

# Woodland Management Planning Framework

## Guidance for England

May 2004

### How to use this guidance

This guidance has been developed to assist owners or managers of woodlands to complete the management plan framework in a way which meets the requirements of the UK Woodland Assurance Standard (UKWAS) for management planning, and in England the Forestry Commission's requirements for the English Woodland Grant Scheme (EWGS).

**Each section of the framework is numbered, and the guidance here follows the same numbering to allow quick and easy cross-referencing.**

It is important to note that this guidance is not a manual or handbook on best forestry practice. It has been written for use as a reference guide by woodland owners or managers who have a basic understanding of the key elements of woodland management. While the guidance deals with woodland management planning requirements, UKWAS contains other elements not related to woodland management planning which an owner or manager would have to consider if wishing to become certified.

The guide has two sections:

- **Section A** provides an **introduction** to the management plan framework.
- **Section B** provides **guidance notes** for woodland owners and managers on how to use the management plan framework.

Details of how to apply for the management planning grant and special assessment grants can be found in the appropriate EWGS booklet.

## Section A. Introduction

The management plan framework has been developed to help woodland managers prepare a plan that will assist in the management of their woodland, and help to ensure that this meets the requirements of UKWAS. The framework provides the basic outline for a management plan and is made up of eight sections:

1. Background information
2. Woodland information
3. Long term vision, management objectives and strategy
4. Management prescriptions/operations
5. Consultation
6. Monitoring plan summary
7. Work programmes
8. Maps

The management plan framework has been designed for use in any woodland in England. As a result, it needs to cover every possibility, which makes it quite long. However, this does not mean that your management plan will necessarily be complex. The detail included in your plan should be in line with the scale, complexity and sensitivity of the woodland and the potential for damage arising from planned management operations. For many woodlands there will be sections which are not applicable and these can be omitted from your management plan. A number of examples are available to give an indication of what would be expected in a range of different situations.

Much of the information required in a management plan can be presented in maps and you should consider the use of annotated maps wherever possible. Most management plans will probably consist of a mixture of text and maps. However, the framework and guidance have been developed to help you understand and include information required in an UKWAS-compliant management plan, it is up to you to decide how you present the information.

You may already have existing management documentation, which includes some of the information listed here. Often there is no need to rewrite this, but if you are using existing documentation you will have to explain how this relates to the sections in the framework and how it is integrated with any new material you produce.

The management plan framework on its own does not provide approval for any activities including felling, planting and grant payment. An EWGS or felling licence based on the plan is required for such operations.

## Section B. Guidance notes for woodland owners and managers

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## 1. Background information

This section is used to compile all the basic information about the woodland or, if the plan is for an estate or multiple property ownership several woodlands, such as location, the main physical characteristics and any relevant historical information. It is a good place to record any background information that exists and may be useful. In many cases the easiest way to present the information will be through one or more maps. This is discussed in each section and in more detail in Section 8.

### 1.1 Location

The location of the woodland included in the management plan should be marked on a 1:50,000 or 1:25,000 scale map which shows key location features such as the boundary of the woodland(s), the boundary of the estate if appropriate, access point from the nearest road and if possible nearby features or settlements. In addition, it is useful to note commonly requested information in the plan including:

- The nearest town, village or landscape feature e.g. 5 miles south of Greendale; or on the east side of the Green River valley.
- The grid reference of the woodland or of the estate (this can be indicating the main woodland area, the main access point or even the estate office whichever is most appropriate).
- The area of each woodland and/or the total area covered by the plan.

### 1.2 Description of the woodland(s) in the landscape

This section should provide an overview of the woodland within the wider context. It will eventually combine what you already know about the woodland with additional material collected during completion of Section 2 (woodland information). Much of the information can probably be presented in the form of annotated maps. This includes things like location, roads and tracks, soils, topography, viewpoints, ecological features, neighbouring land use (particularly other woodlands or natural

vegetation) and so on. In some cases, it may be possible simply to refer to a map without any further text.

However, it may also be useful or necessary to include some text. This might include, for example, noting that a particular woodland is visible from a busy road, or that it is used extensively for recreation.

Remember, this section is an overview of the woodland within the wider context rather than a detailed description of the woodland itself.

### 1.3 History of management

You should give a brief overview of the management applied in the recent past. You should try to explain how recent past management has shaped the woodland and led to its current condition. The aim here is to indicate any recent changes in overall goals, intensity of management or use of the woodland. If operations have taken place in the recent past it will be useful to outline these, e.g. if harvesting has been carried out details of location, method and yield will be useful. Again it might help to use a map to convey some or all of this information.

If there are any Forestry Commission grant schemes, such as Woodland Grant Scheme or dedication, that currently apply to all or part of the woodland, it would be useful to make a reference here to the relevant details .

If you have records or other documents that are relevant, there is no need to repeat all the information here. It is quite sufficient to make a reference to the relevant documents or, if it would be useful, to include a summary.

## 2. Woodland information

The key to managing your woodland well is knowing it well. This provides the basis for a good understanding of the potential impacts of planned management both on the woodland area itself and on the wider neighbourhood. Since this information is fundamental to good woodland management, both the UK Forestry Standard and UKWAS provide guidance on the type of information which must be collected.

This section is about collecting and summarising this information to provide the basis for making management decisions (UKWAS 2.1.1). In practice this will almost certainly be a continuous process since some information will be easily available and

some will not. In addition, while some information is definitely needed in order to formulate objectives and plan operations, other information may only be needed if certain objectives are chosen, or certain operations carried out.

Don't worry if you do not have all the information for this section immediately. Management planning is an iterative process and you can usually carry on developing the plan as you wait for particular surveys or reports on your woodland. You may even decide that the collection of some information will actually become a part of the plan.

**Example:**

You may already know your woodland contains some rare or important plant species, but you are not sure of their extent or how you should look after them. If you have no immediate plans to harvest near these features, you probably would not need any additional information on these at the moment.

However, if you are intending to carry out harvesting within these stands in, say, 4 or 5 years time you would have to find out more about these species before undertaking the harvesting. It would be perfectly reasonable to delay collecting additional information until you start planning the harvesting work.

In some cases it will be necessary for you to collect further specific information in order to complete your management plan. Certain assessments may be needed to inform and construct the plan and a contribution to the costs of these will be through the Woodland Assessment Grant. The Woodland Assessment Grants will be linked to operations you intend to carry out in your woodland.

**Woodland Assessment Grants**

Woodland Assessment Grants will be available on a discretionary basis from the Forestry Commission (England) to assist with the costs of obtaining information about the woodland concerned in the following areas:

- Ecological assessment;
- Landscape assessment;
- Cultural heritage assessment;
- Determining stakeholder interests (including local communities).

Woodland Assessments Grants will only apply to areas within a woodland where operations are

proposed and new proposals may arise during the period of a plan; hence the flexibility to apply for these grants separately. Before you initiate any assessment work you should discuss your plans and requirements with your local Forestry Commission Woodland Officer, as you need to obtain advance agreement from the Forestry Commission.

**Example:**

You may be planning to carry out harvesting in one area of your woodland that you know has some archaeological interest, but it is necessary to carry out further work to identify the extent of the feature and formulate appropriate treatment. The Woodland Assessment Grant would be available on a 'just-in-time' basis, therefore if the harvesting was not scheduled to take place until the tenth year of the plan, the survey may not be required, and therefore not eligible for grant assistance until the point when the results of the survey would be required for planning the harvesting operation.

## 2.1 Areas and features

Every woodland contains some particular feature or area of interest or importance. This section provides a systematic way of reviewing those that are found in the woodland(s) covered by the plan.

Use the table in this section to help you identify the key features of your woodland. For each feature identified you will need to:

- Note if the feature is present in or adjacent to the woodland;
- Mark it on a map and note in the table in the management plan which map it is on (UKWAS 6.1.1);
- Add any notes or references to other documents that might be useful.

Where you already have detailed information on a feature, e.g. the schedule for a SSSI, there is no need to re-write this into the plan. Give a brief outline and refer to the document, which you can append if necessary.

The notes below provide additional guidance on how to find out whether a particular feature or area is present and cross-reference the section in the management plan where you will need to plan appropriate management for each feature identified. The Multi-Agency Geographic Information for the Countryside (MAGIC) website [www.magic.gov.uk](http://www.magic.gov.uk) may be useful in identifying areas and features and sources of information.

Areas and features	Finding out if the woodland contains the area or feature	Cross-reference
2.1.1 Designated areas		
<p>Areas designated as Special Areas for Conservation (SACs), Special Protection Areas (SPAs), Ramsar Sites, National Nature Reserves (NNRs), Sites of Special Scientific Interest (SSSIs), including other designations e.g. National Parks (NPs), Areas of Outstanding Natural Beauty (AONBs), Local Nature Reserves (LNRs)</p> <p>NB: all terrestrial Ramsar sites in England are SSSIs</p>	<p>You probably already know if your woodland contains a designation as these have legal implications. However, if you are unsure see Annex 4 of UKWAS Guide to Certification. Relevant links:</p> <p><b>Joint Nature Conservation Committee:</b> <a href="http://www.jncc.gov.uk">www.jncc.gov.uk</a> (for current site lists of SACs, SPAs &amp; Ramsar sites in England);  <b>English Nature:</b> <a href="http://www.english-nature.org.uk">www.english-nature.org.uk</a> (for location of NNRs, LNRs SSSIs); <b>Countryside Agency:</b> <a href="http://www.countryside.gov.uk">www.countryside.gov.uk</a> (for location of NPs, AONBs)</p> <p>If there has not been any ecological survey, you should ascertain through discussions with the appropriate nature conservation agency whether or not this is needed. Grant aid may be available to help undertake ecological surveys for some woodlands.</p>	<p>Management prescriptions for designations should be noted in Section 4.6.1 <i>Management of Designated Areas</i>.</p>
2.1.2 Rare and important species		
<p>Rare species including those in Red Data Books and covered by Biodiversity or Species Action Plans (BAPs and SAPs)</p>	<p>If the woodland is in an area or of a type likely to provide habitat for a rare or listed species, you may need an assessment to ascertain whether the species is present, particularly if any significant operations are planned. Relevant links:</p> <p><b>Joint Nature Conservation Committee:</b> <a href="http://www.jncc.gov.uk">www.jncc.gov.uk</a> (for Red Data books)</p>	<p>Management should be planned in Section 4.6.2 <i>Measures to enhance/maintain biodiversity</i>.</p>

Areas and features	Finding out if the woodland contains the area or feature	Cross-reference
	<p><b>UK Biodiversity Website:</b>  <a href="http://www.ukbap.org.uk">www.ukbap.org.uk</a> (for information on local, species and habitat action plans).</p>	
<b>2.1.3 Habitats</b>		
<p>Ancient Semi-Natural Woodland (ASNW) &amp; other semi-natural woodland (SNW)</p>	<p>The location of ASNW sites in England can be obtained from <b>English Nature/JNCC/FC websites:</b> <a href="http://www.forestry.gov.uk">www.forestry.gov.uk</a></p> <p>If significant operations are planned, ecological surveys/assessments to collect further information are likely to be required by FC and are recommended by UKWAS.</p>	<p>If your woodland is or contains SNW or ASNW then you will need to include the relevant requirement in Section 3.2 of this guidance on UKWAS compliance as one of your objectives.</p> <p>Management of ASNW is covered in Section 4.6.3 <i>Special Measures for ASNW &amp; SNW</i>.</p>
<p>Plantations on Ancient Woodland Sites (PAWS)</p>	<p>Information on the location of PAWS can be obtained from <a href="http://www.magic.gov.uk">www.magic.gov.uk</a></p>	<p>If your woodland contains PAWS, then you will need to include the requirement in Section 3.2 of this guidance on UKWAS compliance as an objective.</p> <p>Management of PAWS is covered in Section 4.6.4 <i>Special Measures for PAWS</i>.</p>
<p>Other areas and features of significance for biodiversity within the woodland</p>	<p>Identification of other biodiversity features usually involves a survey.</p> <p>For larger woodlands this may be a formal exercise, either undertaken internally, or by an external specialist.</p> <p>For smaller woodlands it may be more informal and involve the owner or manager looking around the woodland to identify important features</p>	<p>Management prescriptions must be developed in Section 4.6.2 <i>Measures to enhance/maintain biodiversity</i></p>

Areas and features	Finding out if the woodland contains the area or feature	Cross-reference
2.1.4 Water		
All water-related features	This is usually straightforward as water features are generally marked on maps or, if not, are easy to identify.	Planning for any operations in the vicinity of water features must be in accordance with the FC Forest and Water Guidelines (2000).
2.1.5 Landscape		
Designated areas or areas of aesthetic or historical significance		If your woodland is important in the landscape, you will need to take account of this as you develop your strategy (Section 3.3) and when you plan operations (Sections 4.1, 4.2 and 4.3).
2.1.6 Cultural Features		
Public access including rights of way, permissive paths, other types of public access	Identify and map all types of access.  Relevant info: <b>Countryside Agency:</b> <a href="http://www.countryside.gov.uk/access">www.countryside.gov.uk/access</a> (for access and rights of way maps etc.)	Management of access is addressed in Section 4.7.2 <i>Public Access.</i>  (UKWAS 7.2.1)
2.1.7 Archaeological features		
Archaeological sites and other sites of cultural value	To find out if your woodland contains any designated sites or any other sites of importance contact <b>English Heritage:</b> <a href="http://www.english-heritage.org.uk">www.english-heritage.org.uk</a> (online inventory of archaeological sites & historic buildings from <b>National Monuments Record</b> ( <a href="http://www.pastscape.org">www.pastscape.org</a> ), or your local authority archaeology department.	Management is addressed in Section 4.7.1 <i>Archaeology and sites of cultural interest.</i>  (UKWAS 7.4.1)

## 2.2 Woodland resource characteristics

This section should include all relevant information about the main resources of each woodland in the plan, including timber and any other significant potential products. You do not need to carry out a full inventory of your woodland to provide this information. The level of detail needed will depend on how you intend to manage the woodland. If you have a number of woodlands some of which are managed for timber production and some for other objectives, the level of detail you provide for each should reflect the importance of timber production.

Sufficient information should be provided to demonstrate that the woodland complies with requirements for species proportions (UKWAS 3.3.2). These requirements are applicable to new planting or the next rotation of an existing plantation. If it is the case that the species proportions in your woodland do not currently meet the requirements, it is necessary that the plan demonstrates how compliance will be achieved over the next rotation.

The table below sets out the requirements of the UKWAS standard.

Number of species suited to the site and matched to the objectives	UKWAS requirement
At least two	<ul style="list-style-type: none"> <li>&lt; 65% primary species</li> <li>&gt; 20% secondary species</li> <li>&gt; 10% open ground</li> <li>&gt; 5% native broadleaf</li> </ul>
Only one	<ul style="list-style-type: none"> <li>&lt; 75% primary species</li> <li>&gt; 10% open ground</li> <li>&gt; 5% native broadleaf</li> <li>&gt; 10% other areas managed for biodiversity</li> </ul>

Open ground requirements do not apply to woodlands under 10ha.

The detailed requirements for areas managed with biodiversity as a major objective (UKWAS 6.3.1) are explained in section 4.6 *Protecting and Enhancing Biodiversity*. Where timber production is a key objective of management, then it will be necessary to collect sufficient information to be able to demonstrate that harvesting and restocking plans do not jeopardise the long-term production of the woodland (UKWAS 2.2.1).

Examples of growth and yield estimates include:

- Average growth rates or yield class for major species on different site types;
- Predictions of thinning and felling yields for different crop types;
- Forecasts of areas to be subject to harvesting operations in future years.

Accuracy of growth and yield estimates should be appropriate to the scale and intensity of the operation. In medium and large woodlands where timber production is a major objective, some degree of volume-based growth and yield information will probably be needed. In small woods, or where timber production is not a primary objective, area based rather than volume predictions are acceptable in planning and monitoring.

UKWAS recognises that in some circumstances (e.g. during restructuring) harvest level will exceed the increment. Additionally, some management objectives, e.g. replacing conifers with broadleaves or creating additional open space, will reduce the productive potential of the woodland.

If you are planning any significant harvesting of non-timber forest products (e.g. foliage, moss, fungi berries) you will have to demonstrate your yield is not damaging the long-term productive potential of the product. Information must be collected to demonstrate that harvesting levels do not exceed or diminish what can be sustained in the long-term (UKWAS 2.2.2).

## 2.3 Site description

This section should be used to record all relevant information about site factors that will influence woodland management. This will include information such as:

- Details of access;

- Slope, soil, wind risk factor etc;
- Uses of the woodland e.g. livestock shelter, sporting etc.

As with the woodland resource information, the level of detail needed will depend on management objectives. For example, if timber production is likely to be important then access for heavy vehicles will be significant whereas if the woodland will be used exclusively for shooting or walking, this is not an issue.

It may be useful to note information you have even if it is not immediately useful, since this will provide easy reference in the future if there are plans to change the use of the woodland.

## 2.4 Significant hazards, constraints and threats

This section should include an assessment of the hazards and constraints that will influence the way in which the woodland can be managed, and the threats that must be minimised or addressed through management.

**Hazards** All features which pose a potential risk to management activities such as power lines, other services (water pipes, telephone cables, telecommunication towers etc), way-leaves, quarries, mines or steep ground need to be identified and marked on a map.

**Constraints** There is a wide range of constraints that may influence management of a woodland. For woodlands where timber production is a major objective, the areas and features identified in Section 2.1 are often considered ‘constraints’ since all management planning must take them into account. In addition, many woodlands face constraints that are a feature of the woodland location or use.

**Examples:**

If there is a public road running alongside or through your woodland you may have to manage the areas adjacent to the road in a particular way to minimise risks to road users; the road is therefore a constraint (see Forestry Commission *Practice Guide 013 Hazards from Trees: A General Guide*).

If your woodland has a deer problem and is used extensively by the public for recreation, then when organising shooting for controlling the deer you may have to pay special regard to public safety; in this case the presence of people is a constraint.

**Threats** There are various types of threats that need to be considered depending on woodland type, size, location and other factors.

For example:

- Pests which may include a huge range of species such as deer, rabbits, squirrels or insects (Section 4.4.2 *Pest And Disease Management*) (UKWAS 5.1.3);
- Disease, though not a particularly major problem for most UK forestry, should still be noted if there is any risk (Section 4.4.2 *Pest And Disease Management*) (UKWAS 5.1.2);
- Fires whether the risk is of natural fires or of deliberate action (arson) (Section 4.4.3 *Fire Plan*) (UKWAS 5.1.5);
- Vandalism, fly tipping or other damage by people is a serious threat to woodlands in some areas, particularly adjacent to urban areas (Section 4.4.5 *Protection from Unauthorized Activities*) (UKWAS 1.2.1).

Each hazard, constraint or threat that may have a significant implication for management should be recorded, on a map or as text as appropriate. This information will feed into the development of a strategy for the woodland, while some must also be explicitly addressed through management prescriptions (relevant sections are noted above).

### 3. Long Term Vision, Management Objectives and Strategy

This section sets out the long-term policy or vision for the woodland over the next 20 years (UKWAS 2.1.1) and covers the owner or manager's objectives for the woodland, the goals which must be included in order to meet the requirements of UKWAS and the development of an overall strategy for the woodland which aims to allow progress towards these objectives especially when objectives conflict with each other (UKWAS 2.1.2).

There is a critical link between long-term vision, objectives and monitoring (Section 6). You will have to make sure that your objectives are fulfilling your long-term vision. To do this you will have to monitor progress against your objectives, so you will have to make sure your plans for monitoring are relevant. You will have to think about how achievement of an objective can be checked. Some people may find it useful to consider what you need to do in terms of monitoring when developing objectives in order to check how realistic and achievable they are.

Do bear in mind that your long-term vision, objectives and strategy can be changed at a later date to better suit your needs or the woodland itself. If things do change, remember to make sure you revise the rest of your management plan so that specific objectives and operations are aligned with your new approach.

#### 3.1 Long term vision

You need to express, as clearly as possible, the overall direction for management of the woodland, and how you envisage the wood will be in the future or perhaps your reasons for owning the woodland. This can be quite brief but should be specific to your woodland. Understanding what you want from your woodland will help you decide between different management options and will be one of the main yardsticks against which to evaluate your progress in the future. Be as straightforward as possible when writing your vision. Do not include elements you do not want or are not interested in just because you think it will make your plan more acceptable.

**Examples:**

On a farm where a woodland is needed primarily as a shelterbelt for livestock, a vision which stresses this is appropriate.

On an estate where a woodland's main function is to provide a location and infrastructure for sporting, the vision should clearly identify this.

With a woodland that has been acquired as a financial investment, a vision stating the importance of ensuring that the woodland generates income through timber sales is perfectly acceptable.

## 3.2 Management objectives

Based on your aspirations and long-term vision, and the woodland information gained from appraisal in Section 2, you will have to decide on what your key objectives are for the woodland. The emphasis here is on ends rather than means. Focus on describing the outputs or future condition of the woodland rather than the operations that will be necessary to achieve them, which belong in Section 4 on Management prescriptions.

Examples of objectives might be:

- Maximise revenue from the woodland through timber production, grant-aided restoration activities and leasing of sporting rights;
- Enhance biodiversity by restoring an area of PAWS through regeneration of broadleaves;
- Improve access to the woodland for walkers on permissive pathways while controlling unauthorised access by motorbikes.

Identifying your objectives can be difficult, but having a clear long-term vision will help you. Try to make your objectives as specific as possible, as this will in turn help you to develop the correct management activities and identify what and how you need to monitor progress (see Section 6 on a monitoring).

Try to avoid mutually exclusive objectives. One way of developing your objectives is to list all the outputs your woodland can provide or the woodland conditions you are hoping to achieve. Try to prioritise these where this is needed – which are the key ones which should be the focus of attention, effort and resources? This may include some zoning of the woodland to allow a particular objective to be met in one area, while meeting a different (and potentially conflicting) objective in another area.

Where it will take a long time to reach objectives, it can also be useful to split these into long-term and short-term objectives, helping you to identify what is achievable in different time periods.

However, regardless of how you identify your objectives you should aim to make sure that they are: **Specific, Measurable, Achievable, Relevant and Timebound.**

<b>Actions necessary for UKWAS compliance</b>
UKWAS makes some compulsory requirements of woodland managers, and these must be included in the objectives if they are to comply with the standard. Some are applicable for all woodlands, others will have been identified as a result of the appraisal carried out in Section 2. They are described in the table below.

Type of woodland	Requirement	Cross-reference
<b>All woodlands</b>	Woodland managers must make a commitment to manage their woodlands in accordance with UKWAS. Including this as an objective is a good way to meet this requirement (UKWAS 1.1.4).  A minimum of 15% of the area of the woodland will be managed with biodiversity as a major objective and meeting the specific requirements set out in clause 6.3.1 of UKWAS.	See section 4.6.2 <i>Measures to enhance biodiversity</i> below.
<b>New planting and existing plantations</b>	The proportion of different species in new planting or planned for the next rotation of existing plantations will meet the requirements set out in clause 3.3.2 of UKWAS. In windfirm conifer plantations, lower impact silvicultural systems are to be increasingly favoured where they are suited to the site and species (UKWAS 3.4.4). Even-aged woodlands are to be gradually restructured to diversify ages and habitats (UKWAS 3.2.3).	See sections 2.2 <i>Woodland Resource Characteristics</i> , 4.1 <i>Silvicultural Systems</i> and 4.2 <i>New Planting</i> .
<b>Ancient Semi-Natural Woodlands (ASNW) and other Semi-Natural Woodlands (SNW)</b>	Enhancement or restoration will be a priority and no exotic species will be introduced. Management will be in accordance with the UK Forestry Standard and FC Forest Practice Guides for semi-natural woodlands (1–8) as required by clause 6.4.1 of UKWAS.	See section 4.1 <i>Silvicultural Systems</i> and 4.6.2 <i>Measures to enhance biodiversity</i> and 4.6.3 <i>Special</i>

Type of woodland	Requirement	Cross-reference
		<i>Measures for ASNW and SNW</i> below.
<b>Plantations on Ancient Woodland Sites (PAWS)</b>	The woodland will be managed to ensure that it makes a significant contribution to the conservation of biodiversity and that the overall contribution of the FMU as a whole is enhanced as required by clause 6.4.2 of UKWAS).	See section 4.6.2 <i>Measures to enhance biodiversity</i> and 4.6.4 <i>Special Measures for PAWS</i> below.
<b>Even-aged woodlands</b>	The wood will be gradually restructured to diversify ages and habitats as required by clause 3.2.3 of UKWAS.	See section 4.1 <i>Silvicultural Systems</i> below.

### 3.3 Strategy

The strategy is where you bring together all the various objectives, requirements, resource characteristics and constraints, and decide how you intend to manage the woodland overall to achieve the desired objectives with the resources available. A strategy will be important where you have a number of conflicting objectives, however where objectives do not conflict there may be no need to develop an explicit strategy.

Where a strategy is needed, for many woodlands this may involve some degree of zoning, for example:

- One area for timber production, and another for conservation;
- One area for intensive management, and another for trying out lower impact management systems;
- One area for public access, and another for private amenity.

However, zoning is not compulsory, and many woodland managers, particularly those with very small woodlands, may prefer to have multiple use of the whole woodland with the exception of small areas set aside for non-intervention.

While planning your overall strategy, it is very important to take into account not only what is within the woodland, but also what is adjacent to it, and how the woodland fits into the wider landscape (UKWAS 3.1.2).

Strategies for woodlands are very frequently summarised as one or more maps, though it may be useful to have some text as well.

## 4. Management Prescriptions/Operations

This is the section in which you need to elaborate the methods you will use to implement the strategy and management objectives. The detailed planning of individual operations is not included – this should go in the 5-year plan of operations included as a part of Section 6 on the Monitoring Plan.

It is important to think through and to note why you are using a particular approach rather than any alternatives. Considering different options will also encourage a rigorous and objective approach, particularly when you focus on achieving your stated long-term policy and vision, rather than just implementing widely practised or fashionable operations.

If any significant operations are planned, you will need to consider potential impacts arising from your proposals woodland management and implementing operations. This could be anything ranging from a formal exercise if requested by the Forestry Commission to simply an internal check (UKWAS 3.1.1). You need to ensure that you feed the results from looking at potential impacts back into your woodland management (UKWAS 3.1.3).

### 4.1 Silvicultural systems

UKWAS requires that you adopt an appropriate silvicultural system that is designed to meet the needs of your management objectives. It is important to demonstrate a soundly-based rationale for your planting, establishment, thinning, felling and regeneration plans. (UKWAS 3.4.1).

#### 4.1.1. Harvesting

Depending on resources, constraints and your objectives, you may need to think about harvesting and how you are going to carry it out. If you are going to harvest timber you will have to decide what harvesting system(s) will be used for timber production. In this section you need to set out which harvesting system(s) you will

use, justifying your decision (UKWAS 3.4.1). You may need to think about some of the following:

- Silvicultural characteristics of the species;
- Growth rates and wind firmness;
- Stem size and quality;
- Current and future markets for timber products;
- Impacts on the landscape and wildlife;
- Age-structure of nearby woodlands/forests and felling planned therein;
- Ecological processes and natural disturbance regime for that woodland/forest type;
- Historical management practices;
- Views of local people.

**For example justifications could be:**

In exposed areas at the south of the woodland we will use clearfell with restocking to reduce the risk of windthrow.

On flat areas near the river where risk of windthrow is low we will use small-group felling to increase the age diversity.

**Silvicultural systems**

The range of silvicultural systems available includes:

**Clear-felling/restocking** – if this option is chosen, it will be necessary to plan all operations in accordance with the FC Forest Landscape Design Guidelines and the FC Forests and Water and Forests and Soil Guidelines (UKWAS 3.4.2), and to ensure that restocking is planned to meet the requirements set out in Section 4.1.2 (*Phased felling and restructuring of plantations*).

If burning of lop and top is planned, this must only occur where there are clear management benefits which you could note here (UKWAS 4.2.3). Refer to the FC *Technical Note 004 Burning Forest Residues*.

If whole-tree harvesting is included in the prescription then you will have to justify its use and demonstrate that it will not have significant negative effects (UKWAS 4.2.4). Refer to the FC *Forests and Soil Guidelines* and *Practice Guide 011 Whole Tree*

*Harvesting: A Guide to Good Practice*

**Lower impact systems (including continuous cover)** – lower impact systems such as continuous cover, small coupe felling or group felling must be used in semi-natural woodlands (UKWAS requirement 3.4.3, UK Forestry Standard *Standard Note 5*). In windfirm conifer plantations, lower impact systems should be increasingly favoured wherever possible (UKWAS requirement 3.4.4, UK Forestry Standard *Standard Note 5*).

**Coppice and coppice-with-standards** – this may be appropriate for woods with a history of coppicing, or where it can produce marketable crops or deliver a variety of conservation, amenity and landscape objectives.

**Non-intervention** – this may be appropriate for areas being managed as natural reserves (see Section 5.6.2 *Measures to enhance biodiversity* below), refuges within larger woods, or remote or inaccessible locations.

The UKWAS standard includes some explicit requirements for the type of silvicultural system to be used in particular types of woodland, and the amount of harvesting which can occur:

**Semi-natural woodlands**

Lower impact systems must be adopted in all semi-natural woodlands (UKWAS requirement 3.4.3, UK Forestry Standard *Standard Note 5*). In semi-natural woodlands > 10 ha no more than 10% may be felled in any 5-year period except when required for biodiversity enhancement.

**Plantations**

In plantations of 20 ha or larger, no more than 25% of the area should be felled in any 5-year period, unless this can be justified (due to factors such as windthrow risk, landscape scale etc.) and is based on an adequate design plan (UKWAS 3.4.2).

Lowland plantations: Felling coupes should normally be less than 5 ha unless larger coupes are explicitly justified and based on an adequate design plan (UKWAS 3.4.2).

In windfirm conifer plantations, lower impact silvicultural systems must be 'increasingly favoured' (UKWAS 3.4.4).

If you are going to thin your woodland describe how you are going to do this. Set out the thinning regime which will be adopted for each woodland type including issues such as the frequency and, where appropriate, selection criteria for what species will be favoured (UKWAS 3.4.1). You will need to describe the thinning approach for each distinct part of the wood. It is important to consider how the choice of thinning regime will affect the understorey and ground vegetation.

Important issues to consider are:

- Species selection – which species will be favoured and therefore how the woodland composition will alter;
- Type – which size of tree will be removed: larger trees which will diversify the size and canopy structure, or smaller trees which will not create major gaps in the upper canopy;
- Thinning cycle – the period between thinnings;
- Intensity – will the thinning be heavy or light.

#### 4.1.2. Phased felling and restructuring of plantations

**This section does not apply to semi-natural woodlands.**

There is a strong emphasis in both the UK Forestry Standard and UKWAS on managing large even-aged plantations in a way which increases both structural and species diversity (UKWAS 3.2.3). Therefore, if you have a large even-aged plantation you will have to develop plans for restructuring.

#### 4.1.3. Establishment, restocking and regeneration

Plans for restocking or regeneration must contribute to the woodland meeting the UKWAS requirement for the proportions of different species set out in the table in Section 2.2 *Woodland Resource Characteristics*, above.

Species selected for planting must be suited to the site and meet management objectives. You should consider the advice in FC *Technical Paper 21: Ecological Site Classification*. Native species and provenances should be preferred where appropriate. The use of species, provenances or varieties outside their natural range is discouraged as their introduction may endanger important or valuable indigenous ecosystems, flora and fauna. Introduced species may be used when their potential negative impacts have been assessed and evaluated over sufficient time, and where they provide more benefits than do indigenous ones in terms of wood production and other functions. Whenever introduced species are used to replace local ecosystems, sufficient action should be taken to conserve native flora and fauna (UKWAS 3.3.1).

If you are restocking semi-natural woodland, material of local provenance should be used whenever it is available and considered appropriate, unless there is clear justification for not doing so (UKWAS 6.4.3).

## 4.2 New Planting

If you are planning any new planting you should discuss your plans and the EWGS with your Forestry Commission Woodland Officer at as early a stage as possible. Through your EWGS application you will develop a detailed plan for new planting. There is no need to include all that detail here, however you may want to refer to your application. Within this section you should outline how any proposed planting fits in with the existing woodland. You will need to consider how new planting contributes to compliance with the species proportions requirements (UKWAS 3.3.2), detailed in section 2.2 *Woodland Resource Characteristics*.

## 4.3 Other operations

This section should include any other major operations which are planned such as road building (UKWAS 4.3.1 and 4.3.2), large-scale fencing (UKWAS 5.4.1 and 5.4.2), drainage (UKWAS 4.3.2) or clearance of a significant area (UKWAS 3.5.1).

For any of these operations, you will need to consider carefully:

- The justification for undertaking the operation, and whether this meets the objectives of management, legal requirements and, where certification is an objective, the requirements of the UKWAS standard;
- The need/requirement for an assessment of potential impacts, either informal or formal;
- Ways to ensure that all adverse impacts are minimised.

Woodland roads are specifically addressed by UKWAS (UKWAS 4.3.1 and 4.3.2). Any plans should include:

- An appraisal of the impacts or an Environment Impact Assessment if requested by the Forestry Commission (UKWAS 3.1.1 and 4.3.1);
- Consultation with anyone likely to be affected by the operation (UKWAS 7.1.1);
- Protection of any special features during operations (UKWAS 4.3.2).

## 4.4 Protection and maintenance

### 4.4.1. Pest and disease management

If pests and diseases are a significant factor in the management of your woodland you will need to prepare a strategy for the management of pests, appropriate in depth to the size of the problem. “Pests” here means animal pests, diseases caused by fungal and micro-organisms, and invasive plant species, including deer, other wild mammals and domestic mammals which can damage the woodland.

To do this, firstly it is important to identify what the main pests are, then:

Remember, management should be undertaken in collaboration with neighbours wherever possible (UKWAS 5.1.3);

If you are managing deer, this has to be done based on a written strategy with specific objectives (UKWAS 5.1.4). Guidance on deer management can be found in Forestry Commission *Field Book 018 How many deer? A guide to estimating deer population size* and *Practice note 006 Managing deer in the countryside*. Further guidance can be found at [www.bds.org.uk](http://www.bds.org.uk), [www.basc.org.uk](http://www.basc.org.uk) and [www.thedeerinitiative.co.uk](http://www.thedeerinitiative.co.uk)

If you are planning to use fencing, UKWAS requires that fencing prescriptions ensure that it is only used where there is no alternative, and alignments are designed to minimise impacts on access and biodiversity (UKWAS 5.4.1 and 5.4.2);

If you use chemical pesticides in your woodland, then you will need to be sure that you are complying with the law and with additional UKWAS requirements. You will need to be able to demonstrate that you are meeting the requirements of best practice.

UKWAS 5.2 requires that the way you manage your woodland promotes the use of non-chemical methods of pest and crop management. UKWAS requires that over time you aim to reduce and eventually avoid the use of synthetic chemicals. Only where there is no practicable, cost effective alternative should synthetic chemicals be used.

It is important that your aims for reduction are based on the techniques and approaches you intend to use to promote non-chemical use rather than an arbitrary percentage reduction. These techniques can include for example species choice, changes in silvicultural practices and mechanical control methods (UKWAS 5.2.3).

To help you develop an approach to chemical use in line with UKWAS requirements, the Forestry Commission, in collaboration with the UK forestry and environmental community, has developed guidance on pest and weed control for use by woodland managers, *Draft Guidance on Pests and Weed Control and the Correction of Nutrient Deficiencies in Forestry (FC, 2000)* The guidance describes a 'decision chain' which can be used by woodland managers to develop a practical approach to controlling a pest.

UKWAS (5.1.2) requires on-going monitoring of tree health and the impacts of grazing, as well as the effectiveness of plans to control mammal and other pests. If you have a significant problem or a potentially significant one you should use this section of the framework to describe what you intend to do.

#### 4.4.2. Fire plan

A fire plan is required by UKWAS (5.1.5), appropriate to the level of risk and potential impact. For a small woodland alerting the Fire Service will probably be adequate. If

your woodland is larger or faces a high risk you may need to develop a fire plan which should include:

- Responsibilities for action
- Contact details
- Emergency procedures

#### 4.4.3. Waste disposal and pollution

You must plan any waste disposal to ensure that it minimises negative environmental impacts (UKWAS 5.5.1). This can include items such as planting bags, tree tubes and chemical containers. If you are going to produce a significant quantity of waste material you should describe here how you are going to dispose of it.

Pollution must be controlled by careful planning. UKWAS also requires the use of biodegradable lubricants wherever possible in the woodland (UKWAS 5.5.2). If you are considering operations which run a risk of a pollution incident you should detail here how you intend to minimise that risk and respond in the event of an accident.

#### 4.4.4. Protection from unauthorised activities

If you have identified any activities in Section 2.4 that are likely to impact on the woodland such as vandalism or fly-tipping, note here the actions you will take to minimise this threat. UKWAS recognises that it may be difficult to control all unauthorised activities, however you should use this section to describe what you are going to do to avoid and control them as far as you reasonably can.

### 4.5 Game management

A number of Codes of Practice, including the *Code of Good Shooting Practice* ([www.gct.org.uk/advisory/codes/codegoodshooting.html](http://www.gct.org.uk/advisory/codes/codegoodshooting.html)), have been prepared by bodies such as the Game Conservancy Trust, the Country Land and Business Association, the British Association for Shooting and Conservation and the Countryside Alliance, which provide guidance on planning game management.

Prescriptions for management of game, either wild or bred, should meet the requirements of UKWAS 6.2. Where you are managing native or introduced game species you should plan to minimise any adverse effects on the woodland, for example, locating feeding and rearing sites in areas where there will be a low impact on ground flora (UKWAS 6.2.3).

Where you are shooting native game and quarry species, this should be at a level that does not threaten the local population of the species (UKWAS 6.2.2). Where game bags have remained consistent over a long period of time this may be a good indication, however if conditions change or you intend to increase the level of shooting you will need to consider whether this will be sustainable in the long term.

## 4.6 Protecting and enhancing biodiversity

### 4.6.1. Management of designated areas

This includes national or local designations such as Special Areas for Conservation, Special Protection Areas, Ramsar Sites, National Nature Reserves, Sites of Special Scientific Interest as identified in Section 2.1.

All such areas must be managed in accordance with plans agreed with the appropriate nature conservation agency (UKWAS 6.1.2). Again, do not re-write any documented plan here, just give brief details and append the plan if necessary.

### 4.6.2. Measures to enhance biodiversity

Both the UK Forestry Standard and UKWAS require measures to protect and enhance biodiversity in every woodland. Those of UKWAS are more specific and are outlined below.

#### Important areas and features

All areas of importance for conservation should have been identified and marked on a map as part of Section 2 on *Woodland Information*. In this section you need to set out, as appropriate, how these areas or features will be safeguarded and, where possible, enhanced and protected during any operations (UKWAS 6.1.2). This may be

done very simply on a map, or may require more significant planning.

### Management of 15% of the total area of the woodland for biodiversity

UKWAS (6.3.1) requires that 15% of the total woodland area must be managed with biodiversity enhancement as a major objective. While UK Forestry Standard requirements are slightly less exact, in practice there is almost always a requirement for about this proportion of any woodland to be made up of open space, rides, riparian areas and so on.

UKWAS requires the area managed for biodiversity to contain several specific areas such as long-term retentions and natural reserves. The table below sets out the requirements of the UKWAS standard.

Areas managed for biodiversity	UKWAS requirement
Long-term retention	At least 1% of the woodland
Natural reserves	At least 1% of a plantation woodland At least 5% of a semi-natural woodland
Managed SNW & ASNW	All identified areas
PAWS	At least 10% of the area restored over 10 to 15 years as an indicative target
Managed open ground	10% for plantations No requirement for SNW or woodland < 10 ha
Other conservation areas identified from the appraisal	All identified areas must be adequately managed
Deadwood habitats	Must be adequate throughout the woodland
<b>Total</b>	<b>At least 15% of woodland, more if this is needed to meet minimum requirements</b>

In this section you will need to plan how you will achieve each of these requirements. You will have to think about your rationale behind how you select areas such as long-term retentions and natural reserves. For example you will have to decide on the balance between adequate dispersal of sites across your woodland area and

concentration of sites in important locations. Your justification should be based on maximising benefits to biodiversity conservation. It would not be acceptable to select as natural reserve an area with low conservation value merely because it was difficult or uneconomic to harvest if there were other areas which could be selected and provide higher biodiversity benefit.

#### **Provision of deadwood habitats**

Most woodlands will include some deadwood. You should try to retain deadwood over a range of sizes and states of decay within your woodland. An average of 3 standing and 3 fallen stems per hectare across the woodland or forest as a whole would be an appropriate minimum target. Woodlands that are being brought back into management often have high levels and you will not need to do anything else. Woodlands managed to maximise timber output may have low levels of deadwood as a result of regular thinning. If levels of deadwood are low comment on the existing quantities of deadwood in your woodland in relation to the indicative figures above, and describe what you plan to do to maintain or increase this.

#### **Long-term retentions**

Long-term retentions are stable stands and clumps of trees that are identified and retained for environmental benefit significantly beyond their normal age or size. How long this means in practice will depend on local conditions such as risk of windblow. If you are going to retain these trees, they may need to be treated differently e.g. thinning to encourage windfirmness. Explain how are you going to manage long-term retention areas (UKWAS 6.3.1). Remember, long-term retentions will have a finite life so you will need to identify (and possibly prepare) the next generation before the existing ones are removed. If you are managing areas under a continuous cover system you may not need to identify additional areas for long-term retention.

#### **Natural reserves and non-intervention retentions**

Natural reserves are predominantly wooded, are permanently identified and are in locations of particularly high wildlife interest or potential. Natural reserves are

normally managed by minimum intervention, however if an alternative management approach has a higher conservation or biodiversity value you should describe what you plan to do here (UKWAS 6.3.1). In very small woodlands natural reserves may consist of groups of or even individual over-mature trees.

### **Non-woodland habitats**

Management prescriptions for non-woodland habitats should address how to maintain or enhance existing habitats (UKWAS 6.1.2), and the maintenance or restoration of valuable semi-natural habitats which have been colonised, planted or incorporated into plantations (UKWAS 6.1.3).

This relates to small-scale habitats within a woodland matrix. Appropriate management may include:

- Rides and glades containing remnant semi-natural communities are widened and extended;
- Areas with a rich ground flora and shrub layer are heavily thinned;
- Remnants of wood pasture or other 'open-forest' habitat are gradually opened up;
- Heathland, bog and other open habitats are recreated by premature felling without restocking;
- Maintenance of open ground around archaeological sites.

### **Other sites of significance for biodiversity**

This includes any areas covered by Biodiversity Action Plans (BAPs) as well as any other sites identified as part of the appraisal in Section 2.

### **Species protection and management**

During the collection of information on the woodland you should have noted any rare, threatened or important species (Section 2.1.2). Where possible, the location of these species, or the habitat on which they depend, should have been marked on a map (UKWAS 6.1.1). If rare, threatened or important species are present you will

need to develop management prescriptions setting out how, in practice, these species will be protected and maintained or even enhanced.

#### **4.6.3. Special Measures for Ancient Semi-natural Woodland and Semi-natural Woodland (ASNW and SNW)**

UKWAS requires that management of ASNW and SNW is in accordance with the UK Forestry Standard and the relevant Forestry Commission Practice Guides for semi-natural woodlands. UKWAS sees enhancement and/or restoration as a priority in ASNW and SNW. You must describe here how you are going to manage any ASNW and SNW in your woodland.

Identification and mapping of areas and features may be carried out on an on-going basis, provided that it has been completed for an area prior to operations taking place. Remember that Woodland Assessment Grants may be available to help gathering this information – discuss this with your Forestry Commission Woodland Officer.

The management prescription for any SNW or ASNW must address:

- How the semi-natural characteristics of the woodland will be enhanced or restored (UKWAS 6.4.1);
- Removal of exotic species (UKWAS 6.4.1);
- Compliance with the UK Forestry Standard and Forest Practice Guides for semi-natural woodland (UKWAS 6.4.1);
- Remember that any harvesting must use lower impact systems and not exceed 10% of the area over 5 years – see also Section 4.1.1. (UKWAS 3.4.3);
- Any seed of native species used should be of local provenance when available and appropriate – see also Sections 4.1.3 and 4.2. (UKWAS 6.4.3).

#### **4.6.4. Special Measures for Plantations on Ancient Woodland Sites (PAWS)**

There is a strong drive in both Forestry Commission goals and in UKWAS to promote the restoration of plantations on ancient woodland sites to a more natural vegetation. Therefore, all PAWS must be identified and a strategy for their

management developed. The strategy should normally include a target for restoration of 10% of the area to semi-natural woodland over a 10–15 year period (UKWAS 6.4.2).

However, this should not be done randomly. It should be done through a process of identifying the areas with the greatest potential for restoration and then formulating a long-term plan, which should be summarised here, to restore the most promising areas. PAWS have to be managed to ensure that they make a significant contribution to the conservation of biodiversity at the landscape scale. The UKWAS standard (6.4.2) requires that you maintain the biodiversity and other environmental values of all PAWS. This will often involve restoration of some areas to native woodland.

If you have PAWS, deciding what you should do can be made easier by following the guidance contained in the Forestry Commission Practice Guide Restoration of Native Woodland on Ancient Woodland Sites. There is also an accompanying Site Assessment Guide to help you work through the guidance in your woodland.

Remember that Woodland Assessment Grants may be available to help gathering information – discuss this with your Forestry Commission Woodland Officer.

## 4.7 Management of social and cultural values

### 4.7.1. Archaeology and sites of cultural interest

Sites and features of special cultural significance should have been identified in Section 2 and where necessary discussed with interested local people and the relevant authorities (UKWAS 7.4.1), in particular prior to operations being carried out on or around them. You should detail here how you intend to maintain features present. If you have an existing management prescription for a site agreed with the appropriate authority you do not have to re-write it here, just give brief details or append the agreement.

### 4.7.2. Public access

UKWAS requires that all existing permissive or traditional uses of the woodland are sustained unless they are threatening the integrity of the woodland or the

achievement of management objectives (UKWAS 7.2.1.) You should have identified existing rights of way, viewing points and permissive footpaths in Section 2.

UKWAS requires that there you make some provision made for public access in your woodland. This does not mean you have to allow access to the whole of your wood all of the time. For example, an estate may not wish to allow public access to woodlands which are primarily used for sporting, but is willing to permit access on specified routes in another of its woodlands where shooting is not carried out. You should use this section to detail what provision you are making for public access. This can often be shown very easily through use of a map.

Examples of how public access can be provided include:

- Public rights of way through or beside the wood;
- Permissive access on specified routes;
- Publicised open days or guided walks each year;
- A permissive freedom to roam;
- Access Management Agreements with Local Authorities.

UKWAS also lists a number of situations in which public access, other than on public rights of way, may be denied.

## 5. Consultation

Consultation is the giving or receiving of advice and the exchanging of views. In this context, consultation means seeking the views and advice of local people, relevant organisations or anyone who has an interest in your woodland. The term can apply to anything from a widespread opinion survey concerning a large-scale afforestation programme, to talking to a neighbour over a gate about some forthcoming harvesting. What is appropriate for you to do depends on the scale of your operation and the activities that you are planning. Consultation is required by the standard (UKWAS 7.1.1) because it helps to identify and prevent problems before they occur.

For example, the Forestry Commission strongly advises those considering new planting or tree felling to discuss their proposal with those neighbours whose

properties might be affected. Doing so should prevent the problems that sometimes occur when people feel they ‘should have been told’ or ‘had a right to know’.

Use the table in the template to note any significant issues that may have an effect on the way you manage your woodland you need to bear in mind when planning and carrying out work.

#### What is required?

The primary objective of consultation should be to ensure that you have *identified* any statutory bodies with an interest in your woodland (e.g. English Nature, if you have an SSSI). The standard requires that you give formal notification to and where necessary obtain relevant permission from such bodies when you plan your operations.

In addition, the standard requires that local people and other relevant organisations are made aware of plans, and have the opportunity to make their views heard. Once again the first thing is to *identify* people and organisations concerned.

Woodland managers should be pro-active about informing stakeholders. This can be done through a variety of means, from writing letters, to holding meetings to simply putting up signs in the affected woodland. In all cases it should be obvious to the stakeholder who they should contact for further information. If you are seeking certification your auditor will check the relevance and quality of consultation.

People with whom you consult may offer conflicting suggestions. You must comply with legal obligations and the requests of statutory bodies, but you won’t be expected to fulfil the expectations of everyone who expresses a view. If you are considering certification an auditor will want to see that you have given due consideration to the various opinions. Again, it is worth remembering that the objective of the exercise is to avoid problems and conflict.

Further guidance on consultation can be found in Forestry Commission *Practice Guide 010 Involving Communities in Forestry Through Community Participation*.

## 6. Monitoring plan summary

Monitoring is an essential element of good woodland management and almost all woodland managers undertake a range of monitoring as part of their normal routine.

The most straightforward type of monitoring is operational monitoring – checking that what has been planned is actually being done in practice, and in compliance with UKWAS requirements. This is generally particularly important in big organisations where the person who has the responsibility for planning and management is not the one actually carrying out the activity. In small organisations where the manager both plans and implements, there is clearly no need for the manager to monitor themselves. However, even in small organisations, it is quite common to have various operations carried out by subcontractors, and in this case it is important to monitor what they are doing. This type of monitoring does not have to be complex – a simple site visit is usually enough.

A second vital role of monitoring is to make sure that the actions and operations being undertaken are resulting in the achievement of the management plan objectives, Look back at Section 3 where you detail your long-term vision and specific management objectives. This Section contains the key measures against which your woodland management can be evaluated. You can use these to decide whether or not your management is achieving what you wanted and expected. Monitoring your progress against your key objectives will help you to make sure that the actions and operations being undertaken are resulting in the achievement of the management plan objectives, as well as checking that the specific requirements of UKWAS are being met.

Woodland managers often think that monitoring is complicated, expensive and time-consuming. While this may occasionally be true, it is certainly not the norm as the example below shows:

**Example:**

A management objective in a SNW is to control rhododendron. In order to achieve this objective, a contractor is given the job of completely clearing rhododendron once every five years.

Each five years, the contractor informs the woodland manager roughly when he will undertake the work and the manager visits the woodland the following week to check that the work was done properly. This is operational monitoring.

Each year in June the manager, during one of his routine visits to the woodland, includes a few minutes to check the extent of rhododendron re-growth, noting

where it has reappeared and assessing whether or not it is causing a problem. This is monitoring.

Back in the office, he checks the extent of regrowth relative to the information from the previous year to see how rapidly the situation is changing and to decide whether there is any need for some interim control, feeding the information back into management planning.

In planning what monitoring is needed, it is useful to go through the following process for each objective, requirement or plan:

- What information will be needed to make sure requirements, objectives and plans are being met?
- How will the information be collected?
- How will the information be analysed and used?
- How will the results of monitoring be fed back into management planning?

This is shown in the example below.

<b>Example:</b>	
Objective:	Control of deer to a level that will allow natural regeneration.
Information needed:	Number of deer shot. Damage to regeneration.
Collection of information:	The number of deer shot will be reported by the consortium leasing hunting rights each month.  The damage to regeneration will be checked quarterly through a 5% systematic sample of the area, ensuring that the sample is representative of the whole area.
Analysis of information:	Number of deer shot plotted on a graph in the office.  Percentage of regeneration with damage calculated (e.g. sixty saplings out of 300 in the area gives 20% damage).
Management planning:	If the number of deer shot rises or drops significantly contact consortium leader for more information.  If the level of damage goes above 35% further plans and actions are required to reduce deer numbers.

In some cases there will be a range of ways in which an objective can be monitored which vary in terms of cost and effectiveness. For example, if an objective is to increase the number of dormice in a woodland, then monitoring could be:

- Checking the actual number of dormice periodically;
- Checking the extent of dormouse habitat available as a proxy for dormice numbers;
- Combining the two approaches.

Checking the actual numbers is obviously the most accurate, but it is also expensive and time-consuming. Checking the extent of habitat is much quicker and cheaper, but also less accurate.

In deciding which approach to use, it is important to consider:

- How important the objective is to the woodland;
- The level of risk associated with not meeting the objective;
- How the information will be used.

Importance of the objective
If the woodland is owned by a wildlife trust and conservation of the dormice population is the main objective, then it is probably important to have accurate information on numbers. If the woodland is primarily for production, but a small area is being managed for biodiversity with the hope of encouraging dormice, then the less accurate proxy approach is justified.

Level of risk
If you already know the woodland contains an <i>important</i> population of dormice, and operations are underway which might have a significant impact, it is <i>important</i> to have accurate information on actual numbers in order to be sure that they are not declining as a result of the operations. If the woodland is not currently important for dormice or no significant operations are planned, then it is more acceptable to use the proxy information.

### Use of the information

Where operations could be affecting the existing population, evidence of a decline in numbers would result in stopping or modifying the operations, justifying the collection of accurate information. Where changes are being made in the general hope of encouraging the development of a new population, but a failure to do this is unlikely to lead to major changes in plans or operations, the cheaper proxy approach is justified.

The range of things that need to be monitored is specific to each woodland depending on the type of woodland and the objectives of management. The first stage in developing a monitoring plan is to decide what needs to be monitored. In deciding this always think about what it is you need to know in order to be sure that your objectives are being met and the requirements of the standard are being complied with.

Monitoring plans should be specific in laying out:

- What will be done;
- When it will be done;
- Who will do it;
- How the information collected be will reported, analysed and fed back into management.

The management plan framework provides a table for doing this. An example of how this might be used is set out below. However, some people prefer to plan monitoring in a text format – there is no need to use the table if it does not seem to be helpful.

Another alternative, which some people prefer, is to record the plan for monitoring a particular objective or operation together with the plans for undertaking the work in the preceding sections. In this case, the monitoring plan section should just contain a summary or list of the planned monitoring activities.

Example:					
Objective, issue or UKWAS	Indicator	Method of assessment	Monitoring period	Responsibility	How will the information be used?

Requirement					
Control of rhododendron	Number of plants	Walk through woodland noting plants	Annually in April/May	Owner	Owner to decide if further clearance required
Increase number of dormice in collaboration with Wildlife Trust	Area of dormouse habitat	Survey wood noting areas with appropriate habitat	Annually in autumn	Wildlife Trust partner	If the area is not increasing by 2% per year plans will need to be revised
Species proportions	Area or percentage of each species	Planting/ regeneration records	Every three years	Agent	If proportions do not meet targets in management plan, revise planting plans for next year

## 7. Work Programmes

### 7.1 Outline long-term work programme

Use the table in this section to provide a rough overview of the proposed planned operations for the woodland over the next 20 years. This should be closely linked to the long term vision and objectives set out in Section 3, and provides the practical information on how those parts of the strategy requiring operations will be met. Maps are a very practical and useful way of recording plans for many operations. You can also use the table provided in the management plan framework to outline where and when operations are envisaged. You may need to provide additional details for complex or sensitive operations. Necessary information might include, for example:

- Details of planned felling and restructuring for the 20 years in five year phases;
- An outline of areas to be thinned in each five year period;
- Outline of major operations planned for each compartment over the period;
- A map showing the areas of PAWS planned for restoration;
- A map showing the new access routes planned and approximate dates for undertaking the work.

## 7.2 Short term work programme

Use the table in this section to provide more detail on operations over the first five-year period. Generally the first year is planned in detail, with slightly less detail for each subsequent year. Necessary information might include, for example:

- A map showing planned operations for each year;
- Compartment plans showing the operations planned for each year in each compartment.

Remember, if you give detailed plans for the first year only you may need to prepare further information for years 2 to 5 in subsequent years.

## 8. Maps

Maps are one of the most useful ways of recording information on woodlands, whether it is historical, current or plans for the future. Many management plans consist almost entirely of maps with just one or two pages of supporting text. This is perfectly acceptable for both the Forestry Commission and UKWAS. The usual procedure is to produce a base map showing the woodland and compartment boundaries if there are any and then to use this to produce other specialist maps. Use your maps to present as much information as possible but do not try to put too much detail on one map. It will help to limit the information on maps to related features.

You should use a good quality copy or an original map, bearing in mind copyright issues. You should use an up to date OS map, at a scale of 1:10000, or 1:2500 for small areas. You should mark the scale on the map and make sure at least two horizontal and two vertical gridlines are shown. The Forestry Commission has detailed guidance for using and marking maps within the Woodland Grant Scheme (Guidance Notes for Your Application, Proposal and Terms and Conditions, FCC004). You should make sure any maps you use comply with these requirements.

The list below provides some suggestions of the types of map that might be produced. For smaller woods it may be possible to show this information on one or two maps, however for larger woods or more complex management a number of separate maps will be required.

<b>Boundaries, compartments, species</b>
Clearly indicate the woodland boundary, any internal compartments and species distribution. Also include items such as rights of way, access routes and wayleaves.
<b>Thinning, felling</b>
Use a map to illustrate works detailed within your programme of thinning and felling work. Remember to mark on features such as harvesting extraction routes, stacking or loading areas and fuelling points.
<b>Planting, restocking</b>
Detail proposed species distribution of any new planting or restocking.
<b>Special areas and features</b>
Ensure that all the areas and features identified in Section 2 are detailed on maps.

## Appendix 1 – Glossary

**Access** (for public) Refers to woodland and its associated land open to the public for recreational or educational use (sometimes subject to changes).

**Ancient Semi-Natural Woodland** Ancient woodland composed of mainly locally native trees and shrubs which derive from natural seedfall or coppice rather than from planting.

**Ancient woodland** Woodland which has been in continuous existence from before AD 1600 in England, Wales and N. Ireland and from before AD 1750 in Scotland.

**Ancient woodland site** The site of an ancient woodland.

**Area of Special Scientific Interest** See National Nature Reserve

**Biodiversity** The variety of ecosystems and living organisms (species), including genetic variation within species.

**Biodiversity Action Plan(s)** The UK Biodiversity Action Plan sets out a programme of action to conserve and enhance biological diversity throughout the UK. It includes action plans for key habitats and species, and cross-sectoral programmes to encourage biodiversity conservation within all land uses and businesses. Local Biodiversity Action Plans integrate these measures at a local or regional level.

**Common rights** Rights of Common that have been legally registered with local authorities in England and Wales.

**Coupe** An area of woodland that has been or is planned for clear felling.

**Cultural features** Archaeological sites, historic buildings and heritage landscapes including ancient woodlands.

**Ecological integrity** The health and vitality of the woodland's/forest's physical and biological components

**Environmental appraisal** Generic term for the process of assessing the impact of plans or operations on the environment. Environmental impact assessment on the other hand is generally taken to refer to the statutory requirement under the EU Environmental Assessment Directive.

**Felling: clear** Cutting down of an area of woodland (if within larger area of woodland is typically a felling greater than 0.25 hectares). Sometimes a scatter or clumps of trees may be left standing within the felled area.

**Felling: group** As clear felling, but in small areas (typically less than 0.25 hectares) whose microclimate is strongly influenced by the surrounding woodland left standing.

**Game** Animals, either wild or reared, managed for hunting or shot for food.

**Invasive** Introduced non-native species which spread readily and dominate native species

**Interested parties** People directly affected by or who have a significant interest in the forest being managed

**Landscape level** The level of the landscape unit

**Landscape unit** An area of broadly homogeneous landscape character.

**Local People** Anyone living or working in the vicinity who has an interest in the woodland/forest. It is intentional that this term is not more closely defined, and the wider public is not excluded. It is particularly difficult to be precise about how local people are to be contacted or consulted. In some situations, it would be appropriate for this to simply mean those living beside the woodland/forest (e.g. concerning noise disturbance). In other cases – such as using local services – a much wider geographical area will be appropriate. If there is difficulty in identifying local contacts, then the elected representatives should be the first choice.

**Long term retention** Trees retained for environmental benefit significantly beyond the age or size generally adopted by the woodland enterprise.

**Minimum Intervention** Management with only the basic inputs required to protect the woodland from external forces or to ensure succession of key habitats and species. This usually means no major silvicultural operations, such as felling or planting of trees. Operations normally permitted are fencing, control of exotic plant species and vertebrate pests, maintenance of paths and rides and safety work. Other work specifically to enhance the social or ecological value of the woodland is also often carried out.

**National Nature Reserve** National Nature Reserves (NNR), Sites of Special Scientific Interest (SSSI) in Great Britain and Areas of Special Scientific Interest (ASSI) in Northern Ireland offer statutory protection to habitats and species.

**Native (species)** A species that has arrived and inhabited an area naturally, without deliberate assistance by man, or would occur had it not been removed through past management. For trees and shrubs in the UK usually taken to mean those present after post-glacial recolonisation and before historic times. Some species are only native in particular regions. Differences in characteristics and adaptation to conditions occur more locally – hence 'locally native'.

**Natural reserve** Natural reserves are predominantly wooded, are permanently identified and are in locations which are of particularly high wildlife interest or potential. They are managed by minimum intervention unless alternative management has a higher conservation or biodiversity value. In very small woods, natural reserves may consist of groups of or even individual over-mature trees

**Open space** Includes streams, ponds and well laid out roads and rides.

**Origin (of seed)** The original natural genetic source of the trees that are native to the site

**Permissive (access/use)** Use by permission whether written or implied, rather than by right.

**Pesticides** Chemicals used to control or eradicate animal or plant species.

**Plantation on an Ancient Woodland Site** A plantation of trees on the site of an ancient wood (i.e. the original trees have been replaced).

**Provenance** Location of trees from which seed or cuttings is collected. Designation of Regions of Provenance under the Forest Reproductive Materials regulations is used to help nurseries and growers select suitable material. The term is often confused with 'origin' which is the original natural genetic source.

**Public Right of Way** Public Rights of Way that are recorded in England and Wales on Definitive Maps held by local authorities. The record shows whether the Right of Way is by foot, horse or vehicle.

**Recreation** Activity or experience of the visitor's own choice within a woodland setting. (Facilities may sometimes be provided and charges levied for their use.) See also Access.

**Regeneration** Renewal of woodland through sowing, planting, or natural regeneration.

**Restocking** Replacing felled areas by sowing seed, planting or natural regeneration.

**Retentions** Trees retained, usually for environmental benefit, significantly beyond the age or size generally adopted by the owner for felling.

**Ride** Permanent unsurfaced access route through woodland.

**Semi-natural woodland** Woodland composed of mainly locally native trees and shrubs that derive from natural seedfall or coppice rather than from planting.

**Site of Special Scientific Interest** See National Nature Reserve

**Small coupe felling** A silvicultural system intermediate between a group selection or shelterwood system and a clear-felling system. The system is imprecisely defined but coupes are typically between 0.5ha and 2.0ha in extent, with the larger coupes elongated in shape so the edge effect is still high.

**Small Woodland** An individual wood under about 10ha in size

**Special Area for Conservation** Area designated under the EU Habitats and Species Directive.

**Special Protection Area** Area designated under the EU Birds Directive.

**Statutory body** Includes the statutory nature conservation and countryside agencies (English Nature and Countryside Commission), the statutory environment protection agency (Environment Agency), and local authorities.

**Thinning** A temporary reduction in basal area made after canopy closure to promote growth and greater value in the remaining trees.

**Traditional rights** Rights which result from a long series of habitual or customary actions, constantly repeated, which have, by such repetition and by uninterrupted acquiescence, acquired the force of a law within a geographical or sociological unit.

**Watercourse** Streams and rivers. References to forestry practice on adjacent land should be taken as applying also beside waterbodies e.g. ponds and lakes.

**Whole tree harvesting** The removal from the harvesting site of every part of the tree above ground or above and below ground.

**Windthrow** Uprooting of trees by the wind.

**Windthrow risk** A technical assessment of risk based on local climate, topography, site conditions and tree height.

**Wood pasture** Areas of historical, cultural and ecological interest, where grazing is managed in combination with a proportion of open tree canopy cover.