5.0 Legal background of the LMP proposals

Executive Summary

Forests of East Sutherland are part of the National Forest Estate (henceforth referred to in this plan as 'the Estate', managed by Forestry Commission Scotland on behalf of Scottish Government Ministers and the Scottish people.

East Sutherland Land Management Plan (LMP – formerly referred to as 'Forest Design Plans') has been prepared in line with the UK Forestry Standard (2011), UKWAS guidelines (2012) and the Scottish Forestry Strategy (2006). The local District Strategic Plan (2014 – 2017) has been used to give local context to the Strategic Directions Plan for Scotland's National Forest Estate (2013) and inform the plan brief which will guide the vision for integrated land management for the next twenty five years. Forestry Commission Scotland's long term planning is aligned to Scottish Government Scotland Performs objectives and the Scottish Government Land Use Strategy.

Summary

The plan has been prepared to take into consideration the seven key themes of the Scottish Forestry Strategy. The key priority areas that drive the proposals contained in this plan are:

- Climate Change
- Timber Production
- Business Development
- Community Development
- Environmental Quality
- Access and Health
- Biodiversity

Section 4.4 - The Land Management Plan Brief gives full details of the priority objectives for this plan area. In addition it provides details of how the Forest District will monitor the delivery of these objectives and which member of the Forest District team will be responsible for that monitoring.

Proposals for the future management of the Estate in this plan area are made in accordance with all current industry best practice guidelines and have been prepared following full consultation with the relevant agencies, community representatives and external stakeholders.

Operations arising from the approval of this plan will also comply with all current FCS guidance and any subsequent revisions published during the plan approval period.

Recreational area in Skelbo. Photo A.Baranska, NHFD

Land Management Plan Proposals

5.1 Forest stand management

The East Sutherland Land Management Plan has been produced in accordance with the UK Woodland Assurance Scheme (UKWAS) guidelines and the UK Forestry Standard.

Section 6.2 Coupe Summary details the forecast of timber volumes and areas to be clearfelled in the first 2 plan phases, this information can be viewed spatially on **Map 5 - Management Proposals and Map 7 – CSM6 Planned Operations (Proposed Roads and Future Coupes).**

5.1.1 Clear felling

The East Sutherland LMP area has been the site of some significant clearfelling to date beyond the restructuring objectives in previous plans, primarily due to windblow and forest health issues. The forests within the LMP area are capable of producing high quality softwood timber due to slow growth rates and reasonable harvesting conditions for thinning. There are also some small areas where some good quality hardwood can be produced. The majority of clearfell over the next ten years will be driven by an attempt to maximise the effect of restructuring. Restocking will be more intensive during the second 5 year period of the plan.

Felling will also aim to fulfil several other objectives, including windblow clearance and habitat restoration (to achieve a general move toward site native species for conservation reasons). Timber production from the plan area will consist of a wide variety of timber grades from Lodgepole pine crops, suitable for wood fuel and specific export markets to green sawlogs from SS/DF crops. Maximising production will be balanced with the need to protect the soils and hydrology on sensitive sites.

Clearfell will be undertaken using harvester – forwarder systems on a standing sales basis. Where slope and soil stability are an issue skyline – harvester systems will be used.

5.1.2 Thinning

North Highland FD is currently designing the thinning programme for the district following on from programme changes brought about by the FD boundary review. Absorbing significant extra volume following a windblow event in 2006 also had an impact on the thinning programme across the FD and more recently forest health felling have increased the programme.

Opportunities to thin crops across the LMP area are limited by slope and soil stability and it is a key objective of the plan that operations identify the resources available to maximise the silvicultural potential of every productive coupe.

Intermediate (selective) thinning will be undertaken throughout the FDP area at a rate that generally does not exceed marginal thinning intensity. Heavier thinning will be taken where species dictates (e.g. larch crops) or where conservation objectives dictate (e.g. riparian zones and areas where increased field vegetation layers are important).

5.1.3 LISS

Low impact silvicultural systems (LISS) – also referred to as continuous cover forestry (CCF) – will play a major role in the future management of the forests within this plan area, for reasons detailed in the background information section.

We propose to continue managing Skelbo and Camore under CCF regime and extend the LISS management into other areas (northern part of Fourpenny and an extra area in Duchess/Countess plantation).

The primary species will be Scots pine, European larch, birch spp and Norway spruce. Many of the current crops are young in terms of seeding potential and so management for the period of this plan will largely focus on sustaining a thinning programme of appropriate yield and intensity. This should provide the conditions suitable for ground flora to develop without compromising the future ground conditions suitable for seeding.

Where LISS is proposed adjacent to watercourses that will be managed towards a system of riparian buffers, we will thin at up to 140% of marginal thinning intensity, removing more crop to allow light and rain to assist growth of a high quality field layer. We will use supplementary planting in these areas to increase species diversity, including using aspen and birch species.

5.2 Future Habitats and Species

With the exception of the poorest, wettest soils, the forests across the plan area are capable of growing good quality millwood. The combination of low yield classes and sheltered sites means that slow grown softwood, thinned correctly and grown to a reasonable size is a very realistic possibility in these forests and the focus on native tree species will allow us to do this whilst maintaining our conservation goals.

Where it is possible, without compromising delivery of higher priorities, productive conifer will form the main component of the forest. **Section 6.5 Productive Forestry Prescriptions** details the species that are suitable for each site type identified across the plan area and this will form the basis for discussion at each coupe 75% meeting. The need to use site native tree species will be a major focus.

During the plan period there will be a concerted effort to enhance and expand the native woodland component of the forest. In general, broadleaf woodland will be concentrated in both current and newly created riparian zones however broadleaved species will be encouraged throughout the entire forest by retaining regeneration and establishing new seed sources by planting.

All native woodland establishment will be designed and delivered within the current FCS guidelines (Rodwell & Paterson, 1994). Planting operations will be aimed at encouraging a suitable National Vegetation Classification (NVC) woodland type appropriate to the soils and indicator vegetation encountered on site. This will be identified subsequent to harvesting operations and will generally adhere to FD fallow policy.

The restoration of riparian woodland will increase internal open space, fragmenting productive blocks, increasing forest edge habitat and allowing a windfirm network of permanent habitat corridors to develop. This in turn will allow greater age class diversity in future rotations by providing a 'framework' within which reduced coupe sizes can be managed. Current climate change predictions under all climate change scenarios indicate that freshwater biota may become threatened by increases in summer temperatures and altered river flows resulting from increased precipitation. Salmonids in particular are susceptible to temperature changes (Broadmeadow, 2002).

In addition soil erosion may be exacerbated by increased flood and drought cycles. The increase in dappled shade and soil stability provided by broadleaf riparian woodland will help to protect river ecosystems from the predicted temperature fluctuations predicted to result from climate change.

Deadwood is acknowledged as a very important element of the forest ecosystem, positively effecting biodiversity, carbon storage, soil nutrient cycling, energy flows, hydrological processes and natural regeneration. Guidelines (FC E&C, 2002) on proportions and types of deadwood will be adhered to and the position and type of deadwood required will be agreed pre-commencement on harvesting operations and reviewed at each coupe 75% meeting. Deadwood plays a vital role in the functioning of river ecosystems (FC E&C, 2002). Dedicating riparian woodland as natural reserve will encourage a high proportion of deadwood over time, performing the following functions:

- Helping to retain water and sediments.
- Trapping and facilitating the breakdown of organic matter into food for aquatic invertebrates.
- Diversifying channels by creating pools, falls and riffles.
- Improving physical habitat structure for fish and invertebrates.

5.3 Restructuring

Forest restructuring will now be led by the conversion of single age crops to LISS or more age- and species diverse stands. *Dothistroma Needle Blight* is present within the LMP area, but so far the progress was slow and no tree health dictated felling is envisaged. Outwith LISS areas we will create appropriately scaled coupes and a coupe structure will be put in place that will allow structural diversity to be consolidated in subsequent rotations.

Forest restructuring in non-LISS areas will be subject to a 5 year fallow period between felling and restocking, to allow a natural reduction in *Hylobius* populations. Population monitoring will be carried out prior to restocking in order to ascertain population levels as a means to reducing the use of insecticide applications during the establishment phase.

The preferred means of dealing with any adjacency issues will be through delayed felling, i.e. a coupe will not be felled until all surrounding crops are at least 2m tall. Where this is not possible (e.g. because of forest health dictated felling or windblow) and outside tolerance limits agreed with FCS, an approval from FCS will be sought to deal with adjacency issues through delayed restocking, i.e. a coupe will not be restocked until all surrounding crops are at least 2m tall. Please see section **6.3 - Tolerance Table** for more details.

The overall area of productive woodland will be reduced during the life of the plan through the removal of plantation from riparian sites. Restocking in productive areas will aim to maximise the productive capacity of the forest, the brief guidelines below will be followed to ensure adequate restocking:

- To obtain maximum benefits from restructuring, restocking areas will not be less than 3ha per individual shape or exceed 50ha outwith LISS areas unless forest health issues or windblow dictate otherwise.
- Within LISS areas coupes will not exceed 2 Ha.
- Restock coupes adjacent to the forest road network should be restocked to within a short distance of the forest road for at least 30% of the coupe frontage for future access.
- Non - productive broadleaf elements within productive coupes should be located where they will be of greatest benefit; in riparian zones, adjacent to

open ground, other broadleaf woodland or around archaeological features to enhance the setting.

- Commercial restocking will not be undertaken on soil types 9e, 11c, 11d due to the intensive drainage regimes and high fertiliser inputs required.

5.4 Future Management

The overall aim of the plan is to maintain productive capacity, with species matched to appropriate sites, whilst protecting designated species and sites and restoring native woodland and riparian habitat within the forest. Water quality management is acknowledged as a fundamental issue. Woodland grouse and red squirrel are acknowledged as primary drivers for all management decisions.

Development in best practice will be communicated to staff through the Operational Guidance Book system and training delivered by FCS Learning & Development and will be adopted to continually improve the management of the forest.

5.5 Age structure

Diversification of age structure will not be fully realised in the current rotation, which can be mainly attributed to the effect of previous windblow clearance. Wind firm boundaries across non-LISS coupes will be designed for age class diversification in the next rotation, allowing more widespread restructuring to continue. The location of this framework will be dictated by soils and land form revealed after felling.

Within LISS structural diversity will be achieved by thinning and monitoring the crop for an appropriate final felling age.

5.6 Management of Open Land

The management of open land is detailed in **Section 6.4 Management Prescription Types** and is visualised in **Maps 6 – Future Habitats.**

We recognise the valuable ecosystem services that are provided by open land and in particular active ombrotrophic mire systems such as 'blanket bog'. The benefits include carbon and methane storage, water quality improvement, reduced flooding risks and increased biodiversity.

Blanket bog restoration or enhancement will be undertaken in areas where hydrological connectivity can be assessed as having an effect on intact active blanket bog, on designated sites where blanket bog or it's associated species are the notified features or where we believe that topography will allow full restoration to active bog at a scale that will achieve the benefits noted above.

Where suitable open habitat frames watercourses we will plant native broadleaves adjacent to watercourses to improve aquatic habitat quality, as per our management prescriptions in appendix 5, avoiding sensitive species and habitats.

5.7 Deer Management

Wild deer on the National Forest Estate (NFE) are managed in accordance with the Scottish Government's strategy "Scotland's Wild Deer a National Approach" and under the auspices of the Code of Practice on Deer Management. All proposals and operations are tested against the criteria contained in the Joint Agency Statement on Deer 2004.

The strategy and Code of Practice takes recognition of the fact that Wild deer are an asset, an integral part of Scotland's biodiversity and provide healthy food and recreational opportunities. The challenge of managing wild deer originates in a need to balance the environmental, economic and deer welfare objectives of the Scottish nation with the objectives of private landowners for forestry, agriculture, sporting and other forms of land use.

The principal legislation governing the management of deer in Scotland and hence on the NFE is the Deer (Scotland) Act 1996.

Forestry Commission Scotland's (FCS's) policy recognises that deer are capable of causing significant damage to forests and woodlands, mainly through browsing and bark stripping and can also adversely affect biodiversity through over-grazing of ground flora and the suppression of natural woodland regeneration. They are, however a natural component of woodland ecosystems, they can provide recreational sporting opportunities and venison as a high quality food. The presence of deer can enhance the experience of visitors to the forest.

It is therefore FCS deer policy to:

- Prevent adverse deer impacts on commercial tree crops and the wider habitat. In doing so carry out deer culling in an exemplary and humane way and maintain an effective network of external deer fences where they are required.

- Work closely with relevant organisations and neighbours to make sure that there are integrated deer management plans which seek to recognise the interests of all parties and identify opportunities to reduce overall fencing by contributing towards 'strategic landscape scale fencing'.

- Take opportunities to optimise income from venison from sporting where this does not conflict with our primary objective of maintaining deer impacts at an acceptable level.

- Produce venison in line with Quality Meat Scotland accreditation in the form of The Scottish Quality Wild Venison (SQWV) Assurance Scheme

- Take all practicable steps to slow down the expansion of non-native deer species into areas where they are not currently present.

The East Sutherland LMP area falls outwith an area covered by the Association of Deer Management Groups. Initial discussions have taken place regarding the formation of the South East Sutherland Deer Management Group (DMG). FCS will support the idea, but

this DMG has not been formed yet, and the initial discussions have not involved all the potential members.
East Sutherland LMP area is affected by three FCS Deer Management Units (DMUs) covered by individual Deer Management Plans divided into the following areas:

- 51623 - Dornoch DMU
- 51621 – Achormlarie DMU
- 51618 – Rogart DMU

Currently FCS Deer Management Plans contain mainly cull data over a period of years and deer density information, usually noting the overriding objectives. Revision of this approach in underway and Deer Management Planning is moving towards integration with the Land Management Planning. This approach will become more evident in the coming year. As for now, the individual Deer Management Plans for each DMU are held at the North Highland Forest District Office and are available on request.

The deer population across the FDP area comprises red (*Cervus elaphus)*, sika (*Cervus Nippon)* and roe (*Capreolus capreolus)*, Red being the predominant species. Deer numbers are being managed to ensure that restocked coupes are successfully established and the wider forest habitats protected.

Existing external deer fences will be maintained and marked against bird strike where appropriate. As indicated previously, low grazing pressure will be tolerated, in particular around areas considered to 'buffer' the wider forest. These buffer areas may consist of either managed open space (deer 'lawn' areas) or planted woodland near existing forest edge where browsing damage will be accepted.

Development of a proportionate zone of browsed vegetation in these areas – either commercial density conifers or broadleaved species capable of coppice growth - also carries wider biodiversity benefits and is accepted as a consequence of efforts to manage deer populations without resorting to extensive fencing.

As the forest plan progresses the focus on deer management will change to ensure favourable conditions are present for the establishment of native broadleaves. It is believed that a density of 5 deer per 100ha or lower will be required for broadleaf establishment. Operational policies and procedures are held at the Forest District Office.

During the last year FCS has recorded seven deer killed owing to Deer Vehicle Collisions (DVC) in the Dornoch area, which includes Skelbo and Herrites woodland areas. FCS records DVCs in the wildlife Management System. The risk of DVCs is reduced on property boundaries through a combination of sensibly placed deer fencing and active deer culling. FCS uses SNH authorisation to achieve these culls as appropriate. These authorisations are as per the 1996 Deer (Scotland) Act, Part III, paragraph 18 point 2 with regard to night shooting, any Part II, paragraph 5 point 6 with regard to culling on unenclosed land. In addition to that, FCS uses general licence for deer culling where required. In Skelbo and Harriets areas, a night shooting authorisation has been particularly useful in conjunction with normal deer stocking techniques to control der numbers. Where necessary, FCS contributes to road safety groups or panels. This has involved a significant amount of work in the past.

5.8 Critical success factors

In order to evaluate the relative success of the proposals stated in this plan a number of factors have been identified as key for it's implementation. These 'critical success factors' are detailed in **4.4 LMP Brief**, along with details of how NHFD will monitor delivery and who amongst FD staff will be responsible for that monitoring.

This plan will be reviewed (mid – term review) after 5 years (2020) and a full revision will be undertaken after nine years (2024) to allow a new plan to be submitted by the expiry date of 2025.