

A Summary of the Woodland Research Strategy

Exmoor's woodland is shaped by a variety of factors. Some, such as climate and geology are entirely natural. Others such as air and water pollution and management by farmers and conservation bodies arise through the influence of man. Research aims to make sense of these varying impacts and thus to improve our understanding and management of Exmoor's woodland heritage. This document will provide a rationale for woodland research in the National Park over the next five years. It is divided into two parts. First, there is an introduction, which briefly sets the woodland scene, followed by a section on the broad policy objectives that already exist to guide the Exmoor National Park Authority's (ENPA) woodland research. Secondly, this introductory framework is used to identify the main aims of woodland research, then to assess priorities and lastly to set out an action plan of projects for implementation.

To carry out all of the research proposals would be beyond the financial resources of the ENPA. Working with partners will enable us to spread our resources more widely and to benefit from the different perspectives of other organisations. Partnership is also a prerequisite in applications for major sources of European funding, such as the Atlantis and LIFE programmes. Whilst this strategy primarily aims to guide the work of the National Park Authority, it is hoped that it will act as a stimulus to encourage collaboration, co-operation and co-ordination with the many partners the ENPA works with on woodland issues. It is also vital that we work closely with the landowners who manage so much of Exmoor's woodland heritage in order to gain their support for our research programme.

Introduction

In addition to experimental work which will increase our knowledge of the ecological and historical woodland resource, the definition of research adopted in this report includes the more prosaic disciplines of baseline survey/inventory and monitoring.

Approximately 8,400 hectares (12%) of the land surface of the National Park is wooded. Of this figure around 58% is broadleaved woodland, whilst the remainder consists of coniferous and mixed plantations. The ancient semi-natural woodlands which form our most valuable ecological and historical resource account for just 2000 hectares. Many of the larger blocks of these are of very high ecological interest and have accordingly been notified as Sites of Special Scientific Interest (SSSI) by English Nature. The outstanding importance of the National Trust's Horner Wood complex has recently been recognised by its designation as a National Nature Reserve (NNR).

Before the advent of man and his management, most of the area of Exmoor would have been covered with broadleaved woodland. From as early as 5000 BC, the clearance of the original woodland cover began in earnest. Even those native woodlands that have survived have been much altered by man. Other woodlands, primarily composed of exotic conifer species have been planted. Both of these woodland types are included within the scope of this strategy and in addition it considers man-made tree features such as parklands, ancient trees and orchards.

Policy Objectives

The National Park Plan 1991-1996 provides the policy framework for this document. For research the National Park Plan "vision" is of:

a complete knowledge and record of Exmoor's natural, historic, archaeological and cultural resources coupled with programmes for their conservation, maintenance and enhancement and ultimate enjoyment by the public at large.

The broad objectives for woodland outlined in the Plan are;

to promote the conservation and enhancement of the landscape and wildlife value of all woodlands through appropriate management, protecting ancient semi-natural woodland, encouraging the diversification of major coniferous plantations and promoting an uneven age-structure to achieve a continuity of woodland cover.

and

to promote the planting of native broadleaved woodland within the framework of a woodland strategy for Exmoor.

As part of the ENPA's woodland strategy work it has published a Guide to the conservation and management of trees and woodland on Exmoor. The aims of the Guide are fourfold:

1. To raise awareness.
2. To advise on woodland management and establishment.
3. To provide the background and context to the National Park's response to Forestry Commission consultations.
4. to set the context for the management of National Park woodlands.

The ENPA is also developing a Woodland Action Plan which identifies a series of measures to pursue issues identified in the Guide.

Aims of research

There are three main strands to the research programme :

1. to provide baseline information about features of significance in Exmoor's woodlands.
2. to monitor both man's management and natural processes on the state of the woodlands.
3. to carry out experimentation into all aspects of the woodland environment, with particular reference to the testing of innovative management techniques aimed at enhancing Exmoor's woodlands.

Relating to all the above, there is a fourth main aim:

4. to disseminate the results of research in an accessible form to other bodies, landowners and the general public in order to promote understanding of and support for the work of the National Park Authority and its partners.

Priorities for research

Establishing a Baseline

This is the cornerstone of everything we do and is an absolute prerequisite for any monitoring or experimentation we may wish to consider subsequently. The importance of environmental inventories has been recognised by the National Park Authorities in the setting up of the PIMS (Park Inventories and Monitoring System). Although a considerable body of woodland survey information exists, much of it is old and in need of updating. In particular, it behoves the ENPA to gather survey data on its own woodland estate.

In recent years there has been a growing recognition that other tree features such as parklands, orchards and ancient trees have a very considerable value as landscape features, habitats for wildlife and for their cultural and historical associations. Very little baseline survey has been carried out on these features and it is important that their value is properly assessed. Additionally Exmoor's woodlands contain an extensive record of man's activities from as long ago as the fourth millennium BC. It is vital that archaeological surveys continue to be undertaken in order to understand the historical context in which our woodlands are set.

As the glaciers of the last Ice Age retreated, some 10,000 years ago, Exmoor was recolonised by plants and animals. This led to the development of mixed broadleaved woodland over most of the area, up to at least 1400 feet OD. People began to clear woodland in earnest about 6000 years ago, in order to create fields and enclosures for crops and stock and to provide timber and other woodland resources for fuel, buildings, tools and weapons. None of the post-glacial woodland survives today, but the tree cover which regenerated has been exploited and managed ever since.

Existing woodlands contain important evidence of their past management, they also cover the remains of prehistoric and historic features which help us understand earlier use of the land and occupation and activity in and around the woodlands. As the use of aerial photographs to detect these historic landscape features is considerably hindered by the tree cover, it is vitally important to carry out surveys on the ground.

There has long been a debate about the value for wildlife of coniferous woodland in Britain, particularly where such plantations are designed with landscape and wildlife considerations in mind. Because they have been thought of as having only moderate value for wildlife in the past, biological surveys of coniferous forest are very scant. It is important that the ENPA and its partners address this issue. Another exotic plant, rhododendron, is a highly invasive species which is very damaging to the ecology of Exmoor's native woodlands. Eradication of this plant is already a very high priority in the ENPA's policies and further survey is required in order to target future control measures most effectively.

Monitoring

In order to ensure that our management practices are both conserving and enhancing the woodland environment, it is essential that we monitor our activities. It also enables us to demonstrate that we are achieving "value for money" in our woodland management. To this end the ENPA has already initiated a ten-year programme of monitoring work, which will ensure the refinement of management techniques on those areas of land we either own or manage.

Particular issues that are of high priority for monitoring are rhododendron control, the relative merits of coppicing and other forms of management versus non-intervention, beech invasion, pheasant rearing and the ability of native woodlands to regenerate naturally. Linked to the latter point, it is vital that the ENPA and its partners continue to monitor Exmoor's red deer population and its effect on woodland vegetation.

Some species found in Exmoor's woodlands, such as whitebeams and epiphytic lichens are nationally or internationally important and require specific monitoring measures. It may be necessary to carry out new studies or repeat existing work in order to meet our special obligations to protect such species.

Experimentation

Given the relative dearth of woodland monitoring and survey information, it would be premature to consider an extensive programme of experimental work. However, there are some issues requiring investigation. Particular priorities would be the recreation of wet woodland, a study of the genetics of native broadleaves that aims to identify suitable sources of local provenance for regeneration and planting, and the experimental management of some woodland areas for important lichen communities.

Action plan

In this section a set of actions based on the priorities discussed before is laid out. It should be emphasised that all of these action points are vital to our understanding of the woodland environment and the ENPA and its partners should aim to address them all during the next five years.

Woodland Survey

Action 1: Carry out a programme of vegetation surveys and baseline surveys of other groups such as invertebrates and fungi of those areas of woodland either owned by or in management agreements with the ENPA. Aim to complete these surveys within the next ten years. Potential partner: English Nature.

Woodland Monitoring

Action 2: Initiate or continue monitoring of those areas of woodland either owned by or in management agreements with the ENPA. Aim to establish a ten-year rolling programme.

Action 3: Establish a detailed monitoring programme investigating the effects of coppice, high forest and limited intervention management regimes for wildlife. This will enable the ENPA and its partners to make informed decisions about the value of re-establishing traditional coppice management. Potential partners: English Nature, Academic Institutions. Possible partners: National Trust, Crown Estate.

Invasive Species

Action 4: Carry out surveys of rhododendron distribution. Such a survey will help to target and prioritise new areas for rhododendron control work. Potential partners: English Nature, Forestry Commission.

Action 5: Initiate a rhododendron monitoring programme. This will aim to assess the effectiveness of the existing eradication programme in restoring native flora and fauna. Potential partner: English Nature. Possible Partner: National Trust.

Action 6: Monitor beech regeneration in native woodlands. There is evidence that beech is replacing native sessile oak woodland, especially in the Barle Valley. Monitoring is required to assess the extent of the problem. Potential partners: English Nature, Somerset Wildlife Trust.

Rare Species

Action 7: Initiate survey or monitoring programmes for nationally or internationally rare species. For some species of woodland plants and animals, Exmoor has national or international responsibilities. Survey or monitoring programmes should be undertaken where appropriate. If such information already exists, experimental management techniques should be implemented to enhance their status. Particularly important examples would be epiphytic lichen communities and rare whitebeams. Potential partner: English Nature (Species Recovery Programmes). Possible Partners: National Trust, Forestry Commission, Royal Society for the Protection of Birds, Wildlife Trusts.

Historic Environment Surveys

Action 8: Continue the ongoing programme of archaeological surveys of woodland owned by, or in management agreements with, the ENPA and encourage and assist other owners to carry out surveys. Potential partners: Royal Commission on the Historic Monuments of England, English Heritage.

Designed Landscapes

Action 9: Carry out surveys of parklands, gardens and orchards. The distribution and extent of such features on Exmoor is only poorly understood. Baseline survey is required in order to record cultural and wildlife interests and assess their importance. Potential partner: Wildlife Trusts. Possible partners: Somerset and Devon Gardens Trust, National Trust, English Nature, Ministry of Agriculture, Fisheries & Food.

Ancient trees

Action 10: Undertake a survey of ancient trees. The value of old trees for wildlife and for their cultural associations is considerable. A baseline survey is urgently needed in order to

record the extent of this little known resource in the National Park. The survey of the ENPA's own land would be a particular priority. Potential partners: Wildlife Trusts, English Nature. Possible partner: National Trust.

Coniferous woodland

Action 11: Carry out baseline surveys of coniferous woodland. This should aim to evaluate various management regimes and their respective merits for wildlife. Possible partners: Forestry Commission, Crown Estate.

Ancient Woodland Sites

Action 12: Re-assess the Ancient Woodland Inventory for Exmoor. This work will address some of the shortcomings and inaccuracies of the inventory, which was produced in 1986. Potential partners: English Nature, Forestry Commission.

Red Deer

Action 13: Continue to support research on red deer on Exmoor. Red deer are integral to the ecology of our woodlands and further research may be required in the light of the existing study's recommendations. In particular, the re-survey of vegetation plots established during the current study should be carried out. Potential partners: Academic Institutions, National Trust. Possible partner: English Nature.

Genetic studies of native broadleaves

Action 14: Initiate a study of the genetics of Exmoor's broadleaved trees. The aim of this study is to establish the existence of locally distinct genetic forms which will be particularly suitable for use in woodland regeneration and planting. Potential partner: Academic Institutions.

Carr woodland

Action 15: Investigate the experimental recreation of wet woodland. Woodlands on waterlogged substrates, particularly on floodplain sites, are now very scarce on Exmoor. Such woodlands, which are generally dominated by willows and alder, harbour a rich diversity of wildlife. The ENPA and its partners should aim to establish experimental plots to investigate the practicality of recreation. Possible partners: English Nature, Forestry Commission, National Trust.

Pheasant rearing

Action 16: Study the impact of pheasant rearing on the ecology of Exmoor's woodlands. Such a study should aim to investigate ways in which to minimise any potential environmental impacts of game-rearing on woodland ecology. Potential partners: Game Conservancy Trust, British Field Sports Society, British Association for Shooting and Conservation.