



# Carron Valley Forest Design Plan Brief

## Contents

1. Key Background Information
2. Strategic Priorities
3. Key Drivers & Draft Management Objectives

## 1. Key Background Information

- Carron Valley covers some 3,135 hectares and is comprised of two parts separated by the reservoir and the B818 from Denny to Fintry. Cairnoch lies to the north, and covers roughly 650 ha whilst the main block of 2,485 ha lies on the slopes south of the reservoir.
- This design plan is a revision of the previous plan created in 2005, and aims to continue to diversify the age structure and species makeup of the forest, as well as creating and working towards management objectives that relate to the Scottish Lowlands Forest District Strategic Plan.
- Elevation rises from slightly around 150m in the most sheltered valley along the Endrick Water to 570m at the summit of Meikle Bin. Poorer quality soils (primarily peaty surface water gleys and bog) predominate on the upper slopes, while the lower slopes are generally more fertile and tend towards surface water gleys and brown earths.
- The prevailing cool, wet climate is conducive to good conifer tree growth, and despite the relatively high elevation much of the forest is reasonably sheltered due to the surrounding topography. Climate change predictions suggest that the climate will become generally warmer, with drier summers and wetter winters.
- Currently approximately 85% of the site is under woodland cover, with the remaining open ground concentrated primarily around the various hilltops. Sitka spruce makes up roughly  $\frac{3}{4}$  of the woodland, and prolific natural regeneration is present across the site. There are also sizable areas of pine, larch and Norway spruce. Broadleaves currently account for approx. 5% of the woodland area.
- There has been reasonable progress in diversifying the age structure within the forest, and currently the split is roughly:  $\frac{1}{5}$  establishment (0-10 years),  $\frac{1}{5}$  thicket (10-20 years),  $\frac{1}{3}$  pole stage (20-40 years),  $\frac{1}{10}$  mature (40-60 years) and  $\frac{1}{10}$  veteran (60+ years).
- Currently only 150 ha of the forest has been thinned, although a further 400 ha has been identified as potentially thinnable over the next five years. Despite the previous plan highlighting several avenues for expanding Alternatives to Clearfell, little progress has been made to date in increasing the area managed under Low Impact Silvicultural Systems.
- Access across the site is generally good, with an extensive network of forest roads resulting in virtually the entire forest falling within 500m of a road.
- Numerous watercourses are present on the site - primarily draining into Carron Valley

Reservoir, but also into Faughlin Reservoir and the Endrick Water (a SSSI), and water quality is thus a major consideration. There is also significant potential to increase semi-natural Forest Habitat Networks along the riparian corridors.

- Carron Valley is one of the most popular forests within the district for visitors. As the highest peak in the Campsie Fells, Meikle Bin is a major attraction for walkers, and there are a number of other routes within the forest which are also popular. Mountain bike usage has increased significantly since the previous plan, in large part following the construction of a series of purpose-built trails. There is also an ongoing project (undertaken by the Clanranald Trust) to reconstruct a medieval village at Duncarron. Visitor numbers are around 42,800 per annum (6<sup>th</sup> on the district list of All Forest counter surveys).
- Landscape design will be an important consideration, since much of the forest is highly visible from the public road. Sizeable areas of Cairnoch, and much of the ridge line in the main block, have been felled within the last five years, and a previous attempt to soften the upper boundary through the introduction of a graduated density forest margin has largely failed due to prolific Sitka regeneration, browsing and poor targeting of soft species.
- Two Scheduled Monuments are located within the forest – Sir John de Graham's Castle (the remnants of a motte & bailey) near the northwest end of the reservoir, and the Waterside Standing Stones to the south of the River Carron.
- Several important species are present, including Osprey, Black grouse, Pine marten and Red squirrel. There are several sizeable areas of blanket bog, generally located on the higher ground, and Endrick Water SSSI is designated for its fish assembly and botanical interest.
- Browsing damage on new crops has been an issue in recent years – primarily from Roe deer but also due to sheep ingress from neighbouring land, brown hare and the occasional Red deer. The scale of the site and nature of the terrain can make deer control problematic, as can wider access issues (e.g. in winter the site is sometimes inaccessible for days or weeks at a time). Approximately 130 deer are currently culled each year.

## 2. Strategic Priorities

The work of Forestry Enterprise Scotland (FES) is guided by the national strategic directions document, which sets out six Key Aspirations: -

- **Healthy** - achieving good environmental and silvicultural condition in a changing climate
- **Productive** - providing sustainable economic benefits from the land
- **Treasured**- as a multi-purpose resource that sustains livelihoods, improves quality of life, and offers involvement and enjoyment
- **Accessible** - local woodlands and national treasures that are well promoted, welcoming and open for all
- **Cared for** - working with nature and respecting landscapes, natural and cultural heritage
- **Good value** - exemplary, effective and efficient delivery of public benefits

The Scottish Lowlands Forest District Strategic Plan (2014-2017) draws on those strands which are most relevant to the forest areas we manage, and sets out the priorities and key commitments which will best deliver these Key Aspirations.

Table 1 – Relevant National and District Considerations

Aspiration	Relevant National Commitment	Relevant District Priorities	Relevant District Strategic Plan Actions
Healthy	<ul style="list-style-type: none"> <li>• We are committed to high quality silviculture and to increasingly using alternatives to clearfelling</li> <li>• We are exploring how to best steward the carbon resources locked up in the Estate’s trees and soils</li> <li>• We will help the Estate to adapt to climate change and become more resilient to pressure</li> </ul>	<ul style="list-style-type: none"> <li>• The climate and soils in the District will facilitate greater use of lower impact silvicultural systems, providing opportunities for a wider choice of tree species (including productive broadleaves) as well as a wider choice of silvicultural practices.</li> <li>• We have seen an increasing impact from pests and disease in the trees we manage and the District has a particular issue with Chalara fraxinea, and with Dothistroma Needle Blight (DNB) affecting our new planting and restock sites.</li> </ul>	<ul style="list-style-type: none"> <li>• Where local climate and soils allow, we will maximise the area under lower impact silvicultural regimes.</li> <li>• We will increase where practical the diversity of species choices, including productive broadleaves and minor conifer species.</li> <li>• We will improve our silvicultural practices, including the planting of productive broadleaves.</li> <li>• We will ensure that national and research guidance, Ecological Site Classification (ESC) and Establishment Management Information System (EMIS) decision support tools will be used to inform our selection of new planting and restocking species.</li> <li>• In response to an increasing threat from pests and diseases we will alter felling programmes and vary our choice of new planting and restocking species to more tolerant species.</li> </ul>
Productive	<ul style="list-style-type: none"> <li>• We aim to increase the contribution of the NFE to the economy of Scotland and its regions and recognise the potential of the Estate to assist transition to a low carbon economy</li> <li>• We aim to provide at least three million cubic metres of softwood timber every year on a sustainable basis</li> <li>• We will market timber in ways that encourage value adding and additional jobs in manufacturing and processing, recognising the benefits of contributing to local</li> </ul>	<ul style="list-style-type: none"> <li>• Timber transport time and ‘costs to market’ are low in the central belt due to many timber using industries and good road networks. Because of a generally milder climate than other parts of Scotland, there are also fewer winter interruptions to supply.</li> <li>• The proximity of a large urban population give us a lead role in developing recreation hubs and day visits to our forests generating economic benefits from visitor spending for local economies and business as well as the District</li> </ul>	<ul style="list-style-type: none"> <li>• We aim to identify areas of existing broadleaf woodland restocking / regeneration that can be brought into active management for timber production.</li> <li>• SLFD will maintain a harvesting output of 150,00m<sup>3</sup> annually.</li> <li>• We will increase the volume of wood going to niche markets</li> <li>• We will work with partners to find new ways to harness our natural and cultural heritage and develop the Estate’s potential for tourism</li> </ul>

	<p>economic activity, especially in the more fragile rural areas</p> <ul style="list-style-type: none"> <li>We will work with partners to find new ways to harness our natural and cultural heritage and develop the Estate's potential for tourism</li> </ul>		
Treasured	<ul style="list-style-type: none"> <li>We are committed to creating more uniquely special places across the Estate and to delivering benefits to an increasingly diverse range of Scotland's people</li> </ul>	<ul style="list-style-type: none"> <li>All our staff, particularly the Communities Recreation &amp; Tourism team, have a vital, visible and empowered woodland presence and one of our priorities in working with communities is to encourage people to value their local green place. We aim to make our woodlands attractive and accessible visitor locations to a diverse range of people of all ages and all abilities and our outreach work actively encourages and facilitates communities to use the NFE.</li> </ul>	<ul style="list-style-type: none"> <li>Through Land Management Plans and careful implementation of our work programmes in visitor zones we will deliver improvements for peoples' asthetic appreciation and security, especially in the most visited parts of the Estate in the CSGN.</li> <li>We will prepare visitor experience plans that explore how we may best interpret special places like the Kilpatrick Hills, Blairadam, and Carron Valley to add value to visitors appreciation and understanding of these locations and their management.</li> </ul>
Accessible	<ul style="list-style-type: none"> <li>We will continue to invest available resources into high quality facilities that encourage and help visitors experience and enjoy the outdoor environment</li> </ul>	<ul style="list-style-type: none"> <li>We have a lead role encouraging greater use of the Estate, through developing accessible paths and track networks, making people feel welcome, and our staff providing a local presence and generating community engagement, especially near to where people live and work and delivery of the 'visitor zone' work.</li> </ul>	<ul style="list-style-type: none"> <li>We will continue to review our recreation facility provision, monitoring quality and concentrating resources where they most benefit visitors and local communities.</li> <li>We will develop recreation master plans for our key sites, including Carron Valley, Blairadam, Kilpatrick Hills, Devilla and Campsie Glen (N)</li> <li>Our staff will continue to be responsive to visitor needs, to learn and develop their customer focus and facility management skills and continue to improve our marketing including our on line information and promotional work. This will include working closely with VisitScotland and other local partners.</li> <li>We will continue to make the Estate available for the wide range of activities, events and sports that we currently host and, by making</li> </ul>

			improvements to our permission system, improve our service and reduce the risk of potential conflicts between different users.
Cared for	<ul style="list-style-type: none"> <li>• Across Scotland, we plan to increase broadleaved tree cover from the current 8% woodland cover to around 20%</li> <li>• Across Scotland, we are committed to maintaining the best open habitats in good ecological condition</li> <li>• Across Scotland, we will identify particularly vulnerable species for which the National Forest Estate is important and take specific conservation action</li> <li>• We safeguard archaeological sites through our planning and management and recognise special places and features with local cultural meaning</li> </ul>	<ul style="list-style-type: none"> <li>• The larger community base means we have a lead role engaging the public in natural, cultural, and historical values of the NFE, providing opportunities for better understanding and volunteering in the natural environment.</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• We will be more proactive in engaging with communities on the natural, cultural and historic values of the NFE, informing them of local things of note and encouraging involvement through volunteering.</li> <li>• We will use the Native Woodland Survey of Scotland (NWSS) to inform our Land Management Plan work, which will result in expanding native woodland creating where possible habitat links between land ownerships in the CSGN area.</li> <li>• We will ensure the continuity of our open habitats by moving an increasing area into monitored and managed status.</li> <li>• We will ensure that our significant designated historic assets are managed according to Monument Management Plans agreed with Historic Scotland</li> </ul>

### 3. Key Drivers & Draft Management Objectives

On the basis of the key information, and given the considerations outlined above, a series of drivers have been identified in order to produce the management objectives proposed for Carron Valley.

#### **Key Aspiration – Healthy**

Climate change brings threats and uncertainty to the future management of the forest. Changes in storm frequency and intensity may increase the risk of windblow, while drier and warmer summers might increase the risk of drought. There is also likely to be an increased risk of damaging pests and pathogens. A wider range of tree species well suited to the site (in terms of both soil and climate), and a more diverse forest structure, will increase its ability to cope with climate change.

The highly sensitive nature of the catchment area makes water quality a major consideration within the context of the plan. Good woodland design, including expanded riparian zones and appropriate species choice, can help safeguard water quality and improve flood management. Well planned and managed operations in accordance with Forest and Water guidelines will also ensure water quality remains high.

Although some areas of the forest have been thinned, on the lower slopes there is significant potential to increase the area of the forest managed under Low Impact Silvicultural systems, which will help to increase the resilience of the forest, and reduce the landscape impact of future operations in some of the most visually sensitive areas. There is also the potential to explore opportunities to exploit the current prolific natural regeneration of Sitka spruce through the use of an appropriate silvicultural system.

#### **Management Objectives:**

- *Sequester carbon in woodland and timber products, whilst developing a forest resilient to the impacts of climate change (e.g. through increased species diversity).*
- *Increase riparian woodland buffer areas, and utilise appropriate species during restocking of adjacent ground, to safeguard water quality.*
- *Where climate and soils are suitable, maximize the area of the forest managed under lower impact silvicultural regimes and/ or conventional thinning regimes.*

#### **Key Aspiration – Productive**

Current forecasts indicate that the forest will continue to produce substantial volumes of timber throughout the duration of the next plan (primarily spruce, but also some larch and pine). Whilst the soils and climate on the upper slopes will restrict the range of suitable restock species considerably, the more benign conditions across much of the forest offers considerable potential to diversify the species grown to include a wider range of conifers and productive



broadleaves.

**Management Objectives:**

- *Produce construction grade timber and other timber products for local and national markets.*
- *Increase the proportion of timber suitable for niche markets through increased diversification of productive species (conifer and broadleaf), maximization of thinnable areas and management of stands beyond the normal rotation age where feasible.*
- *Sustainably manage the deer population in order to minimize leader browsing on new crops.*

**Key Aspirations – Treasured and Accessible**

Since the previous plan there has been a significant decline in antisocial use of the forest, and a large increase in the level of recreational usage - in particular for mountain biking, but also for walkers (both local and from further afield) and nature enthusiasts.

**Management Objectives:**

- *Build on the 2012 Visitor Experience Plan to explore how best to add value to visitors appreciation and understanding of Carron Valley.*
- *Develop contacts within, and involvement of, the local communities.*
- *Work with the Clanranald Trust to develop the potential of the historic fort project from both an educational and tourism perspective.*

**Key Aspiration – Cared for**

Although there has been some increase in age diversity within the forest, visually it remains relatively uniform and attempts to soften some of the hard edges through the introduction of variable density planting at the forest margins have been largely unsuccessful due to prolific Sitka spruce regeneration.

There has been little development of semi-natural Forest Habitat Networks within the site - currently the majority of watercourses have conifers planted hard up to their edges, and where broadleaf riparian zones have been established they are often subject to invasion by Sitka spruce regeneration.

In addition to the two Scheduled Monuments, which are covered by existing Historic Scotland-approved management plans, there are a number of other sites of archaeological interest which will be managed in accordance with guidelines on Forestry and the Historic Environment.



**Management Objectives:**

- *Manage open and native woodland habitats to benefit important existing species such as black grouse, osprey, pine marten and red squirrel.*
- *Maintain the woodland as mainly conifer to benefit red squirrel.*
- *Maintain Long Term Retentions and Minimum Intervention areas to create future veteran trees for the benefit of osprey, pine marten, red squirrel and the deadwood network.*
- *Maintain open and riparian links from the moorland to open space within the woodland for the benefit of black grouse.*
- *Preserve the most important views to, and within, the site and enhance where possible through coupe shape design, species diversification and judicious use of open space.*
- *Protect known historic features, including both scheduled and unscheduled archaeological remnants.*
- *Work in partnership with Scottish Water to maintain the main water bodies, including controlling invasive species.*
- *Maintain and improve key features and habitat condition at the Endrick Water SSSI site and within suitable areas of blanket bog priority habitat.*
- *Increase the semi-natural Forest Habitat Networks within the site, primarily through development of riparian woodland.*