Better Woodlands for Wales
Specialist Assessment – CCF
Guidance Note – draft

Introduction

The CCF specialist assessment has been designed to support the preparation of Better Woodlands for Wales (BWW) management plans, where Continuous Cover silviculture is being considered as a management approach for some or all of the plan area.

The specialist assessment templates and guidance are being published in advance of the launch of BWW, with the aim of helping landowners to prepare to join the new scheme. The templates are also available for anybody else who wishes to use them.

The template is designed to help an experienced CCF specialist to:

- Establish whether CCF is a feasible management approach for one or more areas of woodland;
- Establish the rate of Woodland Improvement Grant (WIG) that may be claimed towards the cost of operations connected with Continuous Cover management;
- Identify the constraints and opportunities associated with CCF management;
- Select appropriate CCF systems;
- Describe a long-term vision for the site(s);
- Specify the desired characteristics of the stand under appropriate management, and factors which may affect the response of the stand(s) to management
- Set out monitoring requirements
- Outline a general approach to the management of the site(s)
- Describe operational priorities in more detail

Where to get the templates

All of the templates and associated guidance can be downloaded free from this website:
http://www.fcwales-planning.co.uk (password “management”).

The CCF templates comprise four Microsoft Word files:
SA03 CCF Template 01 Summary Table
SA03 CCF Template 02 Public Benefit
SA03 CCF Template 03 Silv System
SA03 CCF Template 04 Features

There are additional files available including guidance notes, and an Excel template for recording Subcompartment information.

All of the templates should be completed electronically, and can be submitted to the Forestry Commission via email. It is of course possible to print out paper copies if you wish.

Step one: Stockmap and Subcompartment database

It is necessary to provide a forest stockmap and Subcompartment database along with the completed CCF template. In many cases a stockmap already exists, and this can be used as the basis of the CCF assessment. Guidance on the preparation of a stockmap is available from the website:

http://www.fcwales-planning.co.uk (password "management").

A template (Microsoft Excel) for the preparation of a Subcompartment database is available from the same website.

Step two: Identify the subcompartments where CCF is an option

The left-hand column of the Summary Table should be used to list the subcompartments for assessment. If the entire woodland is being considered, all the subcompartments should be listed individually (as the later stages in the assessment require the subcompartments to be treated separately).

***Hint**: You may find it saves time to paste a list of subcompartments into the table from another program (such as Excel or Access).This will usually work if you select the right number of cells in the Word table before clicking the "paste" button.*

In some woodlands it will be appropriate to include every Subcompartment on the list; in other circumstances it may be reasonable to exclude particular areas, for example:

- Areas where the existing crop is known to be too unstable for transformation to CCF
- Areas where the landowner's objectives preclude transformation to CCF

Step three: Stability Scoring

This part of the assessment is intended to provide a simple and, as far as possible, objective method of indicating the stability of the current crop on the site. This will enable "unstable" crops to be identified. In many cases managers will not wish to proceed with the transformation of unstable crops; **the Forestry Commission will not pay grant towards the transformation of "unstable" crops.**

Please note that this procedure does not preclude woodland owners and managers from transforming "unstable" crops to CCF; it simply targets the limited funds available for grants towards those crops where transformation has a better chance of success.

Stability scores are summarised on the following table:

Rooting Potential	Score	Location	Score	Current crop	Score
Freely-draining soils and others with unrestricted rooting	1	Lowland areas below 200m or sheltered valleys	1	Well thinned with no evidence of windblow, or young crop with good potential for thinning	1
Peats, Gleys and other soils with seasonal waterlogging but good rooting potential	2	Upland areas between 200 and 300m, or higher areas with a large degree of topographical or other shelter	2	Some thinning taken place and only sporadic windblow due to localised site conditions	2
Permanently waterlogged soils and skeletal soils with limited rooting	3	Highly exposed areas above 300m with little shelter, i.e. exposed to the full effects of coastal or prevailing winds	3	Little or no thinning or future potential. Windblow present (or signs of previous windblow clearance)	3

One description which best describes the site is chosen from each of the three columns. These should be added to the Summary Table template, as shown below:

Summary Table (Subcompart						
			Stability scoring			
SCPT	Area (ha)	Crop (species & plant year)	Rooting (1-3)	Location (1-3)	Current Crop (1-3)	Total (3-9)
4019(a)	12.5	SS / NS p.56	1	1	3	5
4020(b)	1.9	SS p.64	2	2	2	6

Figure 1 - part of a completed stability assessment

The total stability scores should be interpreted as follows:

Total score	*Stability category*	*Implications for grant*
3-4	Very stable	Can proceed to CCF WIG application
5-6	Stable	Can proceed to CCF WIG application
7+	Unstable	No WIG available for transformation

Step four: Grant rate

Please note: the latest information about grant rates can be found on the Forestry Commission Wales website by following this link:

http://www.forestry.gov.uk/pdf/BWWProposedExpansionGrants.pdf/$FILE/BWWProposedExpansionGrants.pdf

All subcompartments scoring between 3 and 6 in the stability assessment – i.e. those that are either Stable or Very Stable – may claim the standard rate of grant for some operations linked to the transformation to Continuous Cover.

An enhanced rate of grant is available for some operations where CCF management will deliver high public benefit. In order to claim this higher rate of grant, it is necessary to complete the Public Benefit template (SA03 CCF Template 02 Public Benefit) for the appropriate subcompartments.

Please note the following points:

- **If you are not seeking the enhanced (High Public Benefit) rate of grant, there is no need to fill out this template**. The standard rate of grant will be apply, providing the site scores 6 or below on the Stability Assessment.
- **You do not need to fill out a new template for each subcompartment.** If the same details apply to multiple subcompartments, simply fill out the template once, listing all the subcompartments to which it applies at the top.

Completing the Public Benefit template

This section of the template allows the applicant to set out a “pitch” for the enhanced grant rate. If this section is not completed (and the site has a stability score of 6 or below) the standard rate of WIG will apply. The standard rate will also be applied to sites where the Forestry Commission does not agree that High Public Benefit will necessarily be delivered.

The template requires a **brief** description of public benefit which will be delivered by the proposed conversion to CCF. This can be split up according to the categories on the table; further categories should be added if necessary. Descriptions should relate to benefits linked to the particular site, rather than general statements about the advantages of CCF management. Please look at the examples below.

A note about subjectivity…
During the BWW pilot exercise it was clear that there was general support for enhanced CCF grants where high public benefit is delivered. This approach is in line with the Wales Woodland Strategy.

The only problem is that defining "high public benefit" is rather difficult in this context: it can mean many different things. "Public Benefits" may conflict with each other, and it is very difficult to provide objective criteria for measuring and comparing different benefits.

A number of approaches (including scoring systems) were discussed and tested before the current template was agreed. It was felt that scoring systems (in this context) were necessarily complex, require a lot of time to complete, and ultimately do not remove the subjectivity associated with public benefit decisions.

Clearly the current approach requires the Forestry Commission to interpret "public benefit" in a consistent way, and consider wider policy objectives when considering applications for the higher grant rate. For this reason FC Woodland Officers will liaise with each other when considering these applications.

More specific guidance may be produced in relation to these grants in future: woodland managers will be kept informed of developments. In the meantime, applicants are advised to consider FC Wales policy objectives (as set out in the Wales Woodland Strategy) when preparing grant applications.

Describing High Public Benefit – examples and guidance

Please note: The following examples are based on the "social" categories on the template. The higher grant rate may be awarded at the discretion of the Forestry Commission. The applicant should make their "pitch" for the higher grant on the basis of one or more of the categories listed below, as appropriate to the site. The examples listed below would not necessarily qualify for the higher rate of grant: this decision will be made by the FC Woodland Officer, bearing in mind the context of the application.

Category		Description of benefits of CCF on this site
Social	Educational	Forest school in the woodland Used for college field trips Used by local schools, scout groups etc. *In all cases - describe where arrangements are in place, or specific proposals, rather than vague aspirations. Also need to specify how CCF will help (rather than other silvicultural systems).*

	Health	Forest used for community health initiatives. Keep-fit trails, Walking to Health etc. *Again, describe arrangements already in place or specific proposals.*
	Recreation	Forest is used for recreation by the public, with the landowner's explicit approval Adjacent land is used (legitimately) for public recreation, and CCF would provide benefits to these areas.
	Cultural heritage	CCF management would benefit the preservation of archaeological remains. CCF management would enhance the accessibility / appreciation of archaeological remains by the wider community. Historic use of woodland by the community - traditional paths etc...
	Landscape	"…CCF management would have landscape benefits which would be noticeable to [*whom]* from [*where]…"* (e.g. *"noticeable to two hundred people living in the village across the valley"* or *"visible to hundreds of motorists every day from the A44".* It may be appropriate to note negative aspects of CCF management, for example if forest edges are prominent in a landscape, it may be beneficial to restructure the forest boundaries rather than maintain continuous cover forestry.

Final points about the Grant Rate

- Remember to note on the Summary Table whether a High Public Benefit application has been made for a subcompartment
- The Public Benefit template should be submitted to the FC for approval at the same time as the other templates
- You will be informed of a decision about grant rates as soon as possible.
- If you are unsure whether a site is likely to receive the higher rate of grant, and this is a crucial factor when deciding on an appropriate silvicultural system, you should contact your local Woodland Officer for guidance. Please be ready to send them a map of the woodland in question and the completed public benefit template if requested.

Step five: Selection of silvicultural system

This template (SA03 CCF Template 03 Silv System) should be used to describe the appropriate silvicultural system for the management of stands. It is not necessary to complete this for each subcompartment; a single version of the template can be applied to multiple subcompartments if the same constraints / opportunities and silvicultural system apply.

Constraints and Opportunities

The Constraints and Opportunities table provides a format to record the issues which have been considered when assessing stands in the field, and provides the manager and Woodland Officer with detail about the considerations which have led to the recommended silvicultural system.

A brief description of each of the issues listed is required (even if this is simply "N/A" – not applicable). There is space to add other constraints and opportunities that may arise. Remember that this section should be kept as succinct as possible: no more detail should be given than strictly necessary, but there should be enough to make each entry meaningful to the Agent Planner.

Example of completed *Constraints and Opportunities* section:

Constraints and Opportunities	
Issues	**Description / Comments**
Tree species	Current SS crop can be continued, accepting other species regeneration (already some WH regeneration)
Age Structure / Management History	Even aged canopy; current BA 35; evenly distributed; thinned last in 2001.
Regeneration	SS is regenerating in gaps; some WH & BI all< 3 yrs (since last thinning). These will need more light to develop further and require a further thinning within five years.
Site Fertility	Moderate / poor acid upland soil.
Access & topography	Very good access (adjacent to forest & council roads).
Ground Conditions	Good, wet in places. Moderate slope to South of subcompartment. Entire site suitable for Forwarder (racks already exist).
Pests and diseases	N/A
Cash Flow	N/A
Availability of Labour	Forest already managed using "working circles".
Archaeology	N/A
Landscape	See public benefit section.
Public Access	No route through the stand, but adjacent council road heavily used by public & near picnic site. See public benefit section.

Selected Silvicultural Systems

The assessor should use this section to describe the most appropriate form of CCF management for the site.

The form of CCF management will usually be based on one of the four system descriptions below. There is no need to be constrained by the definition of a system: if variations or alternatives are appropriate, simply describe them and why they are necessary.

Descriptions of the main CCF systems
Uniform shelterwood • Successive thinnings of existing crop are managed to promote regeneration evenly throughout the stand • The canopy crop will be removed when the regeneration is …m high
Irregular shelterwood • Thinning / gap creation takes place irregularly over the stand to create an uneven aged successor crop • The removal of the overstorey is staggered over time in response to the development of the understorey in groups. • This takes place over a longer period of time • Group size to maximum of ….ha (Group size must not exceed 0.25 ha, and should consider the silvicultural characteristics of the species to be regenerated).
Group Selection Systems • The stand is continuously regenerating • Thinning and gap creation aims to achieve irregularity throughout the stand • This is suitable for both light demanding and shade bearing species.
Individual Tree Selection systems • Stand structure is controlled at an individual tree level • Every size of tree is represented evenly throughout the stand • Species diversity is a characteristic of the stand • The species are generally shade tolerant

Example of completed *Selected Systems* section:

Selected CCF system	
Selected system:	Group selection system
Reasons for selection:	SS is a moderate shade-bearing tree; natural regeneration in small groups is already occurring & can be enhanced by further thinning & felling of small groups. The crop would not stand heavier thinning or shelterwood-type operations (exposed on Northern side).
Suggested variations (if necessary):	Exploit existing areas of regeneration / groups created by earlier thinnings & occasional windblow.

Step six: List CCF Features.
CCF Features should be listed in the second section of the Summary Table (and a link to subcompartments entered in the right-hand column of the subcompartment summary table).

Features are defined as: *The most important components of a site. Features are easily recognisable and manageable components of the site and form the building blocks of the management plan. A Feature may be a habitat, a species, (or group of species) or something relating to the value of the site to people, such as it's timber, economic, archaeological, recreational or landscape value.* In this context, it will be seen that CCF systems may be regarded as Features in their own right.

Note
It will often be convenient to call a Feature by the name of the Silvicultural System (e.g. Feature 1: Uniform Shelterwood; Feature 2: Single-tree selection etc.). Remember that this is simply the name of the Feature; the Feature itself is the area of woodland to which the silvicultural system is applied. In practical terms, this means that the Long-term vision should be what the stand(s) should look like; the Desired Characterisics and Factors will relate to the specific stand(s) rather than to an idealised management system.

Rules of thumb for Features:
- There should generally be one Feature for each adopted CCF management approach, for example:
    - Feature 1: Irregular shelterwood
    - Feature 2: Individual tree selection systems

  …each of these Features would (ideally) include **all** the subcompartments areas for which the approach has been selected.
- If the proposed CCF stands are large and complex, it may be appropriate to further split the Features. **This should only happen when**:
    - The sites have totally different characteristics **and / or:**
    - The required management is fundamentally different
- The number of Features should be the **minimum** number that can reasonably be used to convey the management requirements and provide a basis for monitoring.
- If you cannot think of a Long-term vision for an area (see below), it should probably not be a Feature.

Example of completed section of Summary table:

Summary Table (Features)			
Number	**Name**	**Description**	**Map key**
1	Group Selection systems (North)	Group Selection Systems – subcompartments to the North of the river	Orange

2	Group Selection systems (East)	Group Selection Systems – subcompartments to the East of the river	Yellow
3	Individual Tree Selection Systems	All Individual Tree Selection Systems in the woodland	Blue

Step seven: Detail of CCF Features.
A copy of this template (SA03 CCF Template 04 Features) should be completed for each of the Features listed. The Features / Factors / Desired Characteristics approach is summarised on the following diagram, and each component is described below.

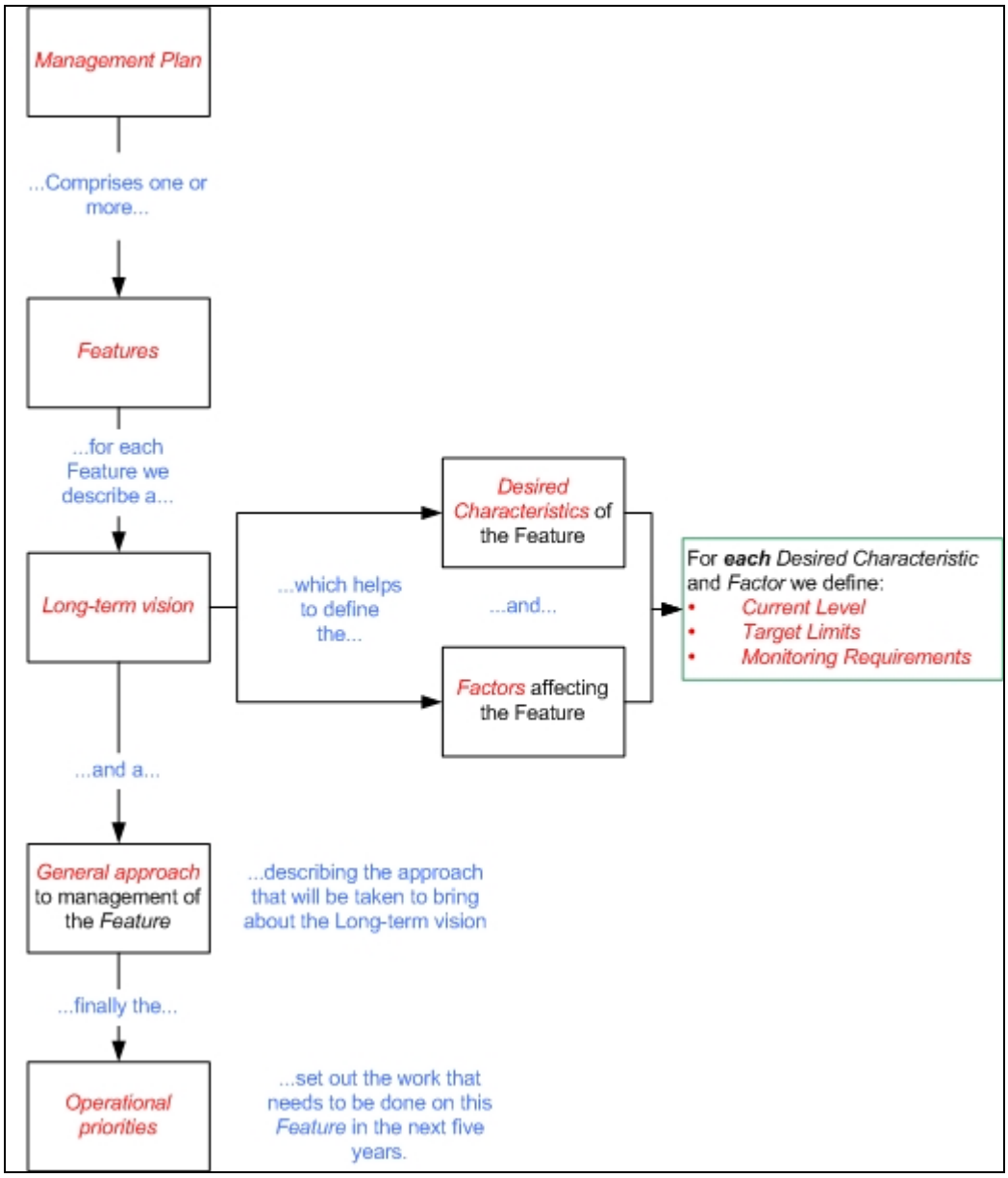

Figure 2: Structure of the Features approach to management planning

Long-term vision

A brief description of what management intends to achieve for this feature. The vision is not restricted to arbitrary timescales. It is about intended outcomes rather than proposed operations. It should be clearly written in language that can be understood by the woodland owner. The vision can include reference to factors, for example: the presence of dormice may influence the desired structure of a woodland.

The vision does not go into great detail or attempt to quantify things which are better dealt with as factors and desired characteristics.

Examples of Long-term vision for CCF Features:

"An irregular stand with groups of 0.1-0.2ha of similar sized trees, predominantly Sitka Spruce with up to 20% other species present. The stand will produce good-quality Sitka Spruce sawlogs, harvested in regular (5 year) interventions."

"The area will be managed on a Group Selection system to form an attractive uneven aged stand dominated by good quality Larch trees of various ages, but including some native trees and some more shade-tolerant species."

Desired Characteristics

The characteristics, qualities or properties of a feature which indicate it's condition. A good way of identifying appropriate Desired Characteristics is to re-read the Long-term vision for the Feature. If timber production is mentioned, Timber Quality and / or Timber Volume should probably be included. If environmental benefits are mentioned, habitat quality or (sometimes) plant / animal species may be appropriate Desired Characteristics. A range of characteristics will usually be needed to adequately express objectives for a feature.

Factors

A Factor is anything that influences, has influenced or may influence the Feature. It is important that both negative and positive factors are considered, since both will have implications for management. Some factors will need to be controlled in order to achieve the objectives. For these factors, it is necessary to define limits.

A completed example for a CCF Feature is provided below. Some notes on writing Current Level, Target Limits and Monitoring Requirements are provided after the example.

Example of Long-term vision, Desired Characteristics & Factors – CCF Feature:

Management approach for agreed Features	
Feature number & name:	**1 – Group Selection**
Long – term vision	
Describe the long-term vision for this feature:	An irregular stand with groups of 0.1-0.2ha of similar sized trees, predominantly Sitka Spruce with up to 20% other species present. The stand will produce good-quality Sitka Spruce sawlogs, harvested in regular (5 year) interventions.

Desired characteristics of the feature			
Desired characteristic	Current level	Target limits	Monitoring requirements **Who, What, When, How**
Timber quality	80% current crop good quality timber (potential green logs)	Maintain current quality (80% potential green logs)	Woodland manager to assess standing crop quality during five-yearly management plan review (walk-through assessment).
Basal area	35m sq / ha evenly distributed	28-30m sq / ha; 20% of area with BA up to 50m sq / ha (stand to include diversity of stocking levels)	Woodland manager to assess standing crop quality during five-yearly management plan review (walk-through assessment).
Regeneration	10% of area with regeneration of SS at 1000-10,000 stems / ha. Currently 2% of stand area with released regeneration	20% of area with regeneration of SS at 1000-10,000 stems / ha. 10% of area with released regeneration.	Woodland manager to assess standing crop quality during five-yearly management plan review (walk-through assessment). Monitoring based on FCIN45.
Tree species	Entire canopy crop is SS; small amount of other species in regeneration (WH / BI)	Species balance should be dominated (>80%)SS; regeneration of other species (to maximum 20% of canopy) will be accepted.	Woodland manager to assess standing crop quality during five-yearly management plan review (walk-through assessment). Monitoring based on FCIN45.

Landscape / recreation value	Stand is an acceptable part of the landscape adjacent to the public road.	As current – no areas of windblow larger than 0.1ha will be acceptable.	Woodland manager to assess standing crop quality during five-yearly management plan review (walk-through assessment).
Crown quality	Current crowns are 25% or less of stem length	Crown length to 30% of stem length.	Woodland manager to assess standing crop quality during five-yearly management plan review (walk-through assessment).
Timber revenue	Thinnings are currently marginally economic	All interventions should be economically viable (revenue to offset cost).	Woodland manager to review the cost / revenue of each operation.

Factors affecting the feature			
Factor	Current level	Target limits	Monitoring requirements **Who, What, When, How**
Windblow	>1% of area windblown	> 5% of area windblown (small amount of blow acceptable during transformation)	Woodland manager to assess standing crop quality during five-yearly management plan review (walk-through assessment). Monitoring based on FCIN45.
Deer	No current damage to regeneration. Deer populations are known to be increasing in the area.	Damage limited to 5% of stems	Woodland manager to assess standing crop quality during five-yearly management plan review (walk-through assessment). Monitoring based on FCIN45.

Current level

The amount or extent of the characteristic / Factor now. It may be outside the range considered acceptable in the Target Limits (below) but should always be expressed in the same units so that comparisons are possible.

Target limits

Target limits define the range of values within which a characteristic / Factor is considered acceptable. In reality both upper and lower limits are seldom applied to the same characteristic. The limits act as a trigger to take action, however, the action may not be directly to control the characteristics but to control the Factors that influence the Feature.

Monitoring requirements

Monitoring means "*making of observations with sufficient precision to determine whether a required condition is being met*". This should not be confused with surveillance or surveying.

The Monitoring requirements section is used to set out the form of monitoring necessary to record changes in the condition of the feature.

Monitoring requirements should be defined for each of the Desired Characteristics and Factors for which target limits were defined. A brief description should be given of **what** will be monitored, **how**, **by whom** and **when**. E.g. "*Standing volume and diameter assortment will be assessed every 5 years by sample plots by the woodland manager".*

Remember that monitoring should be both feasible and useful.

CCF monitoring methodologies

FC Information Note 45 (Kerr, Mason, Boswell & Pommerening 2002) describes a useful methodology for monitoring the transformation to Continuous Cover, and provides a template for recording results.

This Information Note is free to download from the Forestry Commission website (as a pdf file). A software package based on this approach has now been developed by Forest Research. This is delivered on CD-Rom: we are placing bulk orders for interested agents in Wales: please contact Rob Marsh to request a copy. Correspondence about the software itself should be addressed to Gary Kerr (Forest Research).

General approach

This section is used to describe the type of management that will be used to bring about the Long-term vision (specifically, to bring the Desired Characteristics to the Target Levels and keep them there).

It is not necessary to be too detailed here – an overview of management approach is all that is required. For example:

Example of General Approach section, CCF Feature:

General approach	
Suggest a general approach towards managing this Feature. This should be the type of management which will bring about the long-term vision described above.	Five-yearly interventions will be used to progressively create groups of 0.1 - 0.2 ha to release regeneration. Other areas will be thinned to a lower intensity during these operations to increase irregularity and improve the structure of the stand. Thinning will concentrate on dominant trees, but poorer quality stems will be removed as quickly as possible where stability allows. Interventions should be cost-effective. Operations should be managed to minimise soil damage / damage to regeneration, and manage the growth of existing regeneration where appropriate. Regeneration of other species to be accepted; species proportions to be adjusted (as per Desired Characteristics) by cleaning / thinning.

Operational priorities

This section describes operations which should be carried out in relation to the Feature within the next **five years**. It is not necessary to specify the detail of each operation (length of tracks, volumes to be removed etc) as these will be set out in more detail in the Plan of Operations.

Example of Operational Priorities, CCF Feature:

Operational priorities	
Broadly describe the operations which should be carried out in relation to this Feature **in the next five years.** It is not necessary to provide details and specifications of these operations.	Within the next five years a thinning / group felling operation will take place, with the objective of producing approx 15 group centres within the subcompartment (small groups which can subsequently be enlarged). These groups should be based on gaps in the existing crop as far as possible.

Further information

…to be developed…

There are many sources of information on CCF transformation and management. It is intended to maintain a list of publications, websites and groups (British or from abroad), for use by woodland management agents.

Please feel free to suggest sources for inclusion by emailing Rob Marsh.

To begin with:

Information Notes are available via the Forestry Commission website publications section. Searching “all publications” with the search term “continuous cover” brings up the main three information notes in downloadable format:
http://www.forestry.gov.uk/publications

Forest Research has a publications webpage here:
http://www.forestry.gov.uk/forestry/ggae-53ycjp

The Forestry Commission website now features the Land Information Search which many people will find useful:
http://www.forestry.gov.uk/forestry/infd-5z8k4p

The Continuous Cover Forestry Group (CCFG) organise a number of training events and meetings. Their website can be found here:
http://www.ccfg.co.uk/