

# Appendices

## Contents

Appendix I: Land Management Plan Consultation Record .....	34
Appendix III: Tolerance Table .....	38
Appendix IV: Management Plan Brief .....	39
Appendix VI: Maps.....	50
Appendix VII: Relevant Reference Documents.....	51

## Appendix I: Land Management Plan Consultation Record

Consultee	Date contacted	Date response received	Issue raised	Forest District Response
Mr + Mrs Johnson (Neighbour)	15/04/2016	21/04/2016	<p>If field cannot be continued under grazing would prefer deciduous or mixed woodland rather than blanket conifer.</p> <p>Would like to see site managed under non-clearfell basis.</p> <p>Welcome broadleaf fringes, but would like to see them increased, particularly on wetter ground and around bluebell bank.</p>	<p>Following initial visit by community ranger on 15/04, CL visited on 18/05 to discuss their concerns.</p> <p>As part of a wide ranging discussion, it was agreed that the potential to plant productive broadleaves instead of conifers on the ground below South Cult would be investigated during the detailed planning process, but operational and/or financial pressures might preclude this being a suitable option. The potential to expand the level of native broadleaf planting (particularly on the wetter ground) will also be explored.</p>
Mr + Mrs Penderis (Neighbour)	15/04/2016	11/05/2016	<p>Concerns about impact on water supply (located on FES ground)</p> <p>Preference to retain gorse near boundary for livestock shelter</p>	<p>Following initial visit by community ranger on 15/04, CL visited on 19/05 to discuss their concerns.</p>

			<p>Prefer indicated path up to fort to be natural and inconspicuous</p> <p>Preference for increased fringe of screening native broadleaves and/or replacement of productive conifers with productive broadleaves</p>	<p>Clarified that Forester &amp; Water Guidelines require min. 50m buffer between forest edge and private water supply.</p> <p>Gorse falls within area marked for open ground, and so should not be an issue retaining it.</p> <p>Potential to plant productive broadleaves instead of conifers on the ground below South Cult will be investigated during the detailed planning process, but operational and/or financial pressures might preclude this being a suitable option. The potential to expand the level of native broadleaf planting (particularly on the wetter ground) will also be explored.</p>
Ms Pleass (Neghbour)	18/04/2016	18/04/2016	<p>Queried likely fence details for existing march fences and any new fences required for the proposed planting. Also noted differences between climate experienced vs what is forecast for the future in the proposals.</p>	<p>Email response on 22/05 explaining that fencing proposals will not be clarified until much further down the line, once we reach operational stage. Contact details for Ops New Planting Forester provided to allow discussions over existing march fences.</p>

				Explained that future climate forecasts come from FR, and are based on best data and models we have at the current time
Mr Wilson (Neighbour)	18/04/2016	13/05/2016	Planting of commercial conifers in close proximity to house will impact on views. Possible for screening fringe of broadleaves?  Request to preserve desire line from boundary to internal forest road.	Email response on 18/05 confirmed that screening fringe of broadleaves should be included when planting (areas concerned are covered by previously approved Lambhill FDP).  Contact established with CRT Beat Forester and Ops New Planting Forester to allow ongoing liaison regarding planting and desire lines.
RSPB	12/04/2016	22/04/2016	RSPB records indicate breeding waders (lapwing & oystercatcher) within the 10km grid squares that the site lies within, but no specific data held for the site.  No concerns regarding potential impact on bird species populations or designated sites in the area, but would advocate biodiversity enhancement methods are considered when creating open and/or wet habitats on the site.	No new open or wet habitats proposed for creation, but existing open and wet woodland areas will be managed according to all relevant guidelines.
Scottish Water	12/04/2016	25/04/2016	Confirmed that no drinking water catchments or water abstraction sources in the area will be affected by	Water pipeline locations already designed into proposals through inclusion

			proposals. Confirmation of 2 trunks mains within the site.	of appropriate open ground buffers.
SNH	12/04/2016	29/04/2016	No formal response	
SEPA	12/04/2016	06/05/2016	Site falls below threshold area for site-specific advice	

## Appendix III: Tolerance Table

	Adjustment to felling period	Adjustment to felling coupe boundaries	Timing of restocking	Change to species	Windthrow response	Adjustment to road lines	Designed open ground
<b>FC Approval not normally required (record and notify FC)</b>	Fell date can be moved within 5 year period where separation or other constraints are met	<10% of coupe size.	Up to 5 planting seasons after felling (allowing fallow periods for hylobius).	Change within species group E.g. Scots pine to birch,  Non-native conifers e.g. Sitka spruce to Douglas fir,  Non-native to native species (allowing for changes to facilitate Ancient Woodland policy).	<b>Low sensitivity area</b> Where windthrow represents more than 60% of the crop the area, including standing trees may, be felled plus up to 5Ha beyond in order to seek a windfirm edge.	<b>Low sensitivity area</b> Creation of turning points/ loading bays. Deviation of <100m either side of the predicted centre line of the road/ track.  <b>High sensitivity area</b> Deviation <75m in either direction from centre of road/track.	Location of temporary open ground e.g. deer glades if still within overall open ground design  Increase by 0.5 ha or 5% of area - whichever is less
<b>Approval by exchange of letters and map</b>		10-15% of coupe size.	5 years +	Change of coupe objective that is likely to be consistent with current policy (e.g. from productive to open, open to native species).	<b>Low sensitivity area</b> As above to include 5-10 Ha of standing crop to seek a windfirm edge. Areas where windthrow represents <60%.  <b>High sensitivity area</b> Areas where windthrow represents <60%.	<b>Low sensitivity area</b> Deviation of 100-150m in either direction from centre of road/track.  <b>High sensitivity area</b> Deviation of 75-100m in either direction from centre of road/track.	Increase of 0.5 ha to 2ha or 10% - whichever is less  Any reduction in open ground
<b>Approval by formal plan amendment</b>	Felling delayed into second or later 5 year period  Advance felling into current or 2 <sup>nd</sup> 5 year period	>15% of coupe size.		Major change of objective likely to be contrary to policy, E.g. native to non-native species, open to non-native,	<b>Low sensitivity area</b> As above. Windblown area + an area >10 Ha to find a windfirm edge.  <b>High sensitivity area</b> Felling of standing trees beyond the area of windblow.	Deviations exceeding the above.	More than 2 ha or 10%  Any reduction in open ground in sensitive areas  Colonisation of open Areas agreed as critical

## Appendix IV: Management Plan Brief

# Lambhill & Easter Muirhead Land Management Plan Brief

## Contents

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



## 1. Key Background Information

- Following the acquisition of Barnhill Farm in Fife, the opportunity is being taken to consolidate the neighbouring sites at Lambhill and Easter Muirhead into a single Land Management Plan covering the next 10 years which will work towards management objectives relating to the Scottish Lowlands Forest District Strategic Plan.
- Barnhill Farm covers approximately 160ha and was acquired by FCS in 2014. It is situated immediately south of the A977 and east of the A823, and lies adjacent to the existing FCS landholding at Lambhill, which was acquired in 2009 and covers approximately 200 ha. Easter Muirhead is a small (18 ha) block of mature predominantly conifer woodland situated south of the minor public road that provides access to the southeast corner of Barnhill.  
The surrounding landscape is predominantly agricultural with a multiplicity of small woodland blocks and shelterbelts.
- Lambhill and Easter Muirhead are currently covered by separate, previously approved, Forest Design Plans running from 2010-20 and 2008-18 respectively, but will be incorporated with Barnhill into a single Land Management Plan.
- Much of Lambhill was open cast mined during the 1980's and early 1990's before subsequently being restored to agriculture and some small areas of forestry – the remaining areas comprise former agricultural ground (both arable and grazing). The majority of Lambhill was planted during Spring 2015 following extensive ground preparation work required due to the poor quality of the original restoration works.
- Easter Muirhead comprises predominantly commercial conifer species, with some birch, planted in 1969. The site has significant areas of windblow and rhododendron ponticum is an invasive presence.
- The prevailing climate is warm, moist and relatively sheltered resulting in good growing conditions for a broad range of both conifer and broadleaf species. Climate change suggests that conditions will become generally warmer and drier, which may increase suitability for some species (particularly broadleaves) whilst reducing it for others (e.g. conifer species sensitive to drought).
- Soils at Barnhill are primarily composed of good quality brown earths and surface water gleys, with a small area of peat around Lambhill Moss. Topography is generally gently undulating, with steep slopes rising to the east end of the site at Cult Hill. One or two small burns run within the site, and the original agricultural land contains a system of field drains.

- Lambhill has good existing access provision, both externally and within the site through a main 'loop' forest road which also has several spurs running off. Although Barnhill has direct access to a minor public road at the southwest corner, this is unsuitable for operational access due to the restrictive conditions along the public road. There is an existing network of farm tracks within the site which should be suitable for upgrading for operational access, and there is the potential to link these to the existing Lambhill infrastructure through the construction of a new forest road. There is currently no road access into the block at Easter Muirhead.
- Overhead power lines and a gas main cross Barnhill running roughly east-west direction, and there are water and oil pipelines running roughly north-south.
- Apart from the small village of Blairingone to the northwest of Lambhill, there is a sparse local community comprised mainly of scattered farms and houses. Lambhill and the majority of Barnhill falls within Perth & Kinross Council, with the eastern end of Barnhill falling within Fife. Two of the existing farm tracks form part of the Perth & Kinross Core Path network, and one of these is also a public Right of Way.
- There are several areas of existing mature native woodland scattered across Barnhill, and open habitat types of note include Purple Moor Grass, Rush Pasture, Lowland Fen and Lowland Dry Acid Grassland.
- In addition to the existing Scheduled Monument at Barnhill (prehistoric fort of Cult Hill), an archaeological survey in 2015 highlighted several other more minor features of interest, including areas of rig & furrow around Cult Hill and the remnants of a walled garden.
- Roe deer are present on site, and any new planting of soft species is likely to result in medium to high pressure from the resident population in the surrounding countryside. Hare are also known to be present around Cult Hill.
- An EIA determination will be required as the area of Woodland Creation will exceed the threshold value of 5 ha, and creation of new forest road infrastructure may potentially exceed the threshold value of 1 ha.

## 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 Scottish Lowlands District will allow us to make increased use of lower impact silvicultural systems, and provide opportunities for a wider choice of tree species (including productive broadleaf species) as well as a wider choice of silvicultural practices.</li> <li>The suitable land and climatic conditions in the District have given us a role in carbon sequestration, through the creation of new woodland.</li> <li>We have recently seen an increasing impact from pests and disease in the trees we manage. The District has a particular issue with Chalara fraxinea and Dothistroma needle blight, which affect our new planting and restock sites.</li> </ul>	<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> <li>The District will continue its significant role in carbon sequestration through the creation of new woodlands.</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 those that are more tolerant.</li> <li>We will ensure that national and research guidance, Ecological Site Classification and Establishment Management Information System decision support tools will be used to inform our selection of new planting and restocking 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> </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> </ul>	<ul style="list-style-type: none"> <li>Over the next ten years, we aim to have a timber haulage road into every block we manage.</li> <li>We have large areas of new broadleaf planting and will actively manage those highlighted for timber production.</li> <li>We will increase the volume of wood going to</li> </ul>

<p>Forest Enterprise Scotland Managing the natural Estate</p>	<ul style="list-style-type: none"> <li>• Sitka spruce will remain highly important... but we intend to manage at least a quarter of our expanding broadleaved woodlands to produce quality hardwoods and wood fuel.</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 economic activity, especially in the more fragile rural areas.</li> </ul>	<ul style="list-style-type: none"> <li>• We have a large share of the national supply of biomass for energy generation and, with the largest population of all the Districts, demand for our woodfuel is increasing. We have been looking at small-scale supply options that meet demand for sustainable wood material and create economic activity. Being close to many small craft businesses and end consumers, we have a lead role in niche marketing and adding value.</li> <li>• Thanks to climate and site suitability, we can play a lead role in carbon sequestration through the creation of new woodlands.</li> </ul>	<p>niche markets and start a local firewood shop.</p> <ul style="list-style-type: none"> <li>• We will continue to offer grazings on acquisition sites pre-planting</li> <li>• We will continue to use local authority forest and woodland strategies to inform the location and suitability of new woodlands.</li> </ul>
<p>Treasured</p>	<ul style="list-style-type: none"> <li>• We want to encourage local people to get involved with using and managing local Estate woodlands so will actively engage with local communities.</li> <li>• We plan the size and shape of timber harvesting areas to fit into the landscape.</li> </ul>	<ul style="list-style-type: none"> <li>• One of our priorities when working with communities is to encourage people to value their local green place.</li> </ul>	<ul style="list-style-type: none"> <li>• We will deploy our community ranger team to inform, consult and engage with local people and groups so that we continue to add value and develop our contribution to community woodlands within the Central Scotland Green Network. We will do this in accordance with our consultation strategy.</li> <li>• We will continue to diversify species, planting mixtures and spacing on new planting sites in line with ESC and best silvicultural practice.</li> </ul>
<p>Cared for</p>	<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>• 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> </ul>	<ul style="list-style-type: none"> <li>• We will use the Native Woodland Survey of Scotland to inform our Land Management Plan work, with the aim of increasing native woodland and creating, where possible, habitat links between land ownerships in the Central Scotland Green Network area.</li> <li>• We will continue to commission archaeological surveys where necessary, and make use of local authority and trust archaeology services in our historic planning and work programmes.</li> <li>• We will ensure that our significant designated historic assets are managed according to</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 Barnhill & Lambhill.

#### 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 and winter flooding, 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 range of tree species well suited to the site (in terms of both soil and climate), and a resilient forest structure managed where appropriate using Low Impact Silvicultural techniques, will increase the ability of the new woodland to cope with climate change. The creation of new woodland in general, and with a focus on timber production where suitable, will offer the potential to increase the ability of the site to sequester carbon in the medium to long term.

#### Management Objectives:

- *Sequester carbon in woodland and timber products, whilst developing a forest resilient to the impacts of climate change (e.g. through species diversity).*
- *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

The prevailing warm, moist climate and generally good quality ground conditions offers the potential to grow a broad range of productive species. Where deer protection is feasible the focus should be on productive broadleaves and/or alternative conifer species to maximise the economic return available by growing high quality timber crops.

Although the existing network of farm tracks at Barnhill offers the basis for developing an internal road infrastructure, long term operational access externally needs to be secured through the development of a link with the existing road infrastructure within Lambhill.

#### Management Objectives:

- *Produce construction grade timber, quality pulpwood 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).*
- *Sustainably manage the deer population in order to minimize leader browsing on new crops.*

### **Key Aspiration – Treasured**

Although there is a relatively small resident population in the surrounding area, the presence on site of several core path routes and a public right of way, in conjunction with a site of historic interest (the hill fort) means that it would be worth exploring opportunities to develop low-key recreational opportunities.

With the exception of Cult Hill, the site is not generally prominent in the wider landscape, but careful woodland design should still be used to ensure that species choice and new woodland shapes sit well within the existing landscape.

#### **Management Objectives:**

- *Develop contacts within, and involvement of, the local communities.*
- *Explore potential to develop low-key recreational opportunities (e.g. informal path networks)*
- *Preserve the most important views to, and within, the site and enhance where possible through careful design of new woodland shapes, species diversification and judicious use of open space.*

### **Key Aspiration – Cared For**

The prehistoric fort on Cult Hill, and several other areas of more minor archaeological interest will need to be considered when designing open space within the new woodland in order to preserve archaeological remnants.

There are several areas of existing woodland within, and adjacent to, the site that can be used to form the basis for developing semi-natural forest habitat networks which link with the wider area.

#### **Management Objectives:**

- *Protect known historic features, including both scheduled and unscheduled*



*archaeological remnants.*

- *Develop semi-natural Forest Habitat Networks within the site, and linking to existing neighbouring woodland.*
- *Manage existing native woodland and open habitats to maximize biodiversity value through increased habitat diversity.*

## Appendix VI: Maps

The table below lists the maps which support and form part of this Land Management Plan.

- Location
- Soil Type
- Existing Woodland
- Current Operational Access
- Opportunities and Constraints
- Design Concept Proposals
- Management Approach
- Proposed Thinning
- Proposed Operational Access
- Future Species

## Appendix VII: Relevant Reference Documents

In addition to those already referenced within the main text the following key policy or guidance documents which have influenced this plan are listed here:

- UK Forestry Standard (3rd Edition)
- UK Woodland Assurance Standard 3.1
- Scottish Forestry Strategy 2006
- Scottish Lowlands Forest District Strategic Plan 2014 – 2017
- Central Scotland Forest Strategy
- Perth & Kinross Forestry and Woodland Strategy 2014
- Fife Forestry and Woodland Strategy
- SNH Landscape Character Assessments for 'Fife'.
- SNH Landscape Character Assessments for 'Tayside'.
- Perth & Kinross Local Development Plan 2014 (adopted)
- Perth & Kinross Local Development Plan (proposed)
- Perth & Kinross Local Biodiversity Plan
- Historic Environment Scotland - Strategy for Scotland
- Scottish Lowlands Forest District – Monument Management Plan 2015
- Scotland River Basin Management Plan
- SEPA Flood Risk Management Maps
- Forestry Commission Bulletin 62 – Silviculture of Broadleaved Woodland
- Forestry Commission Bulletin 110 – Reclaiming Disturbed Land for Forestry
- Forestry Commission Bulletin 119 – Cultivation of Soils for Forestry
- Forestry Commission Practice Guide 3 – The management of semi-natural upland mixed ashwoods.
- Forestry Commission Practice Guide 8 – The management of semi-natural wet woodlands
- Forestry Commission Practice Guide 14 – Restoration of Native Woodland on Ancient Woodland Sites
- Forestry Commission Practice Guide 21 – Choosing stand management methods for restoring planted ancient woodland sites
- Natural Reserves - Guidance for their selection and management on the NFE in Scotland
- Minimum Intervention Areas - Guidance for their selection and management on the NFE in Scotland
- Long-Term Retentions - Guidance for their selection and management on the NFE in Scotland