure 3 below, which gives the detailed area for each year of the 1970s.

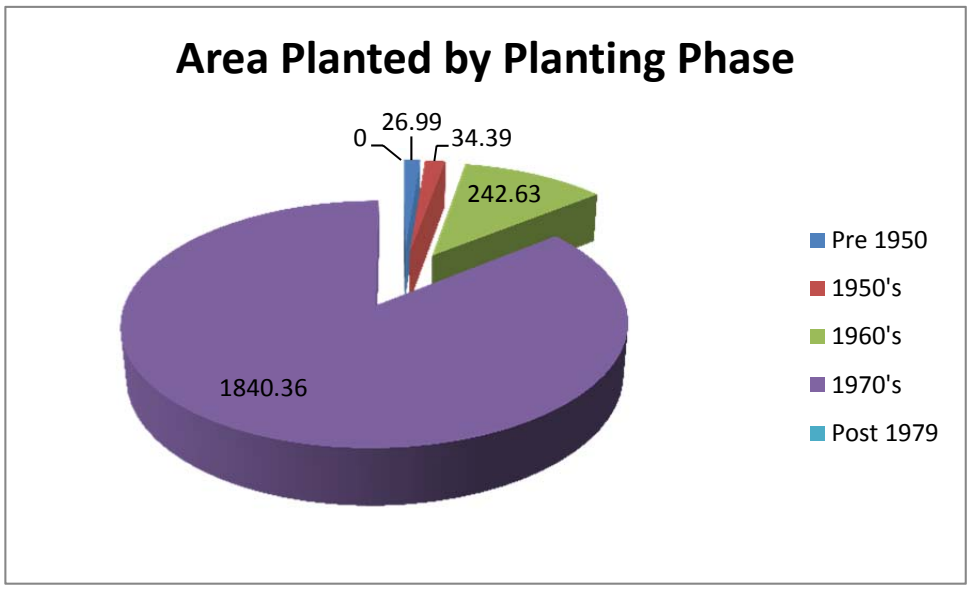

Figure 2: Ha planted by age class

Very little thinning was carried out by the forest's previous owners, with such activities there were being concentrated in the better-growing spruce blocks in the north-east corner of the site. Some clear felling has, however, taken place, with approximately 55 hectares of Sitka spruce

having being cleared over the last 5 years, all of which has yet to be restocked.

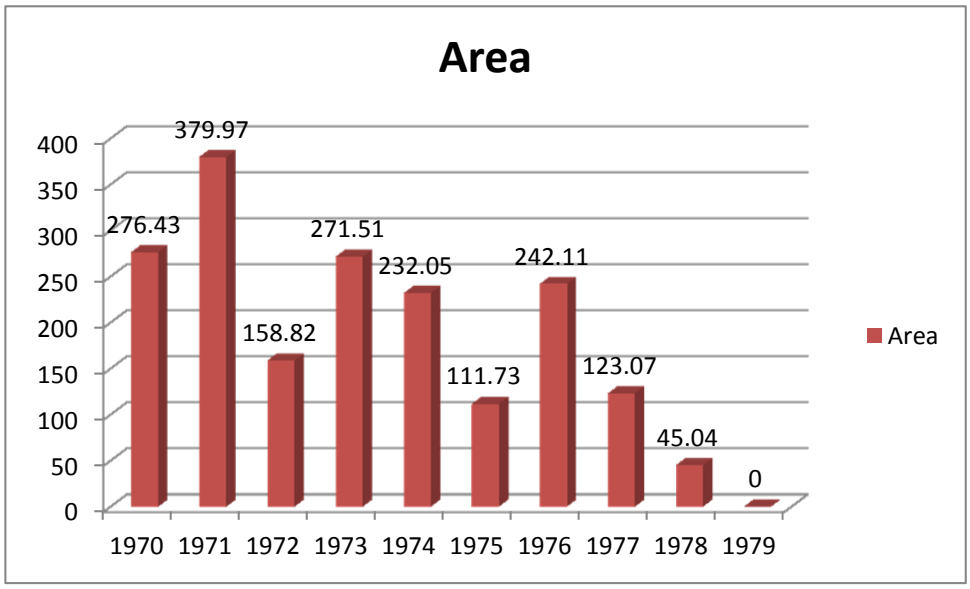

Figure 3: Planting through the 1970s

In the original planting scheme, very little allowance was made for open ground, as was the prescription of the time. The largest single area of open space is the 45 hectare summit of Meall Luidh Mor, which is largely bare from the 420 metre contour, to its summit at 514 metres. Other open spaces have arisen largely as a result of damp, boggy conditions making planting impossible, and these can be picked out easily in Appendix 2.

3.3 Special Areas and Features

Designated Areas

Appendix 5 shows the Lochaber Parallel Roads SSSI site designation. This covers approximately 65 hectares of the north-western corner of the forest.

Protected, Rare and Important Species

No protected, rare or important species have been identified within the forest, or advised to us through our stakeholder consultation. However, we believe this level of information to be very basic at this stage, and it is our stated intention to carry out a number of detailed biodiversity surveys across the forest over the course of 2010 and 2011. These surveys will be in-line with similar work carried out on other parts of the estate, and will include, birds, mammals, insects, plants, lower plants, trees, ancient woodland sites, aquatic life and fungi. The gathered information will be incorporated in our next level of planning, with the Long Term Forest Plan documents to be submitted to the Forestry Commission, and will also be incorporated into updates of this Management Plan too. In particular,

evidence will be sought of Red Squirrels (Sciurus vulgaris) and Capercaillie (Tetrao urogallus).

Special Habitats

Large areas of the southern edge of the forest form excellent Black Grouse (Tetrao tetrix) habitat, and a key part of our management strategy will be to develop and enhance the extent of this particular habitat.

Other than this, no special habitats have been identified by SNH or The Scottish Wildlife Trust, and no evidence of PAWS have been found. However, as stated above, it is our intention to survey extensively to build a knowledge-base on the biodiversity of Corrour Forest.

Wayleaves and Access Rights

There are no signposted rights of way through the forest, although the forest roads are regularly used by both hill walkers and mountain bikers. A footpath runs from Fersit to Strathossian, cutting through the southern section of the forest and this is a popular long distance route. It is Estate policy to encourage responsible open access where ever this is appropriate.

The main road through the forest provides access onto the Estate for residents, guests and contractors. It also provides access to the tenants of the Corrour Station House Restaurant. RioTintoAlcan have a right of access through-out the forest for inspection and maintenance of their hydro-electric infrastructure. An accepted right-of-access exists for a number of residents at Fersit, for vehicles needing to bye-pass the weight-restricted bridge access to Fersit itself.

Archaeological Features

There are no Scheduled Ancient Monuments within the forest, and currently very little is known about the archaeological heritage of the area. Surveyors have been engaged to investigate further, and this information will be incorporated through the planning process into the Long Term Forest Plan.

Water Supplies

Neither of the two cottages at the entrance to Corrour Forest obtain their water supplies directly from the forest, or from tributaries within the forest. Water Rights within the forest are retained by RioTintoAlcan (RTA), by statute and form part of the Lochaber Hydro Electric Scheme. RTA will be consulted prior to any activities in the vicinity of their installations.

3.4 Other Non Timber Land Use

Shooting and Stalking

Deer stalking within the forest is currently let on an annual basis. An accurate assessment of the resident Roe and Red deer population has yet to be undertaken, and we aim to try and quantify this over the next 12 months. It is also believed that Sika deer are present in the area, although none have been seen in the forest. In-line with wider Estate Policy, no shooting of species other than deer takes place, and this is enshrined in the stalking lease.

Grazing

A tenant farmer has grazing rights over the field at Lochan Tuirk and for woodland wintering of cattle around Fersit.

Recreation

Partial Fishing Rights are leased for Lochan Tuirk. Other than this, no formal recreational uses exist, although the forest roads are regularly used by both hill walkers and mountain bikers. The southern part of the forest forms a regular part of the route of the Scottish Six Day Trial motor cycle event. As already described, it is Estate Policy to encourage responsible open access.

3.5 The Woodland in its Landscape Context

Figure 4 below shows the wider landscape of Glen Spean, looking westwards towards Spean Bridge from the summit of Meall Luidh Mor. This shows the patchwork of forests, with Corrour Forest dominating the foreground, which stretch towards Fort William, but which largely represent a modern addition to the landscape. There is considerable evidence of ancient woodlands all along this Glen, but on a much smaller scale that we see today.

Figure 4: The Landscape Context

3.6 Historic Land Use and Management

Prior to planting with trees the land formed part of the original Corrour Estate, and formed rough upland grazing and open deer forest. The Estate was sold to the Forestry Commission in the mid 1960s, and they embarked upon an ambitious planting programme described in detail above. The FC retained the plantation until 2009, when as part of a wider disposals programme it was sold to the current owners, thus bringing the Estate boundaries back to their historic lines.

As already stated, very little thinning was carried out by FC, and an ad hoc programme of clear felling resulted in some of the better spruce areas being cleared but not restocked. An application has been made to the FC for a felling licence to cover the areas shown in Appendix 9. This standing timber has been marketed and will be harvested in 2010. The restocking proposals for this area, together with other areas carrying restocking commitments from the previous owners, are detailed in Appendix 8.

As already described, the process of writing a formal Long Term Forest Plan has started - it is anticipated that this will be authorised by early 2011, and this UKWAS plan will be updated at that stage.

3.7 Stakeholders and Neighbours

Appendix 4 highlights the properties which neighbour the forest. In addition to direct neighbours, it is Estate policy to engage with Stakeholders in as wide a context as possible. Following this policy, below

is a table showing stakeholder consultations to-date, with written responses annexed at the end of this plan.

Stakeholder	Context	Contact	Issues	Plan Actions
Forestry Commission	Grants & licences	Letter, email and meetings. Site meeting with John Risby, Highland District Conservator.	Very supportive of all major issues. Keen to avoid felling-to-waste where possible for socio-economic reasons.	Providing guiding framework for full scale development and implementation of Long Term Plan
Highland Council	Roads, landscape, access, biodiversity, archaeology	Letter, email and face-to-face meetings		
Highland Timber Transport Forum	Roads, timber haulage routes	Face-to-face meeting	Access	Ensure communication prior to operations
Scottish Natural Heritage	Biodiversity, landscape, archaeology	Letter	Overlap with Parallel Roads SSSI designated area	Site visit to help identify features and discussions to help develop
SEPA	Water	Letter, no reply		
Deer Commission for Scotland	Deer management	Letter	Inclusion of Deer Management Plan	Evolution of deer plan, incorporated into Long Term Plan
RSPB Scotland	Bird life	Letter, no reply		
Scottish Wildlife Trust	Biodiversity, wildlife	Letter, no reply		
John Muir Trust	Biodiversity	Letter, no reply		
Historic Scotland	Archaeology	Letter, no reply		
Network Rail	Neighbour	Letter, no reply		
Mountaineering Council of Scotland	Access	Letter	General access and landscape design considerations	Ongoing consultation
SYHA	Neighbour, access	Ongoing discussions	No key issues	
Ben Alder Estate	Neighbour	Letter, no reply		
Ardveriekie Estate	Neighbour	Letter	Co-operative deer management	Regular joint meetings
RioTintoAlcan	Neighbour, access	Letter	No issues, supportive of the value of the process	Regular update meetings
Bidwells	Manage a number of neighbouring	Letter – see RioTintoAlcan above		As above

	estate			
George Nairn	Neighbour, tenant farmer with grazing and access, at Fersit	Various ongoing meetings	Supportive, no issues	
Roger Millward	Neighbour with access, at Fersit	Letter, no reply		
David & Rita Smith	Neighbour, at Luiblea	Various ongoing meetings	Lorry traffic past their house	Ensure open communications
Muriel Gray & Hamish Barbour	Neighbour, at Torguilbinn	Various ongoing meetings	Lorry traffic past their house	As above
Dunan Estate	Member of Deer Management Group	Letter	No key issues	
Cruach Estate	Member of Deer Management Group	Letter, no reply		
Community Council	Access, social impact	Letter, no reply		
Fishing Scotland	Fishing tenant on Lochan Tuirk	Various ongoing meetings	Keen to have the feeder burns to Lochan Tuirk opened up to improve water quality.	Measures in place to carry out required work
Tulloch Estate	Neighbour	Letter, no reply		
Creag Meaghaidh NNR	Neighbour	Letter, no reply		
Recreational users	Access	Threshold signs	No response	

3.8 Land Tenure

The freehold of the property is held by the Estate.

4 Appraisal

4.1 Management Objectives

In order of priority, the management objectives for Corrour Forest are:-

- To enhance and expand the biodiversity of the woodland, whilst protecting landscape, amenity, archaeology and natural heritage features present there in.

- To adopt sound silvicultural techniques and reflect the best practice as set out in the UK Forestry Standard and the UK Woodland Assurance Scheme.

- To manage the woodlands sustainably, providing economic and social benefits to both the Estate and the wider Lochaber community.

- To restructure to woodland so that it becomes more sympathetic to the landscape, and operations become less visually intrusive.

4.2 Opportunities and Constraints

These are highlighted in Appendix 11.

In traditional forestry terms, the site offers considerable constraints to timber production by nature of it high levels of water logging and poor soils structure which have resulted in areas of extremely poor growth. In southern parts of the forest, where the topography flattens off and blanket bog predominates, Lodgepole pine has achieved top heights of 8 to 10 metres over 35 years implying very low yield class, and thus low productive capacity. Coupled to this, the forest has a low density road network which would result in uneconomically long extraction distances, over very challenging terrain. On top of this, given the limited age-class distribution, considerable restructuring will be required to bring the woodland into line with the UK Forest Standard.

However, it is perceived that this area of the forest can yield other values, particularly in the context of the growing interest in restoration of peatland and the subsequent benefits to the carbon-economy. The central-southern part of Corrour Forest offers the opportunity to investigate a range of low-impact techniques for timber removal and peat regeneration.

The northern half of the forest offers good timber production opportunities, with Yield Class 16 Sitka spruce growing in reasonable volumes. It is anticipated that by adopting current best-practice, a second rotation in suitable areas will improve upon this yield class, and that also by adopting a carefully planned programme of thinning, and utilising improved Sitka stock where appropriate current yields can be maximised.

Original planting prescriptions included, where feasible, the whole scale planting of riparian zones and lochan fringes. This policy has hindered or

reduced the biodiversity of the forests water resource, and is an area it is intended receives early action. Thus removal of conifers, opening up burn sides, coupled with sensitive planting of native broadleaves, producing an attractive mosaic of habitats and providing a range of shade levels to the water system should provide early positive benefits.

The western end of the forest contains some attractive mature blocks of Scots Pine. There is a limited commercial market for these trees, but they offer excellent habitat benefits. Thus we will establish a network of mature native trees, providing biodiversity benefits, and ultimately, a seed source for natural regeneration and expansion. Theses stands will however, prove susceptible to wind damage, and where possible in future, felling coupes will be designed to protect such resources.

The forest contains a significant amount of internal deer fencing. This fencing is generally in a poor state of repair, and it is believed, is not preventing any significant deer movement. The Estate has a policy to remove fences wherever practical, and as such an early priority will be the removal of parts of this fence, or the upgrade where a need is identified.

Finally, from a landscape point of view, the southern fringe of the forest represents a very ‘hard’ edge, and the opportunity exists to soften this, and integrate more open spaces and deer glades into the overall design of the forest. The northern edge is very visible from the main A86 trunk route, and any felling activities here will produce unsightly scars if not carefully managed. Therefore retention of larch along the edge of the Laggan reservoir is a priority, together with carefully thought out replanting schemes, to help move the forest away from the large coupes that it currently consists of.

4.3 Management strategies

The management objectives call for some radical thinking, and to a certain degree, an amount of experimentation. The broad strategy will be to identify a number of key land uses – commercial forestry, nature conservation, habitat enhancement and such like, and to divide the woodland into areas, according to suitability against these objectives i.e. areas suited to commercial production, areas suitable for biodiversity enhancement etc. Within in this, it is envisaged the productive element of the forest will be restructured to more readily enable small coupe sizes, some areas will become deer sanctuaries, whilst other areas will be cleared of trees altogether to aid peat restoration and subsequent carbon sequestration.

5 Management Prescriptions

5.1 Silvicultural Systems

Assessment

Detailed compartment schedules were obtained from the previous woodland owners at the time of the sale. However, very quickly it was discovered that there were a number of discrepancies in these records, which in fact tend to reflect the initial planting plan, rather than what was actually achieved on the ground. Desktop work has begun through GIS to correct these records, primarily by use of recent aerial photography. This will be augmented by extensive ground-truthing over the coming months, and this revised data incorporated into future planning rounds.

Commercially Viable Crops

Commercially viable crops are defined as stands of Sitka or Norway spruce, yield class 10 or above, situated in the northern part of the forest. As mentioned above, to date very little thinning has taken place. Once these crops have been surveyed and revised Wind Hazard classifications applied, then where appropriate, a thinning regime will be imposed. This will improve the timber quality and financial return from the final crop, whilst helping to create a more structurally diverse woodland.

Where revised survey data suggests a high risk from wind, then thinning will not be carried out, and coupes will be selected for clear fell. Low impact alternatives-to-clear fell will not be used within commercially viable crops, but will be employed in amenity areas, as defined below.

- To improve crop stability through better root geometry, second rotations will, where appropriate, benefit from ground preparation. Advise will be sought regarding the suitability of using improved planting stock, and coupes will be designed to facilitate future thinning.

- To produce a sustainable marketable resource, the crops will be managed and grown with reference to Forestry Commission yield models and site WHC. Full and proper records will be kept of volumes removed at thinning and clear fell stages. Crop information (yield class, stocking etc) will be assessed and recorded at five-year intervals and compared with relevant yield models. All monitoring information will be analysed and taken into account when preparing the Long Term Forest Plans.

- To minimize the risk of wind throw, initial clear fell coupes will be to wind firm edges where possible. Such coupes will then be restocked through a regime of planting, creating a mosaic consisting of small coupes of commercial conifers, typically 3 to 4 hectares in size, small areas of open ground, and clumps of native broadleaves, typically around riparian zones, road edges and rock features. The small commercial coupes will be linked to facilitate mechanical harvesting. This approach will gradually break up the forest canopy,

providing a rich and varied habitat whilst at the same time produce an ongoing harvestable resource.

The initial 20 year felling sequence, in 5-year phases is detailed in Appendix 7, and the phases are defined as follows:-

Phase 1	(Red)	2010 - 2014
Phase 2	(Orange)	2015 - 2019
Phase 3	(Yellow)	2020 - 2024
Phase 4	(Green)	2025 - 2029
Phase 5	(Blue)	2030 – 2034
Beyond 2034	(Purple)	

There will be a presumption against burning of lop and top.

Currently the forest is structured as 90 % conifer, 10% open space and less than 0.1% broadleaf. The target is to migrate this to a minimum of 25% open space, 40% native woodland (including native Scots pine) and 35% high yield commercial conifer.

Amenity Areas

Amenity areas are defined as those offering values other than commercial or biodiversity, and will constitute primarily areas of high landscape value, or where veteran trees exist.

At present, amenity covers an area of Scots pine in the north-west corner of the forest, amounting to some 25 hectares, and then remnants of plantings dating from the early 20th century, together with road sides and loch edges, in particular the southern edge of Laggan reservoir.

Within these areas no commercial harvesting will be carried out. Where appropriate, standing crops will form long term retentions, particularly areas of native Scots pine, and larch margins. Some of the older crops will be managed on an ‘alternative-to-clear fell’ basis, principally moving toward continuous cover forestry. Such areas will rely heavily on natural regeneration, with some manual intervention to control invasive spruce regeneration.

Biodiversity Areas

Large parts of the forest currently offer the potential for very poor commercial returns, consisting as they do, of large tracts of poor crop form, difficult ground conditions and long extraction routes. These areas do, however, provide great potential for enhanced biodiversity and nature conservation.

A number of techniques will be employed, some of which may be considered ‘non-standard’ silviculture. These will range from tree removal by harvester/forwarder, whole tree mulching, motor-manual felling to waste, to experiments in Lodgepole sustainability and recreation of ‘bog-wood’ habitats, by simply leaving small areas to follow their natural

succession. Other areas within this sector will be opened up to hill deer, to offer improved shelter and also as an aid to habitat restoration on other parts of the Estate, by relieving grazing pressure.

It is acknowledged that whilst this is a relatively short paragraph, the reality and practical feasibility of this particular part of the plan will only become fully evident as work begins. It is, however, accepted that this is a huge task, and time will be the only true judge of success or failure. It is also possibly the most exciting part of the plan, and offers huge scope for putting into practice ideas and techniques on a scale which has not yet been attempted in the UK. In line with Estate policy towards scientific research, it is envisaged that, through some of this pioneering work, Corrour Forest could become a valuable research resource for the UK forestry and nature conservation sectors.

Broadleaves

The forest generally contains very few broadleaves. Those present tend to be scattered sole example, with a few very small areas of multiple trees. Policy towards broadleaves will simply be to enhance and expand this resource as a matter of priority. This will include clearing conifers from around existing broadleaves, and focusing on the few areas of clumps. A survey has been commissioned to identify suitable parent trees throughout the forest, and this information will form the foundation of this policy. Significant planting of broadleaves, protected by tree shelters, will take place around riparian zones, loch edges, rock features and open area edges. Best practice guidance and current Forestry Commission Scotland advice will be sought prior top planting regarding tree provenance and site suitability. These areas will be maintained with minimum intervention.

5.2 Adjacent Land Use

The neighbouring land owners and tenants have been consulted over the long term plans for the forest, and are informed in advance of operations which may impact upon their neighbouring property (See section 4.7 ‘Consultation’ for further details). Shared boundaries by landowner are identified in Appendix 4.

5.3 Woodland Roads and Rides

The main and secondary forest roads are identified in Appendix 1. Roads marked as Cat1 will be maintained to a standard capable of carrying timber haulage vehicles during all but winter conditions. Due to historic levels of snow and ice expected during winter months, no harvesting will be carried out between November and March, to minimise road damage.

Necessary re-grading will be undertaken prior to felling operations, and will include designs for vehicle turning places, timber loading decks and machine parking facilities where appropriate. Roadside drains and culverts will be maintained to prevent erosion of the road surface. Surface water will drain into adjacent land or water courses. Stone required for resurfacing will be extracted from internal sources.

5.4 Protecting and Enhancing Biodiversity

Corrour Estate's fundamental management policy, which underpins every activity on the Estate, is to protect, enhance and expand the biodiversity and natural beauty of Corrour in perpetuity. Clearly our stewardship of the forested lands will ultimately be guided by this principal.

Management of Designated Areas

Forest & Water Guidelines (Current Edition) will be adopted in all cases as a 'minimum acceptable standard' for the management of all riparian zones and water edges. A major priority will be the opening up of burns and lochans, with, where appropriate, planting of small clumps of native broadleaves.

Part of the forest overlaps with The Parallel Roads of Lochaber Site of Special Scientific Interest, notified for its assemblage of landforms associated with Loch Lomond Stadial glacial period. The Fersit-Treig delta is an excellent example of a partially collapsed delta, comprising an area of kettled sand and gravel, with terraces which denote the direction of an ice lake outwash. Detailed guidance will be sought from Scottish Natural Heritage, in terms of identifying these features, and documenting procedures to be issued when working in their vicinity. Where possible, such features will be opened up and access improved to help improve public enjoyment and understanding. No operational activity is currently scheduled in these areas and none shall be undertaken until an acceptable management strategy has been agreed with SNH and any other interested parties.

Measures to Enhance Biodiversity

A major management objective is to enhance and increase the biodiversity of the forest. The Estate is managed in such a way so as to make a full contribution to the UK Biodiversity Action Plan, as expressed in the Lochaber Biodiversity Action Plan targets. A framework document was commissioned in 2007, covering management of all important habitats and species across the Estate. This framework will now be extended to cover the forested land acquisitions, to produce a holistic sustainability and biodiversity plan for the entire Estate.

In consultation with Forest Commission Scotland, it is the Estate's intention to meet and exceed the standards set out in UKWAS for the conservation and enhancement of biodiversity. In terms of trying to quantify this, more details will emerge through the survey work, building towards the submission of a full Long Term Forest Plan. However, as an indication, efforts will be focused on a number of areas:-

- Improving peatland habitats through restoration and expansion, blocking of drains and removal of invasive conifer regeneration.

- Expanding black grouse habitat, improving woodland edges and open spaces, carefully planning fence removal.

- Provision of deer sanctuaries, opening up parts of the forest edge to the open hill, providing shelter for deer. Such areas will be managed as Natural Reserves, with no management intervention.

- Long term retention of Scots pine and other stands of veteran trees.

- Expanding the use of native tree species.

- Full and detailed ongoing surveys of all flora and fauna.

- Adopting and contributing towards best practice whenever possible.

There is a general presumption against the use of pesticides and chemicals and, wherever possible, contractors will be encouraged to use non-mineral grades of oil, although this will not be contractual.

Deadwood habitats provide a valuable addition to biodiversity, and provision will be made to allow both standing and fallen deadwood habitats in roughly equal proportions, with a minimum target of 20 m3/ha being adopted. Guidance for implementation of deadwood habitats will be sought from Forest Enterprise's guide 'Life in Deadwood'. Where appropriate, and where there is perceived to be no risk to members of the public, an active policy of ring-barking suitable trees will be pursued in order to guarantee these targets.

Long term retentions

Long term retentions are seen as a key component in improving biodiversity. As much of the forest is made up of relatively young non-native conifers, the opportunity for LTRs is fairly limited. However, where species and wind-stability permit, standing trees will be retained as a non-commercial crop, and managed principally with biodiversity in mind.

5.5 Game management

Deer stalking with the forest is currently let to Messer George and Graham Nairn, who also have the grazing rights on the pasture land adjacent to Lochan an Tuirk within the forest. The terms of the lease allow for the shooting of Roe, Red and Sika deer, but inline with wider Estate policy, no other species, in particular those commonly considered as 'vermin', are permitted to be taken. An exception to this is made under the terms of Messers Nairn's grazing lease, which allows the taking of predators when they threaten agricultural livestock. Both individuals are on the Deer Commission for Scotland Fit and Competent Register.

The shooting tenant, together with the Estate Head Stalker, will produce a detailed Deer Management Plan, which will identify populations and cull levels required, with an annual record submitted of actual culls. The Head Stalker will ensure that all cull activities are carried out in accordance with current legislation and DCS Best Practice Guidance.

Currently, all deer control records are reported throughout the season to the Estate's Management Committee, and annually to the Deer Commission for Scotland and the Association of Deer Management Groups. Corrour is an active member of the Mid West Association of Highland Estates Deer Management Group, and this group is currently developing a new deer management plan for the area, under the guidance of the DCS and SNH.

Deer control will take a high priority once restocking begins, and will be the favoured method of protection above fencing and tubing. Assessment of deer damage to trees (young and old alike) will be a key area of annual monitoring and results will be fed back to both the planning process and the shooting tenant, to allow targets to be re-evaluated.

The Estate has a shoot-on-sight policy with Sika deer, and this will be extended to the forest, and the tenant encouraged at every opportunity to take Sika deer.

5.6 Management of Social and Cultural Values

There are no Scheduled Ancient Monuments within the forest boundary. Both Historic Scotland and Scottish Natural Heritage have been consulted, and are consulted on an ongoing basis. The Estate has engaged the services of an Archaeological surveyor to make a wider assessment of the forest area and its surroundings to gain a fuller understanding of its history and cultural placing. The results of this survey will be integrated into both the Long Term Forest Plan, and future revisions of this plan. Any significant findings resulting from this survey will be recorded with the appropriate Statutory body, and both Historic Scotland and SNH will be consulted in the interpretation process.

For many years the southern fringe of the forest has formed part of a regular long distance footpath, which crosses the Estate from Fersit in the North West, through Strathossian and on to Ben Alder in the east. We believe that the vision for the forest can only enhance this footpath, and improve the experience of those using it, however, at each stage the relevant statutory bodies and stakeholders have been and will continue to be consulted with as to the compatibility of our plans with recreational users.

The footpath described above also regularly forms part of the route of the Scottish Six Days Trials motorcycle event. The Estate is keen to continue to support this event which we believe has significant cultural and economic value to the Lochaber community.

5.7 Consultation

Section 3.7 gives details of the stakeholders of the forest, including neighbours and statutory bodies. The Estate places particular importance on general good neighbourly relationships, and all neighbouring land owners and tenants are regularly consulted, both formally and informally, about various aspects of Estate activity. Forestry operations and planning have easily slotted into this ongoing process, and we have also used the opportunity to write to stakeholders, inviting their comments, with the intention of including forest plans as part of all future meeting agendas.

More informal feedback from recreational users of the Estate is channelled through the Estate Office, where many walkers and cyclists call in for route information and weather forecasts, and through the interface with holiday cottage guests actually on the Estate.

In the event of complaints being received they will be recorded and dealt with by either the Estate Manager or the Head Forester, as appropriate. Every effort will be made to notify stakeholders in advance of operations which may impact upon them.

6 Indicative Long Term Plan

As previously mentioned, the intention of this plan is to start the process whereby Forestry Commission Scotland approve a formal Long Term Forest Plan. There is still much work to be completed before this stage is reached, and it is therefore inappropriate to map out details. However, the principles and policies laid out in this plan will form the basis of that long term plan. The timetable for this approval would appear to be the following:-

Spring/summer 2010	Biodiversity survey work Forest inventory survey Ground truthing of inherited GIS data
Autumn 2010	Continuation of Surveys

First draft of Long Term Plan

Winter 2010	Continuation of surveys First submission (for feedback) of plan to FCS
Spring 2011	Continuation & completion of surveys First formal submission of plan to FCS Review and revision
Summer 2011	Approval of Long Term Plan by FCS

7 Five Year Plan of Operations

Table 1 below illustrates the planned work schedule for the first five years of this plan.

Table 1: Compartment Schedule of Work by Year					
Operation	**Year**				
	2010	**2011**	**2011**	**2012**	**2013**
Clear Fell	4109 A 4111 D	4102 A 4303 F	4209 4215 G	4108 J 4104 P 4104 D	4106 F
Thin			4111E		4111 G 4111 H
Ground Preparation		4109 A 4111 D	4102 A 4303 F	4209 4215 G	4108 J 4104 P 4104 D
Restock – Commercial conifer - Amenity - Broadleaves - Develop open ground resource			4109 A 4111 D	4102 A 4303 F	4209 4215 G
Weeding & Weevil control			4109 A 4111 D	4109 A 4111 D	4109 A 4111 D 4102 A 4303 F
Loss replacement				4109 A 4111 D	4109 A 4111 D
Establishment maintenance					4109 A 4111 D
Annual Tasks across all compartments					
Deer control	All compartments				
Road repairs & treatment of roadside vegetation	All compartments				
Fence and drain inspection	All compartments				
General forest maintenance	All compartments				
Monitoring of site responses	All compartments				
Review of Five Year Plan	Informal	Informal	Informal	Informal	Formal

8 Operational Techniques

8.1 Protection and Control

All operations within the forest, and all design and planning exercises that underpin such operations, will be designed to minimize the risk of damage from wind, fire, pests and diseases.

Wind damage

Where available, wind firm edges will form the backbone of all felling coupe designs. In some instances new open ground will be used to create wind firm boundaries for the future.

Pests and Diseases

During restocking it is anticipated the main grazing impacts will be from deer, with much lesser impacts from hare, with rabbits not known currently within the forest. Deer management is detailed in section 4.6 ‘Game Management’. All control of deer will be in conjunction with the Mid West Association Of Highland Estates Deer Management Group, of which the Estate is a member.

All restock sites and immature coupes will be monitored for weevil activity, and any findings reported to the Estate’s Chief Scientific Advisor.

Tree health will be monitored on an ongoing basis, and written records kept in the Estate Office. Where necessary the Estate’s Chief Scientific Advisor will coordinate with Forest Research for analysis and advice.

Domestic Stock and Fencing

Estate policy on fences, especially deer fences, is to ensure that there is a net reduction of the length of fencing to improve both visual and recreational amenity, allow public access and reduce bird strikes, especially of black grouse.

The condition of the boundary fence of Corrour Forest will be inspected at least annually and the findings recorded by the Head Forester. There is a general presumption against deer fencing, and wherever possible, where it can demonstrated that negative impacts are likely to be negligible, then deer fencing will be removed.

Sightings of domestic stock within the forest will be reported to the Head Forester or Estate Manager, and action will be taken to remove them before they begin to adversely affect crops, sensitive habitats and species. It should be that the Estate’s tenant farmer does graze stock on the pasture at Lochan an Tuirk, and any sightings will initially be reported to him for action.

8.2 Use of Pesticides and Fertilisers

There is a general presumption against the use of fertilisers and pesticides, except in specified circumstances where best practice will be strictly adhered to. Sites which have special biodiversity attributes, or are being managed towards these, will be particularly safeguarded again any preventable damage from chemical pest and crop management.

Fertilisers will only be used during restocking if the soils are considered insufficiently fertile for good tree growth. Fertilisers will not be used in areas where nature conservation is the primary objective in woodland management.

Pesticides will be carefully and selectively used as necessary. Spot applications of glyphosate may be used to control grasses and other ground vegetation around newly planted trees and where the control of invasive plants is required in designated 'nature conservation' areas.

Weevil damage to young conifers will be controlled using the best recommended methods in FC's guidance.

Application of pesticides will be carried out in accordance with FC Field Book 8: The use of herbicides in the forest. Decision to use a pesticide will be guided by the Decision Aids in the FC Practice guide: Reducing pesticide use in forestry; the choice will be assisted by BASIS qualified staff or advisors as appropriate. Operators will hold the relevant NPTC Pesticide Application1 and 6 certificates. Warning signs and notification will be used as appropriate. Written COSHH assessments and completed pesticide reports will be retained on file.

All pesticide and herbicide applications will be kept to a minimum with regard to the constraints of good crop establishment and maintenance and the wider environmental and sustainable management objectives of the Estate.

8.3 Waste Disposal and Pollution

Industry best practice will be followed at all times. Any waste materials generated by contractors or Estate staff will be removed from site and disposed of in an appropriate manner.

Fuels and chemicals should always e stored and transported in appropriate containers, with particular attention paid to the regulations pertaining to bunded tanks for fuel storage.

8.4 Control of Harvesting Operations

It is intended that all timber sold will be on a standing sale basis, and the Estate will adopt a standard form of contract to cover this.

Prior to work commencing the purchaser will be required to submit a risk assessment and set of site-specific safety rules. These will be made available at the latest at a pre-commencement meeting, where the Estate will submit to the purchaser their own risk assessment. The purchaser will provide copies of all certificates of competency at this meeting.

The Estate will maintain a Job Folder for each sale, and this will contain a written record of site visits by Estate representatives, and the purchaser will be required to provide copies of their own monitoring paperwork.

All environmental, ecological, safety or stakeholder issues will be clearly identified on a constraints map, supplied to the purchaser by the Estate at the pre-commencement meeting.

All merchants and contractors will be expected to adhere to industry best practice at all times, including relevant AFAG guides.

8.5 Emergency Procedures

The Estate will develop an Emergency Plan, to be used across the whole Estate, and not limited to forestry operations. Copies of this plan will be issued to all contractors working on the Estate. This plan (see Appendix 15) will deal with the following:-

Chemical & Oil Spill. All contractors will be expected to provide a suitable Oil Spill Kit and have this available at all times. Where a third party is acting as FWM, they will be expected to have robust procedures in place to deal with oil and chemical spillages. Where the Estate is acting as FWM, then the Estate's own procedures, to be developed, will be in place.

Fire Plan. The local Fire Brigade is issued with access plans for the whole Estate, including access and egress points, locations of water supplies and contact details. Should any burning of vegetation or lop and top be planned, the fire services will be notified. Due to the remote nature of the Estate, there is a presumption against burning due to the potential risks. Contractors proposing burning operations will be expected to provide a detailed method statement, including their own emergency procedures.

Accident Plan. All harvesting operations will have a harvesting plan provided by the Estate, which will include emergency contact numbers, location of nearest A&E hospital, main access grid reference, details of mobile phone signal or nearest public phone. Other work operations will include emergency details as part of the risk assessment for the work.

8.6 Road, Track and Ride Maintenance

Culverts and side drains will be inspected annually. Road vegetation will normally be controlled by mechanical means such as regarding and flailing, with use of pesticides considered only in exceptional circumstances.

Post harvesting maintenance will be completed soon after harvesting to minimize further damage to road formations, and with particular reference to the main access route, to minimize disruption to Estate staff and guests.

Road maintenance contractors will be issued with Estate risk assessments, and will be expected to submit their own risk assessments, site safety rules and certificates of competency.

8.7 Management of Health and Safety

The effective management of health and safety underpins all operational activities. A framework of responsibility as set out in 'Managing Health and Safety in Forestry Operations' (HSE , 1999) will be established in all operational areas. The Estate will always assume the role of Landowner, and in some instances will also take on the role of Forest Works Manager. In standing timber sales, the purchaser will assume the role of FWM, although the Estate will maintain a monitoring brief.

9 Monitoring and Review

Monitoring progress towards meeting the management objectives outlined in this plan will be integrated into the wider monitoring processes carried out by the Estate. These include internal habitat monitoring as part of the Deer Management Plan, and broader plant-community surveys carried out by external contractors and special interest groups. However, there is also a need for more specific forestry-related work, which will be carried out by the forestry management team.

Management Objectives:-

To enhance biodiversity

- Annual monitoring of biodiversity improvements, starting with initial work to establish priorities against local and national BAP targets, and ground-truthing of existing data to establish reliable base-lines. Focus to be on new broadleaf plantings, plant health, stocking levels and browsing incidence. Each five-year review phase of the plan will be driven by the results and analysis from these monitoring activities.

- Integration and review of Deer Plan, working closely with the stalking tenant, and ongoing population estimate work.

- Increased spread of age classes, checked against restocking records.

- Ongoing updating of GIS data, to accurately record open spaces, restored peat areas and broadleaf areas.

- A walk-over survey at least every five years to check that deadwood is increasing in line with targets

To adopt sound silvicultural methodology

- Accurate and detailed records to be maintained of all harvesting operations, including timber volumes/tonnages and crop break-outs. These will be used as a basis to inform future forecasting from neighbouring coupes, and as part of the process of building the bank of accurate GIS data.

- To apply known techniques for Wind Hazard Assessment to the whole forest, identifying potential high risk sites, and closely monitor crops visually after heavy storms.

- Systematically monitor restock site stocking levels for the first five years, with remedial action being taken if densities are below UKWAS requirements.

- Assessment of deer damage during beat-up surveys. Damage to be recorded as a percentage of trees browsed.

- As part of a larger process of crop data surveying, detailed work will be carried out in ticket-stage crops to establish crop form, dbh, top height and basal area. All this data will be recorded in the GIS system, and reviewed as part of the five-year cycle.

- Annual tree health inspection. Where necessary, foliar and other samples may be sent to Forest Research for analysis.

To manage the woodlands sustainably, providing economic and social benefits

- Adoption of accepted techniques to assess sustainable harvesting levels and integrate these levels into production forecasting and annual standing sales.

- As part of the harvesting records, maintain details of contractors, hauliers and purchasers, and where appropriate give priority to those with local connections.

- Establish links with local forest industry forums, and maintain records of meetings etc.

- Openly invite, and record, feedback from stakeholders and local community at appropriate events.

- By adopting best practice in relation to forestry staff employed by the estate, and to invite and act upon feedback from staff at every opportunity.

To sympathetically restructure the woodland

- To consult fully with a broad spectrum of stakeholders at the forest design stage, record comments and integrate into the planning process.

- Ensuring that harvesting and restocking schedules are maintained, and realistically planned in the first instance.

- Regular walk-over surveys to assess restructuring progress.

- To invite and record feedback from Estate visitors, consultants and contractors regarding overall transformation of the woodland.

Review

Any action resulting from monitoring will be recorded by the Estate Forester as an Action Point. Action lists will be periodically and regularly reviewed by the Estate Forester and the Estate Manager to ensure completion. Monitoring results will be summarised after a five year period and made available to the public on request.

The Management Plan will be reviewed formally every five years, and objectives agreed through consultation with the Estate Management Board, Chief Scientist and stakeholders.