

## Improving biodiversity in Britain's state forests

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### Abstract

A reflection on the development of the Forestry Commission's (FC) approach to environmental conservation and the management of biodiversity in the late 20th century and the challenges faced at the threshold of the 21st century. The demands of society have seen a marked change in the philosophy, policies and practice of state forestry over the past 20 years. This has been reflected in the terminology used by foresters – multi-purpose multi-benefit – and more recently sustainable forest management (SFM) (Higman et al. 1999).

Biodiversity is now recognised as a key component of SFM. Forest Enterprise (FE) as the agency responsible for the management of the FC estate is committed to a range of measures which will improve biodiversity, involving its forest planning processes, its management of key habitats and species, protected sites and the local distinctiveness of the FC estate. Developing a partnership approach has been the key to success achieved so far. New challenges faced include developing better management tools, criteria and indicators together with seeking new resources and building a better understanding and hence appreciation of what biodiversity on the FC estate means for society and local people alike.

**Keywords:** biodiversity, forest planning, habitat, sustainable forest management.

### Introduction

This paper provides some reflections on the development of the Forestry Commission's approach to environmental conservation and the management of biodiversity as applied to the state forest resource. It draws on the Forestry Commission's legacy of 80 years, takes stock of where the organisation is now at the dawn of a new millennium and reflects on where the subject may go in the next five to ten years.

The Forestry Commission (FC) was founded in 1919 with a clear remit to reverse the decline in forest cover, which had been ongoing for centuries. The organisation was specifically charged with rebuilding a reserve of timber, which could be drawn down in periods of national emergency. This was to be achieved through FC undertaking acquisition and afforestation of land and providing encouragement and support to private owners backed up by research and development of new technology. Since then much has changed, most especially in terms of the expectation of society and the remit of the FC. This has been reflected in a number of amendments to the original Forestry Acts to recognise environmental, amenity and recreational considerations and to obtain a better balance between these various aspects of land use. In this period the internal organisation of the FC has undergone considerable change, with perhaps one of the more fundamental aspects being the segregation in 1992 of the management of the state forests from the development and regulation of forestry generally in Britain. This was reinforced in 1996 by the establishment of Forest Enterprise (FE) as an agency within the FC.

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One key aspect, which has not changed is the original 1919 Forestry Act on which forestry and ultimately FE activities are founded.

### The historical context

- *1919-1980 – Economists, Silviculturists, Scientists and Mavericks:* This period could perhaps be encapsulated by the slogan ‘Timber production rules OK’ but this would somewhat unfairly overlook the contribution which FC staff made to a much wider forestry agenda – social and environmental as well as economic. Nevertheless there was a huge growth in the public forest estate, primarily consisting of mainly imported coniferous species established in a productive, intensive plantation regime, fuelled by economic thinking and a progressive research effort. This approach was supported by a fairly single-minded management style and much enthusiasm and energy amongst practitioners. However there were doubters both outwith but also within FC who advocated the need to safeguard and even expand the conservation value of the FC’s forests. These individuals ranged from eminent scientists to the rather more anonymous local foresters who omitted or ‘forgot’ to plough and plant the local sites of interest under their jurisdiction. Some sites important for their high ecological and scientific value, were set aside for research. These were usually high profile locations such as The New Forest in Hampshire and Glen Affric in Inverness-shire. These, together with many smaller sites, were only afforded a degree of protection, with management always keen to maximise the opportunities for wood production by planting as much as possible with the most productive species. Equally inappropriate silvicultural prescriptions were often applied to native woodlands, again with the objective of producing timber. These practices were only arrested by the designation of such sites as Sites of Special Scientific Interest (SSSIs) by the government’s Nature Conservancy Council. This process led to considerable dispute and hence acrimony between foresters and conservationists. The landscape and recreational values of the state forests came increasingly to the fore in this period, drawing in a whole new range of stakeholders, with an increasing awareness and expectations.
- *1980-1990 – The Conservation Watershed – a period of turmoil and change for ‘traditional’ forestry:* The increasing expectation of better informed specialist stakeholders supported by a more aware general public, politicians and media resulted in a number of milestones for nature conservation in Britain. New policies and guidelines were to have a major impact on the practice of forestry over the coming years.
  - The Wildlife and Countryside Act of 1981 increased protection for Sites of Special Scientific Interest and also for a list of endangered species.
  - The Forest and Wildlife Amendment Act of 1985 sought a better balance between forestry and nature conservation interests.
  - The FC’s broadleaf policy review in 1985 resulted in a fundamental shift to safeguard existing and promote new planting of broadleaf species rather than conifers.
  - The publication in 1990 of the FC’s first environmental guidelines covering water and nature conservation.

All of this was accompanied by the rise and rise of environmental NGOs and their campaigns against productive plantation forestry. This was epitomised by the mid 1980s’ Flow Country debate in the Caithness and Sutherland peatlands which led to the abolition in 1987 of the system of tax incentives from which private forestry developers

had benefited and which had equally fuelled the wrath of the conservation movement.

- *1990-2000 – Turning over New Leaves:* In the past decade forestry issues have become global, partly driven by the decline in tropical rainforest and the subsequent public outcry. This has been supported by a plethora of international forestry processes, starting with the Forest Principles agreed at the Earth Summit in Rio in 1992. In Europe this has spawned parallel activity with the series of ministerial conferences on the protection of forests in Europe; Strasbourg 1990, Helsinki 1993, Lisbon 1998 which have established a new agenda for forestry which takes much greater account of the environmental and more recently the social aspects of forestry. The changes in the nomenclature describing forestry have reflected this with the more superficial labels of multi-purpose forestry and multi-benefit forestry giving way to Sustainable Forest Management which is firmly rooted in the concept of sustainable development.

The changes in forestry which impact upon nature conservation and forests have also been underpinned by tougher European Union legislation in the form of the Birds Directive in 1979 and the Habitat Directive in 1992. These afford protection for key habitats and species and established the ambition to designate a suite of protected sites known collectively as Natura 2000. The first guidance published by the FC on biodiversity was in 1993 (Ratcliffe 1993)

In the UK, as well as instigating a number of reviews which included consideration of the privatisation of state forests, the government of the day also established an ambitious agenda for taking forward the UK's contribution to the Rio Biodiversity Convention. The process was kick-started in the UK by the 'Biodiversity Challenge' group of conservation NGOs (Wynne 1995) and resulted in the production of a Biodiversity Action Plan (BAP) (English Nature, 1995-1999 – Vols. I-VI 2000). For the first time the BAP has given public and private sector organisations a series of conservation goals. The BAP involves public organisations, NGOs and private landowners becoming engaged in a process of developing and enacting Habitat Action Plans, Species Action Plans and local Biodiversity Action Plans covering key habitats and species. The whole concept was founded on the voluntary principle coupled with the premise that no new government resources would be deployed. Challenge has indeed been the operative word. The FC in its departmental role has been tasked with leading on all woodland habitats, while a range of environmental NGOs and government agencies take the lead in species. Local BAPs are led by local interest groups usually orchestrated by local government.

The UK government's approach to Sustainable Forestry was published in 1994 (Forestry Commission 1994). It set out the broad approach towards all aspects of modern forestry including biodiversity. Other publications which have contributed to policy and practice include guidance on the management of semi-natural woodlands and a one-off publication on biodiversity.

The rapid development of new ideas and initiatives in forestry led to the development and publication in 1997 of the UK Forestry Standard (Forestry Commission 1998a), which embodies all current legislation and best practice. The icing on this particular cake has been to facilitate an alignment between the FC's UK forestry standard and the Forest Stewardship Council's (FSC) Standard. This process has seen the arrival of the UK Woodland Assurance Scheme (UKWAS) (UKWAS Steering Group 2000) after a protracted and difficult birth. It does however represent the only FSC recognised national Forestry Standard derived from a consensus process involving all sectors of the UK forest industry and stakeholders.

## Where are we now – FC’s approach to biodiversity

The Forestry Commission’s approach to biodiversity is set out in Box 1. The key mechanisms which allow FC to deliver these policies are regulations, grants and directly through FE.

### Box 1: *Forestry Commission approach to biodiversity.*

#### **The Forestry Commission’s Policy on Biodiversity (Forestry Commission 1998b)**

##### **Overall Aim**

To conserve and enhance biological diversity associated with woodlands in ways which contribute towards the conservation and enhancement of biological diversity in the UK as a whole.

##### **Objectives**

1. To conserve and where practical enhance the overall populations and natural ranges of native species and the quality and range of wildlife habitats and ecosystems within woodlands:

Ensure that biodiversity conservation is an integral part of all forestry planning and operational management;

Develop and encourage forest practices which avoid significant harmful impacts upon biodiversity conservation;

Promote the appropriate use of locally native trees and shrubs;

Encourage an increase in diversity of structure at appropriate scales including old trees and dead wood, and increase use of silvicultural systems which include natural regeneration;

Maintain or increase the range of habitats including open ground edge and water and wetland features within woodlands;

Encourage the conservation of genetic variation of trees and other species.

2. To contribute to the conservation and enhancement of internationally and nationally important and threatened species, habitats and ecosystems and of natural and managed habitats which are characteristic of local areas:

Encourage the protection, management, extension and restoration of native woodlands, with special emphasis on ancient and semi-natural woods and internationally important types and encourage the creation of new native woodland of a locally natural character (all to implement the UK native woodland Habitat Action Plans);

Encourage conservation of habitats and populations of key species especially those with Species Action Plans under UK BAP;

Contribute to the conservation and restoration of important non-woodland habitats, especially those with UK Habitat Action Plans, by sensitive woodland expansion, the management of remnant areas within woodlands and some restoration of key sites.

3. To increase public awareness of and involvement with woodland biodiversity conservation.

*Forest Enterprise, sustainable forest management and biodiversity*

In common with many other land managers FE is now starting to come to terms with the concept of sustainable development. Equally we are now beginning to recognise that SFM is a far more fundamental change in the whole philosophy and practice of forestry than previous labels of convenience suggested. SFM cannot be regarded as tree farming with frills. Nevertheless in spite of the difficulties which FE managers face in their attempts to grasp the meaning of SFM, there is general agreement on what needs to be done in practice. The practical aspects and mechanisms to deliver SFM including biodiversity have been expressed in the Agencies' framework document produced by Forest Enterprise in 1996 and in subsequent annual corporate plans. Those pertaining to biodiversity are reproduced in Box 2 together with the mechanisms and performance measures to ensure successful delivery.

**Box 2: Biodiversity aspects of Forest Enterprise's corporate plans.****Forest Enterprise (Forestry Commission 1996)**

FE aims to produce the environmental, financial, social and other outputs sought by Ministers and the Forestry Commissioners in a way which meets the Government's objectives and international commitments and sustains the environmental quality as well as the productive potential of the forest estate; and to offer an efficient service. In furtherance of these aims, the Agency shall have regard to, and act in accordance with, the Forestry Commissioner's statutory duties.

**Relevant objectives include:**

- to enhance the environmental conservation and amenity value of the estate including biodiversity and landscape, and to seek and realise opportunities to further the Governments' environmental policies.
- to conserve and manage sympathetically areas of special nature and heritage interest.

Objectives will be delivered through the preparation and implementation of a series of plans which are subject to periodic review and external participation. These include Forest Design Plans, Endangered Habitat Plans, Species Action Plans, SSSI Plans and local Forest District Conservation Plans. Forest Design, Endangered Habitat and SSSI Plans are not implemented until endorsement has been received from the Forestry Commission or the relevant statutory conservation agency as appropriate. These plans will have both distinct and mutually supportive roles in delivering the twin biodiversity objectives to both enhance the value of the estate as a whole and conserve areas of special interest.

Relevant performance measures for the annual targets include:

- percentage of the estate covered by Forest Design Plans;
- percentage compliance with Forest Design Plans as monitored by Forestry Authority;
- percentage of SSSIs managed in accordance with the plans endorsed by statutory conservation agencies;
- percentage of land comprising endangered habitats managed in accordance with plans endorsed by relevant authorities.

### **Making it happen (Forestry Commission 1996-2000)**

The FE planning process is the key driver in conserving existing delivery of more biodiversity on the FC estate. Details of this planning process are shown in Box 3.

#### **Box 3: *The Forest Enterprise planning system.***

##### **Forest Enterprise Planning System**

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The three components of the FE Forest District planning system are shown below together with an explanation of their purpose. Figure 1 shows how the Forest District plans relate to policy and corporate planning.

##### **Forest District Strategic Plan**

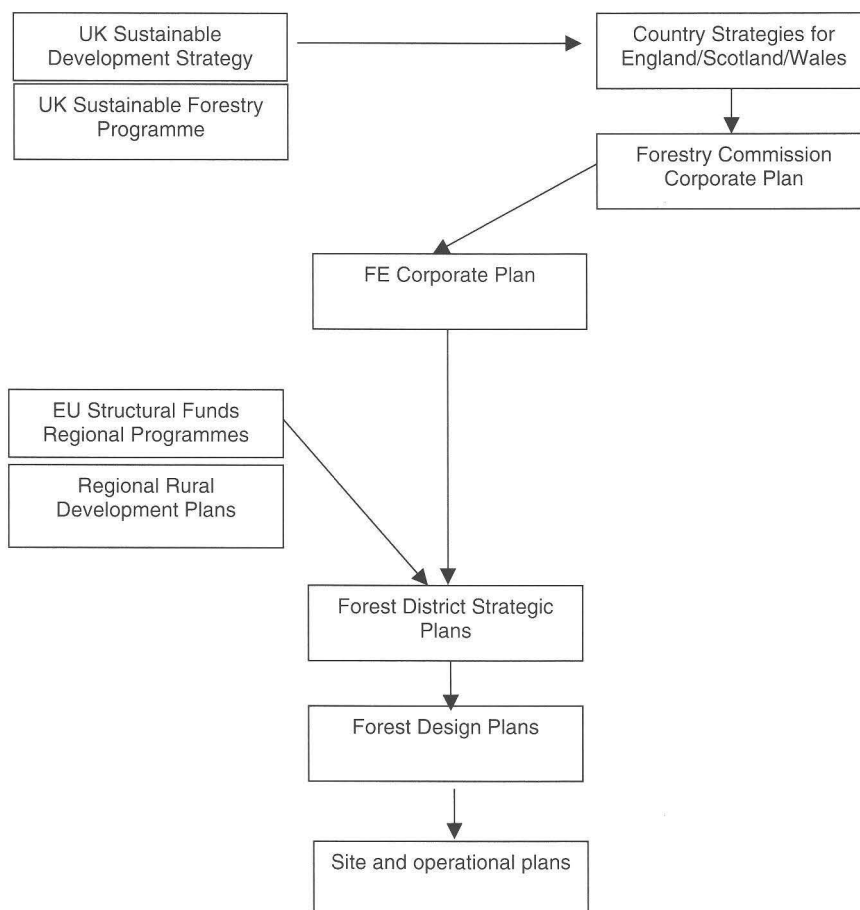
The Forest District Strategic Plan is a planning process that prioritises work within Forest Districts. It transposes national priorities, policies and practices into Forest District priorities, policies and practices and sets the direction for the management of woodlands at a regional level. The Strategic Plan includes sections on specific themes such as recreation and conservation. These identify key issues and development strategies. Strategic plans are prepared in collaboration with regional and local partners and stakeholders.

##### **Forest Design Plans**

Forest Design Plans focus down on a single woodland or a group of woodlands in the same landscape unit. These plans integrate the requirements of silvicultural management with the opportunities and constraints presented by the nature and condition of the woodland and any special sites and features. The plans also include an analysis of the financial implications of management proposals. Forest Design Plans are prepared in collaboration with local partners and stakeholders.

##### **Management Plans**

Management plans are prepared for sites and features that are nationally or locally important for wildlife, heritage and culture and recreation. The plans translate the special theme sections of Strategic Plans into operational objectives. Management plans are prepared in collaboration with statutory and expert bodies and individuals.



**Figure 1:** Relationship between Forest District plans and policy and corporate planning in the Forest Enterprise Planning System.

### *Biodiversity at the ecosystem level*

#### *Designated sites*

Over the past five years FE has been working towards preparing five-year plans covering all of the protected sites (SSSIs) which it manages. These plans have been prepared in discussion with the government's Conservation Agencies: Countryside Council for Wales, Scottish Natural Heritage and English Nature. On completion the plans have been endorsed by these bodies. All protected sites now have such agreements in place for UK designations. They do not yet fully take account of the Natura 2000 network (Special Protection Areas (SPA) and potential Special Areas of Conservation (pSAC) which form a sub set of the SSSIs. As SSSI plans come up for renewal and as pSACs are confirmed FE will update them to take account of any new requirements.

### Other important habitats

In response to the preparation of UKHAPs FE has prepared a series of plans covering significant habitats on the FC estate:

- Native Pinewoods 1996/97
- Lowland Heaths 1996/97
- Limestone Pavement 1996/97
- Upland Oakwoods 1997/98
- Wood Pasture 1997/98
- Coastal Sand-dune 1998/99
- Upland Heath 1999/00 in prep
- Lowland Raised Bogs 1999/00 in prep
- Upland Blanket Bogs 1999/00 in prep
- Lowland Mixed Broadleaves 1999/00 in prep.

These plans detail FE's commitment to maintain, restore and expand these habitats and outline supporting measures, such as surveys, monitoring and public relations arrangements. Other UKHAPs with key references to FC land will either become the subject of FE plans or be dealt with through the Forest Design Plans mechanism.

### *Biodiversity at the species level*

FE also contributes to the conservation of species in a variety of ways. The largest effort is through the appropriate management of habitats. This is supplemented in the case of rare and threatened species which are either endangered or are regarded as keystone species. This may entail consulting local experts, conducting surveys and monitoring as well as improving habitats. A wider co-ordinated approach has been taken to the production of FE species plans for red squirrels and endangered butterflies.

### *Biodiversity and local distinctiveness*

Given that the vast majority of the forests which FE manages comprise of introduced conifers, special attention has been directed towards the management of native woodlands which in many cases, have a higher conservation value (Forestry Commission 1995). This has included the maintenance of existing native woods through the removal of under and inter-planted introduced conifers, removal and containment of rhododendron and other invasive aliens. Natural regeneration has been the preferred means of regenerating native woodlands, although planting, using wherever possible local origin stock is utilised as a fall back position in cases where insufficient seed sources are available. Currently FE is examining how best and where to restore the most important sites where ancient woodlands have been replaced by plantations. Collectively these programmes represent the largest and most important direct contribution which FE will make to the conservation of biodiversity in Britain.

### *Developing a partnership approach*

Increasingly FE managers have been seeking to work with others to ensure that FE conservation management and indeed other aspects are well conceived and supported. Initially this involved working more closely with the statutory nature conservation agencies and the larger environmental NGOs. This has paid dividends with a much more healthy and



productive relationship being established at all levels embracing both policy and practice. This has included drawing up and agreeing concordats with the three GB nature conservation agencies, establishing liaison and informal consultation arrangements at national, regional and local levels with organisations such as The Wildlife Trusts and RSPB and involving local people with specialist skills through local forest panels and an 'assistance with wildlife scheme'. A number of ambitious partnership projects spanning public, NGO and in some instances the private sector, have produced impressive results which have surpassed the expectation of all the partners concerned. The EU LIFE-Nature funded New Forest Life and the Restoration of Atlantic Oakwoods are two examples of particularly successful projects. Increasingly it has also been recognised that local people and forest users have an interest, if not a right to be informed and consulted, if not involved in the management of public forests. Developing a better means of communicating biodiversity through the media and by means of more direct contact with local communities has improved understanding and ensured a more informed approach to FE management amongst those who live and work near the FC estate.

### *Securing resources for biodiversity*

A large proportion of FE's effort to improve the biodiversity value of the FE estate has and continues to be possible by modifying forests through the forest design process. This has not necessarily involved direct cash expenditure in the short-term. However to ensure optimal solutions including minimising the loss of future wood revenues, appraisals and benchmarking of design options are used for significant cases. In addition FE invests STG£2.3 million per annum on biodiversity direct investment. This has been increasingly supplemented through partnership projects drawing down additional resources from primarily EU sources (LIFE-Nature and structural funds) and the UK National Lottery. In some instances other government agencies and private sector interests have also contributed.

### **Where next – man with nature – a sustainable future**

There are a considerable number of issues which still require addressing both in the development of biodiversity policy and practice, supported by a fuller understanding of the science involved. Some of these are explored further below.

- *Protected Forests:* Given the UK's very low percentage of forest cover, most especially of semi-natural forests, there will be tensions over how much should be protected by means of statutory designations. The EU has already rejected the UK's proposals for pSAC designation of woodlands as inadequate except in the case of Native Pine-woods. We can therefore expect to see more pSACs covering other native woodland types during 2000, including an increase on the FC estate. FE has accepted and indeed would welcome this as it will improve the prospects for seeking additional funding.
- *GIS Data and Definitions:* There undoubtedly needs to be more data collected on biodiversity on the FC estate. This will entail agreeing more concise habitat definitions with all parties who have an interest in habitat management. This is particularly acute in the case of important open habitats such as blanket bog and upland heathland with records either poor or non-existent. It also applies to definitions of woodland and the different woodland types given that a variety of vegetation classification systems have been developed by different organisations. Agreement of definitions will be essential to allow meaningful data to be assembled which will better inform land use planning

using GIS analysis and new planning systems and tools.

- *Biodiversity Criteria Indicators and Monitoring*: Given that it is unlikely that SFM either in total or for its constituents parts will ever be defined, it is critical that meaningful criteria and performance indicators for biodiversity are established. Improved data and GIS as a management tool will help but measures of performance will also need to be established to track the effectiveness and efficiency of management actions. Some of these may arise from ongoing scientific research whilst others will be based on monitoring systems under development such as habitat condition classification.
- *Bridging the Funding Gap*: Currently best estimates of the cost of the biodiversity programme required to meet the commitment made under BAP far exceed the investments currently being made primarily from the public purse. Thus far recent and current administrations have refused to commit additional money. This has required careful scrutiny of priorities, targeting and seeking new sources. A review of the BAP process is due in 2001. Already NGOs are suggesting that it should become a recognised statutory government programme and funded accordingly.
- *UKWAS*: Independent Certification to meet the standards required by UKWAS to allow products derived from FE managed forests to carry the Forestry Stewardship Councils (FSC) label will require certain improvements in the management of biodiversity on the FC estate. Although FE gained approval under UKWAS in 1999 this was conditional on improvements being made to planning systems, policy and practice on a range of subjects – natural reserves, deadwood, plantations on ancient woodland sites and management of non-timber broadleaf areas. Monitoring work is currently in hand to rectify the weaknesses identified.
- *Biodiversity for People*: There is a growing recognition by foresters and other custodians of biodiversity that there needs to be a wider appreciation of the subject as a precursor to better understanding, improved resourcing and hence a more sustainable future. Linkages are being made with socio-economic outputs such as eco-tourism and eco-labelling. FE is already involved in a number of such ventures but more needs to be done. Such a programme requires support through improved communication and marketing. Perhaps some lessons can be learnt from the approach which has been taken to promoting biodiversity (and SFM) in the Scandinavian countries. For example in Sweden “The Richer Forest” campaign and publication (The National Board of Forestry 1990), targeting small woodland owners is an attractive approach. FE is already exploring how best to improve its performance by undertaking more and improved community involvement in policy formulation, consultation over plans and by forging partnerships in the delivery of projects on the ground. Interpretation as a management tool is also an effective method together with improved education programmes. Developing better links with the media, most especially the environmental press, will also be an appropriate means of reaching a wider public.

However at the end of the day the actions of foresters will speak louder than words, albeit that it may be future generations who reap the biodiversity rewards – not a new phenomena for all those in the forestry profession. FE aims to be at the forefront of meeting the challenges which biodiversity as an integral component of SFM presents today’s managers of the FC’s estate in Britain.

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