

## **Appendix 2**

### **LEANACHAN FOREST – ZONES**

#### **INTRODUCTION**

The Leanachan forest has been split into three areas for the purpose of preparing the plan. Each area or zone has different characteristics and different priorities for management. (These are working titles at present.)

- Timber zone – productive core of the forest
- Interactive zone - high public use and interaction with tourism and industrial businesses
- Transition zone – boundary between the conifer forest and the open hill

The zones have been identified based on survey and initial analysis. The boundaries between them are not sharp or permanent and are to aid the development of a single plan for Leanachan forest.

Elements of each zone will overlap e.g. recreation occurs in all the zones but is most concentrated in the interactive zone.

There are also some overarching issues which will be common to all the zones and need to be reviewed at a forest scale. E.g.

- Meeting UK Woodland Assurance Standards (UKWAS) and UK Forest Standards (UKFS) at a whole forest level.
- Increasing forest resilience to the potential impacts of climate change
- Red squirrel stronghold future habitat management to achieve age and species diversity.
- The impact of herbivores on native woodland regeneration, palatable conifers and open habitats.
- Management of riparian areas and watercourses
- Landscape of the forest when viewed in the context of the wider landscape.
  
- Timber production will be a feature of all the zones but there are differences in priorities and silvicultural systems.

The following description of each zone looks at the primary objectives, the key features and particular challenges of each area.

## **TIMBER ZONE**

Leanachan is one of the important timber producing areas of Lochaber FD and already well into its second rotation. This zone is the productive core of the forest with good growing conditions, relatively easy terrain for harvesting and good transport links to markets.

### **Primary objectives**

- The future design of this zone should focus on continuation of conifer sawlog production with spruce as the dominant species and designing the forest to provide a more even flow of timber year on year and maintain its future economic potential.
- Protecting and enhancing the wetland, in particular the Lon Leanachain SSSI, and riparian features of the forest.

NB it is envisaged that the other zones will make a greater contribution to species diversity and native broadleaf expansion.

Area c 1800ha

### **Key Features**

- Low lying harvester/forwarder terrain and generally well served by forest roads.
- A high proportion of Sitka spruce in the present crop.
- Easy access to markets including the large sawmill at Kilmallie.
- Climatic and soil conditions favourable for conifer sawlog production in the long term.
- Low wind risk should also allow some thinning to take place.
- Lon Leanachan SSSI is entirely within this part of the forest and has recently been cleared of non-native conifer regeneration. The main bog area is open with some encroachment of plantation forestry on the margins.
- Significant area of peat through this part of the forest, the largest area being Lon Leanachan itself. This is important for carbon storage.
- The water courses, although highly modified by the original British Aluminium hydro scheme are nevertheless important for salmonids and remnant native woodland. There are also remnant PAWS particularly along the Cour and around Tomnafet.
- Whole of Leanachan forest is designated as a red squirrel stronghold and this area has a significant area of maturing SS.
- There are a number of historical and cultural features within the forest including the linear Puggy line, Wades military road and hydro pipe line as well as a designated motte and abandoned village.

- Although away from the main hub of the recreation activity for Leanachan there are a number of popular longer distance routes e.g. the East Highland Way and the Puggy Line and local use from Spean Bridge
- Highly visible from the upper gondola station and Sgurr Finniosg-aig viewpoint as well as a more distant view from the Commando's memorial
- Leanachan forest is contiguous with the privately owned Killiechonnate forest and appears as one area in the landscape. The neighbour currently has 3<sup>rd</sup> party access for timber wagons through Leanachan.
- Leanachan farm agricultural holding lies within this part of the forest
- A research project is following this plan development to look at the impact of forest management decisions on ecosystem delivery.

### **Key challenges:**

- Even aged and mature stands of trees nearing end of rotation. This presents challenges for achieving steady timber flow, achieving adjacency of felling coupes and maintaining red squirrel strong hold viability with an increasing risk of windthrow.
- Neighbouring estate is contiguous with this part of Leanachan and has crops of a similar age and an approved forest plan. Need to work with Killiechonnate estate to achieve complementary felling and restocking plans.
- Achieving first thinning programme. The thinning potential in this area of the forest lies with achieving first thinning in the 2<sup>nd</sup> rotation crops. Although this is a relatively sheltered forest area, delayed thinning to improve the economic viability of the thinning operation brings too greater a risk to the future crop. These first thinnings are likely to be at a loss and, therefore, need to be targeted to crops where there is a clear future benefit (economic, environmental or amenity).
- Although well served by forest roads there is still some additional roading required, particularly above Leith's quarry and into Coille Leanachain. There is also a need to create alternative routes for diverting walking and cycling routes between forest roads during operations. The link to the Interactive zone for the haulage route is an important consideration to create separation of recreation and haulage as far as possible.
- Assessment of the peat depth and condition will be necessary to ensure compliance with the FCS peatland policy for restocking.
- Maximising the future productivity of this part of the forest in balance with other objectives; in particular maintaining and enhancing the forest habitat for the red squirrel. This requires a delay in the felling of some mature stands and the establishment of other conifers for food e.g. NS and SP.
- Achieving the appropriate level of species diversity based on the site conditions and the productive sawlog priority for this zone within the wider

context of the forest. Resources for establishment are constrained and efficient targeting of alternative species and broadleaves will be essential to the ability to deliver the plan on the ground.

- Marrying this production area of the forest with the Transition zone above it and the Interactive zone to the west; avoiding shape boundaries between areas but also about achieving the right overall balance of objectives at the LMP scale e.g. in species diversity, a more even age structure and broadleaf expansion.
- The hydrological boundary of Lon Leanachain needs to be defined and may involve the removal of further conifer plantation. In addition, consideration needs to be given to creating a buffer zone to reduce the spread of nat regen of non-native species onto the bog,

## **TRANSITION ZONE**

This is the area at the upper margin of the current or recently felled conifer woodland. Beyond is the SSSI with open birch woodland and then open heathland. It is also the most visible of the edges of the forest

Area – c 550 ha

### **Primary objectives**

- The development of a more natural ecological transition between the conifer forest and the open hill land of the mountain massif.

This will include the restoration and expansion of the PAWS areas e.g. Coille Leanachain, on the lower slope and looking to develop a treeline/montane fringe above the upland birch woodland. There may also be scope for some pine woodland creation.

- To address the sharp visual boundary between the conifer forest and the open hill or birch woodland when viewed from across the Great Glen.

This should fit well with the development of the ecological transition. Account must also be taken of future management of this area, particularly where mixtures are proposed.

### **Features**

- Visually intrusive upper margin to the conifer forest, on the edge of the NSA, when viewed from the Commando Memorial. This edge can also be seen from the gondola and Sgurr Fhinniosg-aig viewpoint although it is not so intrusive at this point.
- Tracks for hydro scheme and ATV access are visually intrusive in the landscape. These tracks should be restored under the planning permission but there is an aspiration to retain some ATV access at least to the hydro pipe line.
- The land beyond the forest has recently changed from ownership from Rio Tinto to SIMEC and Liberty House. A community interest group is also in discussion with the new owners about taking on the management of all or some of the hill land. This could be an opportunity in the longer term for greater montane woodland development.
- PAWS areas on the upper margins are in the process of being restored to native wood. There is variable success with browsing being the main constraining factor along with some limitations on seed sources other than birch. The largest area of PAWS which still has standing timber is Coillie Leanachain. This area of low ecological value and may present an opportunity for some productive native woodland establishment and the reintroduction of Scots pine.

- Restocking of felled areas has developed into mixed conifer/broadleaf stands which may be difficult to manage in the future. Mixed stands may be visually acceptable but have lower ecological value than a native woodland type. They are also likely to have a lower sawlog potential. Area of dead and windblow trees has been left on the upper slope which will provide a good deadwood habitat although visually would have been better not left here.
- Remnant birch woodland above the conifer forest, within the SSSI, contains a number of veteran birch trees and has the potential for regeneration and expansion, but is currently being held back by browsing.
- Deer fence, on the upper boundary of the conifer forest is no longer functioning. The stock fence higher up the hill is intact with the occasional sheep trespass when the fence is damaged by small scale slips. The stock fence is not on the boundary and sheep from the neighbouring lease have access to this area including some of the birch woodland remnants.
- Scope for montane woodland development is unknown at present with no survey work undertaken but there is potential for montane willow to be surviving on the crags below Sgurr Finniosg-aig where there is underlying limestone rock.
- Chapman Wood to the west currently has no transition zone with the conifer right to the hill fence boundary. This area has also suffered from severe windblow and will need to be prematurely cleared.

## **Key Challenges**

- Landscape design needs to take account of the Landscape Character guidance for the Mountain Massif in particular. The birch above the cleared conifer site is still emphasising the straight edge across the hill face. It will take time for this to better match the landform. Coupes need to be well scaled and shaped here forming the lower frame of the mountain view.
- The transition zone is not clearly defined on the ground and nor is it all in one ownership. The ownership boundary cuts across the ecological transition from tree to open heathland and to the east of the forest the tree line itself is above the national forest estate. Working with the new owners of the land and others, such as SNH, will be essential if long term and large scale ecological landscape improvement is to be achieved. Integration of this zone with the timber zone below will be equally important.
- There are various different stages of woodland along the transitions zone from felled conifer through regenerating sites and mixed thicket woodland to mature but open birch woodland.

- Plans for the management of the nat regeneration areas need to identify areas for planting, enrichment, respacing, cleaning and thinning to ensure the desired woodland type is established. There will always be a balance between what is achievable for given site conditions and what is desirable for the plan.
- Access for management of the zone is variable but generally better than many similar sites.
- Browsing pressure remains too high for the natural regeneration to become successfully established but there is regen waiting to come away if the pressure can be reduced further. The lack of a strategic deer fence needs to be reviewed and options for a new line, possible on the current stock fence need to be considered. The establishment of species other than birch is likely to require planting due to lack of seed sources. The re-introduction of Scots pine should also be considered possible at productive spacing on part of Coillie Leanachain.
- Creating new montane woodland is slow and less effective than protecting and expanding remnants. Ppriority should, therefore, be given to identifying areas where there may be remnant flora e.g. the crags below Sgurr Fionnsg- aig.

## **INTERACTIVE ZONE**

This is the area of Leanachan forest that has the greatest interaction with people either working or enjoying a range of outdoor activities from walking to downhill mountain biking.

Area – c 840 ha

### **Primary Objectives**

- To create an attractive environment for people visiting the forest for leisure, outdoor activity and for working in; increasing the diversity of the forest in this area both in terms of species and structural diversity.
- To manage the forests for timber production using lower impact silvicultural systems and a wider variety of tree species; where crop condition, terrain and access allow for the type of management.

The LMP will use the concept of the welcome, interactive and passive zone to guide the forest design in this area.

### **Features**

- The 2 main focus points for recreation in Leanachan are Nevis Range lower station and the North Face car park by Torlundy. The mountain bike routes are extensive through this area and include the world downhill championship routes.
- Nevis Range leases the site of the car park and gondola base station and wayleave from FCS. They also manage and maintain the mountain bike trails, but not the surrounding trees.
- The majority of visitors to Nevis Range are day visitors to the gondola who come to enjoy the views from the top station, views which overlook the whole of Leanachan forest. There is also a low level River Lundy trail from the base station which mainly follows the forest road network.
- Mountain bikers are also drawn to this Nevis Range area by the challenging downhill routes and the increasing network of forest trails
- The North Face car park provides the starting point for the mountain access to Ben Nevis North Face. The access path has been upgraded to a high standard to the forest edge. A higher car park just outside the forest boundary is available to mountain guides on a permission basis taking access through the forest.
- The North Face car park and the surrounding forest roads are also used by people looking for a quieter walk area away from the main Nevis Range centre. There are currently no formal low level walk from the car park. The Puggy line and the East Highland Way provide longer distance linear routes.

- The important contribution of Leanachan forest to the local tourism economy is recognised and an area around the Nevis Range lower station is the subject of an approved Masterplan for the development of different types of tourist accommodation.
- Some work has already been undertaken on improving the immediate environs of the linear routes. Work has been undertaken on the main public access road to Nevis Range to thin and open up the forest edge has created a more welcoming entry into the forest with views of the mountains beyond. A similar exercise is underway on the old access road now used by walkers and cyclists. The Gondola route crosses over the forest giving a different perspective on the landscape.
- Industrial and semi-industrial sites of the Dornie Quarry, Lochaber Rural complex and the Nevis Range gondola base station sit within this zone providing local employment.
- The rural centre is an important visitor attraction at the edge of the forest and is part of the tourist offering.
- Linear energy distribution routes transect and run along the edge of the forest. This includes the strategic Fort William to Fort Augustus pylon line where line resilience is of concern.
- The forest is predominantly unthinned conifer plantation. The conifer element does provide an Alpine feel to the landscape around the ski centre. Some thinning has taken place but this is limited in extent and the window of opportunity for further thinning is closing. There is some broadleaf woodland along the burns and scope for this to be expanded and managed.
- Chapman wood contains a number of linear routes both walking and cycling as well as being the road access for the upper car park. It has a small climbing crag which is becoming more popular and some good view points over the Great Glen and the North Face.
- The area is well served by forest roads for access for forest management with only Chapman wood needing further investment.

### **Key challenges:**

- The industrial and semi industrial areas do not sit well in the landscape and there is some potential conflict with industrial traffic from the quarry and to a lesser extent the quarry.
- Similarly the more plantation nature of the forests makes them less attractive places for recreation. A number of the stands are now at or passed their thinning window or have proved difficult to access for management. Early felling of some areas to increase diversity needs to be considered to improve the quality of the recreation experience for walkers in particular.

- The management of the forests around Nevis Range is essential to develop the woodlands for long term stability but will be challenging with the high number of visitors all year round. The aspiration is to continue the conifer forests to give the “Alpine” feel to the ski area.
- There is a shortage of low level recreation facilities in Leanachan forest but potential in the river Lundy area between the North Face and Nevis Range car parks. Again there is an urgent need to manage the forest for a more open structure and species diversity
- The next stage in developing the tourist accommodation in Leanachan forest will be the marketing of the opportunity. This will present some challenges for the management of the tree crops in relation to stability.
- Integration with the timber zone – there are longer distance routes which pass through the timber zone and the trees within the Interactive zone will also yield timber both harvesting of the current plantation and in the future lower impact systems.
- Scope for an alternative haul route for timber haulage and the traffic from the quarry through the interactive zone will be considered in the plan.