



# Craik

# Forest Design Plan

## 2014 to 2023

## Design Brief

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## 1. Background and key information

The plan comprises 4251ha of predominantly restructured upland conifer forest of which only 17% remains in first rotation (planted around the 1960's and 70's). Restructuring has progressed well over the past 20 years or so with many permanent habitat networks have already been created.

This is a forest design plan revision of the existing forest plans for Gair 823ha, Greyhill 675ha, Craikhope 886ha, Meadshaw 832ha and Crooked Loch 1034ha, totalling 4251ha for the composite Craik Forest Design Plan area.

The current tree species proportions in the area include Sitka Spruce 54%, Lodgepole pine 6%, Norway Spruce 6%, Larch 4%, Scots Pine 1%, Mixed Broadleaf 5%, with the remainder being permanent or temporary open space.

The majority of the forest has a challenging climate including cool, wet and moderately/highly exposed conditions. Some areas have better climates including warmer, more sheltered and drier conditions. The soils within Craik forest are a range of upland soil types including some Brown Earths, Peaty Gleys, Surface Water Gleys and Podzols and 1107ha of Bogs (including Juncus, Molinia, Sphagnum, but mostly Calluna blanket bog).

The combination of soils and climate makes large areas of the land only suitable for growing the more tolerant species including Sitka Spruce, Noble Fir, Pines, Larches, birches and willows. There are however locations across the forest where alternative species are growing very well including Norway Spruce, Douglas Fir, Grand Fir, Oak etc. In many cases these areas can be expanded in the future forest to build resilience into the forest to help mitigate against climate change issues.

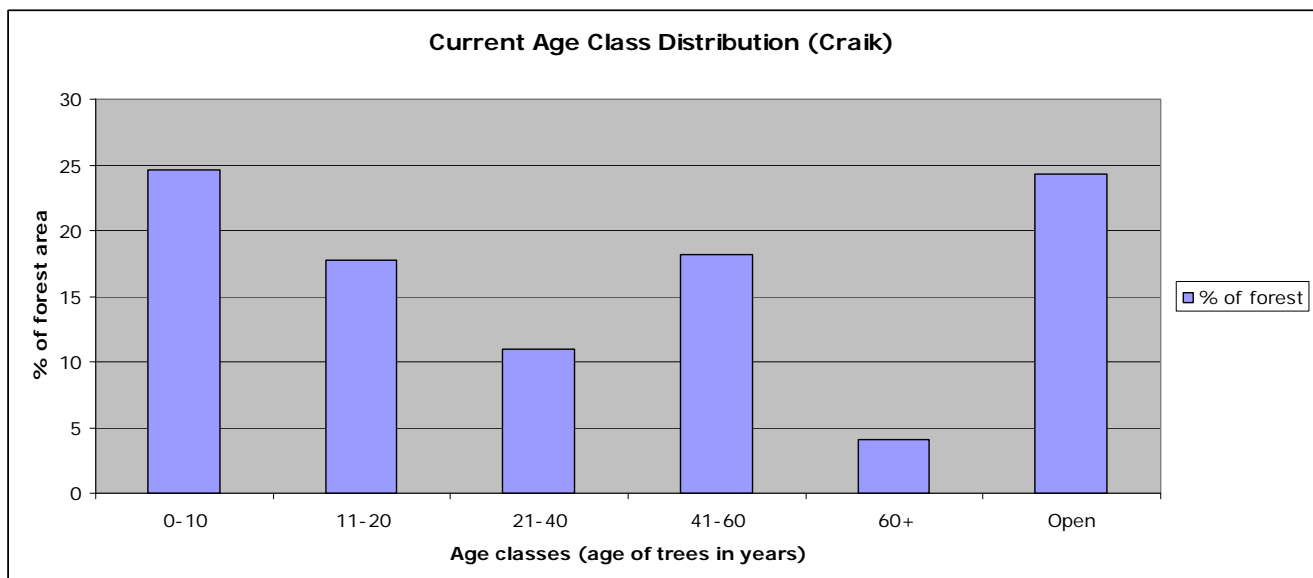
There is opportunity to further diversify tree species. 27% of FCS owned land at Craik Forest is classed as being "suitable or very suitable" for Norway Spruce, Grand Fir, Red Cedar and to a lesser extend Douglas Fir. Scots Pine and Noble Fir are deemed "suitable or very suitable" on the land above this zone but care must be taken on choosing the extent of these species as it would have significant negative impacts on timber production and revenues. Sitka Spruce remains "suitable and very suitable" across the vast majority of the FCS land at Craik. Climate change predicts wetter winters and drier summers but large areas will still be very suitable for Sitka Spruce in the next rotation. Approximately 75% of the area is "suitable or very suitable" for Japanese Larch but this species has the challenges of Phytophthora and also limited volume production compared to spruces and other conifers. The plan for the tree species in the next rotation is described in section 2.

In many locations across Craik Forest the thinning of tree crops has generally been limited by the wetter soils and higher wind risk. However, successful thinning has been carried out in the lower lying spots of Meadshaw and Craikhope accounting for 5% of the whole forest area. There is some opportunity to extend this thinning area in this current rotation with many young crops soon reaching first thinning age (approx 20 years old), the current thinning plan forecasts 14% (597ha) of the forest will be thinned in this current rotation. This will primarily be the more sheltered areas including those areas to be managed under a Continuous Cover Forestry System.

Due to the climate and soil limitations currently the majority of the forest is managed on a traditional patch clearfelling management type with smaller areas of Long Term retention, Natural reserve and

Minimal Intervention. Areas of continuous cover forestry are limited to the better soils and climates near Craik Village and through large areas of Meadshaw.

Landscape is only moderately important in the forest as there are low numbers of visitors and the visibility is generally low. Craik forest is part of a much wider and larger upland forest landscape and the future forest design and management layout must take account of the neighbouring forests (including Eskdalemuir forest) as well as the natural features of hills (with convex slopes), wetlands and water courses. The forest shapes are informed almost entirely by landform rather than pattern of enclosure – the shapes aim to be organic and asymmetrical. The second rotation management layout is already well established and taking account of many of these natural features but there are still a few carry over geometric shapes from the first rotation crop. Overall very good progress has been made towards restructuring albeit wind has made it difficult to retain older trees but the aim would be to reach full restructuring by the end of the current rotation. Current structure is categorised in age in the graph below. The proportion of older trees is too low and the plan will aim to increase this proportion.



Water is a key feature in the forest with a number of different catchments including Gair and Grey Hill areas mainly flowing Northwards into the Etrick and the Tweed and Craikhope, Meadshaw and Crooked Loch flowing Eastwards into the Teviot and then the Tweed. Crooked Loch feeds the public Water supply at Ale Moor reservoir. There is a project relating to natural flood management near Craik village on the Borthwick Water. Water quality in the forest is generally good but further improvements can be made with strengthening riparian buffers.

There is a long history of people using the land around Craik including the roman roads (2000 years old), through to the Border Reivers of the 15th and 16th centuries who reigned supreme across this frontier territory between England and Scotland. From 1700 onwards beef and cattle were key land uses in the area. All of this human activity has left a number of interesting historical sites including 4 Scheduled Ancient Monuments (roman road, enclosures and earthworks) and numerous unscheduled sites of interest (e.g. sheepfolds). These features will be protected as part of the forest plan.

Provision of recreation facilities is limited because demand is low but all of the forest is open to the public via the Scottish Outdoor Access Code.

In terms of formal conservation designations there are none in the actual FCS area but there is one SSSI just off FCS land at Kingside Loch. The forest lies in the Southern Uplands Landscape type. Management of the forest is influenced by the Scottish Borders Woodland Strategy 2005 and priorities are listed in the 2012 Technical Note including; restructuring, landscaping, biodiversity.

The main communities near to the forest are rural, including residents at Craik Village, Robertson, Ettrick and many rural houses and farms threaded amongst the countryside. Craik is only 12 miles from Hawick.

There are no records of Ancient woodland in the inventory from 1750 and 1850 and therefore native woodland component is delivered via new native woodland following first rotation felling. Most of these have been created as part of the restructuring and establishment of the second rotation. Most will continue to be permanent native woodland networks associated with the water courses and riparian zones.

In terms of species, there are red squirrels (under threat from grey invasion from the South), otters, and schedule 1 raptors all of which require special habitats. There are important open habitats around Crooked Loch, Goose Loch and Windylaw Loch where bog habitat and associated vegetation are nationally important. The forest design will take all of these assets into account.

Roe deer are commonplace in the forest and they are an ongoing threat to tree establishment. Control is via professional wildlife officers. Deer fencing and tree shelters have rarely been used in broadleaved establishment but such is the threat from deer we now plan additional protection to secure establishment of these softer more palatable species.

Phytophthora is currently a concern to larch and other tree species across South Scotland and it is rapidly spreading eastwards. Currently there is no evidence of the disease in Craik but this FDP revision will identify the issues, address the concerns and plan accordingly.

Timber transport is a key issue throughout this area given the ongoing high timber volumes being planned and forecast. Craik Forest benefits from recent improvements via the Strategic Timber Transport Fund including the Eskdalemuir bypass and Ettrick B709 road between Ettrick and Eskdalemuir. But difficulties for timber wagons, other road users and communities are still commonplace. The agreed exit points from the forest onto agreed routes are at Craik Village, Crooked Loch (North entrance) and Gair. From these points timber is transported in all directions. Ongoing liaison with communities and stakeholders is undertaken to maintain co-operation. In 2007 timber transport was considered as part of the wider Craik Forest Area Development Study. The report suggested three different options to improve timber transport strategically including tie in with the "Eskdalemuir Bypass" and moving timber south. The report concluded;

- Significant capital investment in new internal forest road infrastructure spanning multiple ownership's and difficulty in overcoming all the inherent issues associated with this;
- Commitment required by the respective forest owners to the on-going revenue expenditure needed to maintain the roads thereafter;
- A strong reluctance amongst some forest owners to pursue in-forest routes due to potential difficulties with reaching agreements
- There was a prevailing feeling amongst the owners that the ultimate strategic and financial responsibility for providing public roads that are fit for purpose, including timber transport, lay with the Local Authority and that future timber traffic flows should be planned for accordingly.



Due to some of these difficulties there has been no further progress in implementing or agreeing strategic timber transport for FCS Craik area.

## 2. Key drivers for design and draft management objectives

### Primary Management Objectives

#### Key theme: Climate Change

The forest has large potential and capacity for timber growth and these trees will sequester carbon. The plan will maximise conifer and broadleaf production through careful selection of site suitable species - conifer species will produce timber products and broadleaf species will generally act as permanent native woodlands. The plan will deliver a resilient forest that will be healthy in the changing climate. The forest will aim to act as an asset to users in terms of water management and protection of soils for the future. At the start of the next rotation it is expected that approx 15% of the forest area will act as riparian buffers that will control water flow, improve water quality, reduce soil erosion and act as a home for many biodiversity species.

**The management objective is to sequester carbon in woodland and timber products as well as designing a forest to be resilient to the effects of climate change**

#### Key theme: Timber

Soil, climate (current and future) and management objectives (including timber production) will drive the species choice and silvicultural system. CCF systems will be restricted to the better soils and climates where they will also provide social and environmental advantage. The plan should aim for 10% of the forest area managed via CCF systems with the detail of this being explored during the design phase of this plan. Traditional patch clearfelling will continue to be the predominant management type given the limitations of wind and soils. Coupe size will generally be medium to large to fit the landscape and to deliver highest financial returns. Alternative conifers will be chosen for all sites where their suitability is forecast as greater than 60% of maximum yield potential e.g. Norway Spruce will be chosen when the suitability forecast is greater than or equal to Yield Class 13 where the maximum Yield Class for Norway Spruce is 22 - it is hoped that the plan can include at least 20% of the area as alternative conifer (ideally up to 35%) but this will be explored in greater detail as part of the design phase. Alternative species include; Douglas Fir, Grand Fir, Norway Spruce, Noble Fir, Red Cedar, Larch etc. Species with non structural timber properties (Noble Fir and Grand Fir) will be limited to 20% of the alternative conifers. Sitka Spruce will continue to be a predominant species due to its timber potential and tolerance to site conditions and the plan is expected to include approx 50% of the forest area established as Sitka Spruce (Currently 54%). At least 5% of the forest area will be broadleaves and at least 10% will be open space

**The management objective is primarily to produce large volumes of sawlogs for processing in the construction timber marketplace.**

#### Key theme: Environment

The natural landform of convex hills and water courses together with neighbouring owner's forest plans will dictate the future management layout of the forest. Consolidating the large extent of restructuring done over the past 20 years and completing the restructuring by the end of this current



rotation will provide an appropriate management coupe layout to deliver environmental issues including landscape, water, archaeology etc.

Large areas of well located broadleaved riparian buffers have already been created and as areas are felled new riparian woodlands are created to further protect and improve water and associated wildlife – establishing tree species found in natural border cleuchs will be a priority. The plan will ensure heritage features are identified and protected through the next rotation. To deliver these essential environmental benefits it is appreciated that c. 15 - 25% of the forest area will be lost to timber production.

**The management objective is to design a forest that makes provision and space for important environmental factors including landscape, water and archaeology etc.**





## Secondary Management Objectives

### Key theme: Business Development

Forestry is the most important land use in this local area for supporting business development. The large timber volumes and large areas of forest management will help support the local and national forestry and timber processing sector including jobs and economy. The Scottish Borders Woodland Strategy makes special reference to providing a greater contribution to the Scottish Borders economy and this should be fulfilled via provision of employment and contracting opportunities in the forestry and timber processing sector. The forest should be designed in such a way to support local tourism providers including shops, overnight accommodation providers etc. Typically this will be in provision of good landscape and open access for visitors.

**The management objective is to provide employment and contracting opportunities for the forest industry as well as business development in other industries using the forest e.g. Tourism**

### Key theme: Community Development

Throughout the forest design stage and beyond FCS will engage with communities to check and develop thinking in terms of meeting community aspirations where these are compatible with the wider management objectives. Local businesses and communities will benefit from any private sector wood fuel developments and opportunities.

**The management objective is engage with communities and residents of Craik, Robertson and Ettrick and those further afield who have interests in the forest e.g. groups**

### Key theme: Access and Health

In general comparison of other forests and woodlands there is low demand for recreation in Craik Forest and therefore fewer facilities provided. Access points and routes are designed to be inviting to locals and visitors alike - including Craik village entrance. Visitors should have a positive, enjoyable, and safe experience. FCS will work with partners and other organisations to identify key and core routes and design the forest to best fit the opportunities e.g. views, diversity. Wherever possible the forest will be managed to allow motorsport events to take advantage of the forest road network.

**The management objective is to make the woodland a large outdoor area as recreational resource for a diverse range of visitors and informal recreation.**

### Key theme: Biodiversity

Although there are no recorded ancient woodland sites within the forest, new native woodlands are continually being created (and existing ones are developing) as the woodland moves from first to second rotation - these new native woodlands (managed as Minimal Intervention once established) typically follow water courses and they act as permanent habitat networks linked to land outwith FCS boundaries. Once fully established and mature and once they include sedentary species they will be managed as Natural Reserves into perpetuity - good examples of these potential habitats will belong the side of the Borthwick water and along the lengths of the numerous cleuchs within the forest itself. Wherever possible alternative productive conifers will be planned adjacent to these riparian buffers, this will strengthen the biodiversity value through expanding the area preferred by certain species e.g. Red Squirrels and raptors. The important bog habitat and associated vegetation in Crooked loch will be protected via management of open space. Given that there is a shortage of older trees in Craik





(due to limitations of wind), Long Term Retentions of existing crops will be planned wherever there is likelihood that the trees will stand beyond normal rotation age. In some ways, LTR is short term solution to providing a range of age classes and it is considered better in the longer term (second or third rotations) that the forest will have a wide range of age classes. Following consideration and initial analysis, this design brief suggests the future forest will include 1% Natural Reserve, 10-5% Minimal intervention and 3% Long Term Retention.

**The management objective is to establish and maintain a range of different habitat types that will support species on a long term or permanent basis.**

The next steps

Following consultation on this draft brief and design concept (during spring of 2014) a detailed Forest Plan will be proposed during 2014. Once drafted, again views will be taken via consultation before submission to the FC.



## **Appendix 1: Landform Character**

## **Appendix 2: Future Management Layout**