Foreword

From the magnificent expanses of purple heather in late summer and the evocative call of grouse or curlew, to the colourful dale side displays of orchids and cowslips in the spring, wildlife is very much a part of the landscape in the Peak District. It is an integral part of the "Peak District experience" for residents and visitors, young and old, the expert and the curious alike. We are fortunate that on our doorstep we have such a diverse mosaic of landscapes supporting a wealth of plants and animals, some of which can be found in few other places in the world.

…And yet we take this wonderful "living landscape" for granted at our peril. In the 16th century black grouse were considered to be more common than red grouse in the Peak District. It must have been unthinkable that this magnificent bird could ever become extinct in the region, and yet within the last few years the unthinkable has happened. The end of the 20th century has also seen continuing loss of flower-rich hay meadows, with over half of the meadows within the National Park having disappeared over a 10-year period. The loss of habitats and species like these, once such a familiar and characteristic part of the landscape, has deprived the Peak District of some of the features that make it such a special and distinctive place.

This Biodiversity Action Plan has been drawn up by a partnership of conservation organisations, government agencies and landowner/manager representatives, led by the Peak District National Park Authority. Its purpose is to set out an agreed way forward which will ensure that future generations will be able to enjoy as rich and varied wildlife in the Peak District as we can today. Importantly, it also sets out to redress some of the substantial losses in wildlife that the area has suffered over the last 50 years in particular, to help turn the tide of recovery. Wide ownership of the Plan has been encouraged through the establishment of a Peak District Biodiversity Partnership - the first time that such a wide range of interests has been involved together in considering wildlife conservation issues in the area. The aim of the Plan is to bring together as many people as possible - from organisations to individuals - in a common cause.

This Action Plan is put forward as the primary nature conservation document for the Peak District, shared between a wide-ranging partnership of organisations. It aims to set the agenda for wildlife conservation priorities in the area over the next ten years, and to help guide the policies and actions of all those who influence the wildlife of the Peak District.

The targets and actions set out in the Plan are, of necessity, ambitious if we are to conserve and enhance the area's wildlife. We hope that the Plan will provide a milestone in encouraging the necessary shift to more proactive work targeted at conservation priorities. To this end it is very much a working document against which progress towards specific targets and actions will be monitored. It is envisaged that many actions will be carried out using existing resources. In doing so we will need to make more effective use of resources by co-ordinated targeting amongst partners. Other actions will require efforts to secure additional funding, and this Plan is an appeal to all those who care for the Peak District to join us in putting resources into implementation of the Plan. By setting out a programme of shared objectives and targets this Plan provides an important framework for seeking such resources, and if a significant number of the targets are met over the next 5-10 years then wildlife will have a much brighter future in the Peak District.

Although it covers a wider area than the National Park, this plan also forms an integral part of the Peak District National Park Management Plan. It is the first of the detailed Action Plans to be produced following publication of the strategy document in 2000.

For further information on the Peak District Biodiversity Action Plan contact:

Peak District National Park Authority's Ecology Service,
Aldern House, Baslow Road, Bakewell, Derbyshire DE45 1AE
Tel: 01629 816200 Fax: 01629 816310
E-mail: aldern@peakdistrict-npa.gov.uk
Website: www.peakdistrict.org

Acknowledgements

A wide range of organisations have been involved in contributing to the writing of this plan, and the organisations participating in the partnership are listed in Appendix 8.3. Their help in commenting on the draft Plan, resulting in significant changes and improvements, is gratefully acknowledged. Particular contributions have been made by those organisations and individuals who have been involved in the Wildlife Executive Group and the Habitat/Species Biodiversity Groups, as listed in Appendix 8.4. These Groups have overseen the production of the plan as a whole, and the following members of the habitat and species groups wrote individual draft Habitat and Species Action Plans:

Derbyshire Wildlife Trust (Pat Brassley)

English Nature (Audra Hurst, Ben le Bas and Jon Stewart)

Forestry Commission (Neil Riddle)

National Trust (John Malley and Steve Trotter)

Peak District National Park Authority (Helen Buckingham, Rebekah Newman and Rhodri Thomas)

Royal Society for the Protection of Birds (Roy Taylor)

The groups have been chaired by The Environment Agency (Valerie Holt), Farming and Rural Conservation Agency (John Martindale), Forestry Commission (Matthew Woodcock/Neil Riddle), National Farmers Union (Andrew Richards) and the Peak Park Moorland Owners and Tenants Association (John Lees).

The final text has been prepared by the Peak District National Park Authority's Ecology Service and Farm & Countryside Service (Helen Buckingham, Rebekah Newman and Rhodri Thomas).

Publication of this Plan has been funded by the following organisations, which the Partnership would like to gratefully acknowledge:

Countryside Agency

Environment Agency

The following organisations have also contributed funding towards publication of the Action Plan:

Council for the Protection of Rural England

Country Land and Business Association

Derbyshire County Council

English Nature

Forestry Commission

Macclesfield Borough Council

National Trust

North West Water

Peak District National Park Authority

Stancliffe Stone Company Ltd.

Tarmac Central Ltd.

We would like to thank the following organisations for permission to reproduce data:

RSPB (decline in breeding waders-page23)

Countryside Agency (changes in land cover-page24)

Artwork: Gary Short
Design: Diane Tranter
Photography: Ray Manley
(additional photographs: Rhodri Thomas and Alan Gladwin)
Printed: J.W. Northend, Sheffield

1. Summary - A Vision for Wildlife in the Peak District

1.1 Overall Aims

We are fortunate in the Peak District to have inherited a landscape with such a rich diversity of wildlife, the result of past land-use activities. However, the more recent increasing pace of change has led to the loss or decline of many habitats and species. This Plan sets out specific objectives, targets and actions, agreed through consultation with a wide partnership of land-use, conservation and recreation interests, to conserve our existing wildlife resource and where possible to restore previous habitats and species so that we can hand on a countryside richer in wildlife to future generations.

15 Habitat and 7 Species Action Plans have been drawn up for those habitats and species which are a particular priority, with further work proposed for identifying others of concern. Other Action Plans will be developed as this work progresses.

The Peak District has seen substantial changes in the past and will continue to do so in the future. Our vision is not to "fossilise" the landscape, but to ensure that land-use is sustainable for wildlife. The Plan aims to influence and manage changes so that priority habitats and species are safeguarded and enhanced as far as possible and opportunities are created for change to benefit wildlife for the future. It aims to encourage a diverse countryside where wildlife is an integral part of the landscape, not confined to specially protected sites (although such sites would continue to give particular priority to wildlife). A more diverse mosaic of linked habitats is envisaged, ensuring a sound future for those species that depend on a variety of habitats and providing a network of corridors and stepping stones for wildlife (particularly to allow more effective dispersal and migration in the face of climate change). The encouragement of ecological processes such as natural colonisation, retention of local genetic distinctiveness and extensive grazing regimes is an important objective alongside the conservation of specific habitats and species in their own right.

An important objective of the Plan is to increase the social and economic benefits of wildlife conservation so that it becomes increasingly regarded as more of a positive asset and less of a constraint.

For land managers to be successfully encouraged to manage their land sympathetically for wildlife it must be economically viable for them to do so. There is already a very strong emphasis and reliance on a voluntary approach to wildlife conservation, and it will be important to build on this further so that the need for implementation of more regulatory mechanisms is minimised.

Landowners, farmers, local residents and businesses in

The Peak District Biodiversity Action Plan:

- is a Plan for conserving and enhancing the wildlife resource of the Peak District and delivering associated socio-economic benefits
- is one of a series of Local Biodiversity Action Plans throughout the country contributing towards the UK Biodiversity Action Plan and the international Biodiversity Convention signed at the Rio Earth Summit in 1992
- covers the "wider" Peak District including areas outside the National Park
- has been produced through consultation with a Peak District Biodiversity Partnership which has been established, involving a wide range of land management, recreation and conservation interests
- seeks to conserve and enhance our existing wildlife and to redress past losses through habitat restoration, (re-)creation and targeted action for priority species
- identifies priorities based on international or national importance, local distinctiveness, and vulnerable or declining habitats/species
- sets clear objectives and measurable targets through a series of Habitat and Species Action Plans and Key Actions
- sets ambitious but realistic targets, dependent in part on the success of attracting additional resources
- will be implemented through the Biodiversity Partnership
- is one of the detailed Action Plans forming part of the Peak District National Park Management Plan
- will be monitored and periodically updated, with a full review in 2010

the Peak District already benefit from wildlife conservation, for example through the large uptake of conservation grant schemes and income from tourism. They could benefit further from increased resources attracted to the area for conservation purposes. Those who live or work in the Peak District, and those who visit, will have greater opportunities for deriving enjoyment from the area's wildlife and for helping to safeguard and enhance it. They will increasingly value and understand the area's wildlife as part of the distinctive character of the Peak District. Partnerships between different interest groups will develop further to take forward shared objectives and resolve differences more effectively. Our knowledge of the Peak District's wildlife and its requirements will increase through further survey and research, and more effective sharing of information and experience between land managers, conservation organisations and local naturalists. The proposed establishment of a biological records system for the area, as part of a network of local and national record centres, will play a central role in this.

1.2 The White Peak

The rich wildlife resource of the dales will be enhanced and expansion of semi-natural habitats will be encouraged on the limestone plateau and in river valleys. Valuable habitats will be extended over the brows of dales to link plateau and daleside and sites of importance on the plateau will be extended and linked where possible. The mosaic of habitats will provide a secure future for species of importance that are currently declining and the recolonisation or reintroduction of species we have lost will be possible.

Daleside **ashwoods** will be enhanced through control of non-native trees and reduction in grazing, where appropriate. The daleside woodlands will be extended upslope onto the plateau as **oak/birch woodland** and associated areas of scrub, and downslope into dale bottoms as **wet woodland** where appropriate opportunities exist. Old **veteran trees** and dead wood habitat will be encouraged in the daleside woods, plateau shelterbelts and as a network of trees along field boundaries, where appropriate.

The rich mosaic of **limestone dales** habitats will be maintained and enhanced, ensuring the diverse character of individual dales remains with priorities determined on a site-by-site basis. Areas of species-rich grassland, species-rich scrub, scree, limestone cliffs, daleside heath, lead rakes, springs and flushes will be enhanced through better management, benefiting species such as the nationally rare Jacob's ladder. Development of transitions between habitats (such as grassland-scrub-woodland) and habitat mosaics will be encouraged. Creation of appropriate mosaics of daleside habitats will be encouraged when restoring disused limestone quarries and, where these go below the water table, opportunities will be taken for maximising the creation of new wetland and open water habitats. Ravens will hopefully continue their recolonisation of the Peak District and perhaps regain their historic associations with place names in the dales.

On the limestone plateau flower-rich **hay meadows** and **unimproved pastures** will be safeguarded and enhanced through appropriate conservation incentives and management. The bubbling call of the curlew could again become a familiar sound in the White Peak. The reversion of more species-poor semi-improved grasslands to unimproved flower-rich grasslands will be encouraged through less intensive management, adding colourful swards of oxeye daisy, hay rattle and meadow cranesbill to the landscape. Means will be sought to increase the economic benefits of maintaining and enhancing such grassland habitats. **Lead rakes** of particular wildlife and historical importance would be conserved and their management enhanced, whilst methods of reconciling mineral working on other sites with their conservation interest will be explored. The (re-)creation of specialised metalliferous habitats following reworking will be encouraged.

The existing remnants of **limestone heath,** which are such an important window to the past, will be safeguarded and opportunities will be sought to expand them. The heathland will be extended over dale brows and developed on species-poor grasslands on limestone hills where appropriate. The wildlife value of **rough grazing** land on the limestone hills will be conserved and enhanced through improved management and incentives to increase the quality of the grassland habitat and by linking isolated sites with a mosaic of semi-natural habitats. Where appropriate, the creation of limestone heath will be encouraged on species-poor grassland.

River corridors will be enhanced through the safeguard of existing habitats of value, protection of rivers against pollution, enhanced riparian management, retention and, where appropriate, restoration of natural hydrological regimes and the reinforcement of habitat corridors through appropriate habitat restoration and creation. Such habitats of value will include the rivers/ streams themselves, bankside vegetation, valley bottom marshes, valley-side flushes, flood meadows, wet grassland, unimproved pasture and wet woodland. The recovery of the water vole population will be encouraged, aquatic species such as bullhead and brook lamprey would flourish and there may be opportunities for otters to recolonise Peak District rivers.

The distinctive network of **dewponds,** and their associated wildlife such as great crested newts, will be retained and reinforced as far as possible. This would be secured through the safeguarding and enhanced management of existing ponds and surrounding habitat and restoration of dried out ponds. The significant cost of restoration means this will have to be carefully targeted. Other important ponds (e.g. disused silica

sand pits) will be safeguarded.

1.3 The Dark Peak and South West Peak

The wild and remote character of the moorland areas will be maintained and their wildlife enhanced. Links between moorland and farmland habitats will be strengthened through enhancement of the mosaic of moorland edge habitats such as rough grazing, rush pasture, hay meadows, unimproved pastures, scrub and clough or valley-side woodland. In the valley bottoms the conservation and enhancement of semi-natural habitats will be encouraged and sites of importance will be extended and linked where possible.

On the moorlands the areas of **blanket bog** on deep peat will be safeguarded and measures to restore eroding and degraded areas will increase. There may be opportunities to diversify the vegetation in some places through changes in grazing and burning management and by restoring more natural drainage systems where these have been disrupted. Species such as bog rosemary would be given the chance to flourish locally and the golden plover population would be secure. The condition of the drier **heather moorland** and the associated mosaic of habitats will be improved and a more diverse structure and composition encouraged which will benefit birds such as grouse, short-eared owl

and merlin. Opportunities will be sought, where appropriate, to re-create areas of heather and bilberry heath where they have been replaced by species-poor grassland or bracken, though it will be important to maintain significant areas of these latter habitats as part of the moorland mosaic. Invertebrates such as the green hairstreak butterfly and bilberry bumblebee would benefit from such measures. Associated habitats such as wet heath, moorland streams, springs, flushes, gritstone edges, rock outcrops, boulder slopes and moorland scrub will be safeguarded and enhanced.

The rich tapestry of grassland habitats on the moorland fringe will be enhanced by diversifying the structure and composition of extensive **rough grazing** on the moorland edge and on more isolated gritstone hills. Reversion of some areas to heathland will be encouraged, where appropriate. **Rush pasture** is a particularly important habitat on which many moorland fringe birds depend and which sometimes also supports a very rich flora and invertebrate fauna. Sensitive management of this habitat will be encouraged. Restoration of compacted soils in rush pasture to benefit both wildlife and farming is currently being trialed and will be more widely applied if successful. The decline in moorland fringe bird populations such as curlew, snipe and lapwing would be halted and then reversed. Flower-rich **hay meadows** and **unimproved pastures** will be safeguarded and enhanced through appropriate conservation incentives and management. The reversion of more species-poor semi-improved grasslands to unimproved flower-rich grasslands will be encouraged through less intensive management, allowing the recovery and spread of twite back onto areas such as the eastern moors. As in the White Peak, means will be sought to increase the economic benefits of maintaining and enhancing grassland habitats.

More favourable management of **oak/birch woodland** will be encouraged and areas will be restored or created in cloughs and on valley sides in appropriate locations. Such sites will provide habitat for buzzards and possibly even opportunities for colonisation by red kites. On the upper slopes transitions through grazed woodland and scrub to open moorland will be encouraged. Restructuring of plantations offers further opportunities for oak/ birchwood creation. Ancient woodland sites and those with relic ancient woodland species will be particular priorities for restoration and expansion. **Wet woodland** will form an important component within these woods and opportunities for creation or restoration of more extensive wet woodland will exist in river valleys. Old **veteran trees** and dead wood habitats will be encouraged in the woodlands, in **parkland** and as a network of trees along field boundaries, where appropriate.

As in the White Peak, **river corridors** will be enhanced through the safeguarding of existing habitats of value, protection of rivers against pollution, enhanced riparian management, retention and, where appropriate, restoration of natural hydrological regimes and the reinforcement of habitat corridors through appropriate habitat restoration and creation. Such habitats of value will include the rivers/streams themselves, bankside vegetation, valley bottom marshes, valley-side flushes, flood meadows, wet grassland, unimproved pasture and wet woodland. **Ponds** will be safeguarded and appropriately managed and new ponds will be created in appropriate locations.

1.4 Putting the Plan into Action

The overall implementation of the Plan will be overseen and co-ordinated by the Wildlife Executive Group with guidance from the wider Biodiversity Partnership to which it will report. Individual Habitat and Species Action Plans will be progressed and monitored by a series of Habitat and Species Groups.

Many actions will be carried out using existing resources. Some of these will be a continuation of existing action, some will be through re-prioritisation or redirected targeting of existing resources and some will be through the pooling of existing resources and efficiency savings through partnership working. Other actions are essentially seeking a consensus amongst different organisations about the approach to specific issues and have limited resource implications. There are nevertheless a significant number of actions which will require additional funding. In some cases this may become available through existing initiatives such as the 'Moors for the Future' Heritage Lottery Fund bid. Additional resources have also recently been confirmed for the first phase of a grassland project during 2001 which will address key parts of several grassland Action Plans. In other cases resources will need to be secured, either as bids for discretionary grants or as additional core funding by partner organisations, in order to progress parts of the Plan.

The Action Plans have not been costed at this stage because of the considerable complexities of doing so, the limited value of using a broad figure when resource implications will be different for different organisations and the inevitable changes in funding requirements over the lifetime of the Plan. However, the main actions likely to require additional resources have been identified at the end of each Action Plan and for the 25 Key Actions. These will be costed individually prior to implementation and the appropriate resources sought.

2. Introduction - What is the Biodiversity Action Plan?

2.1 Biodiversity and its Importance

"Biodiversity" is simply a shorthand term for "biological diversity"- the variety of life on earth - from bacteria to whales, from the Amazon rainforests to your own back garden. It includes the variety of different ecosystems and habitats, species, and the genetic variation within species, and is therefore about the commonplace as much as the rare and unusual. More specifically in this document it refers to the full range of **wildlife habitats, species and ecological processes** (the way all of these species interact with their environment and each other) which we are fortunate to have in the Peak District.

The importance of conserving biodiversity as part of our natural environment is one of the cornerstone principles of sustainable development - the concept that development should meet the needs of the present without compromising the ability of future generations to meet their own needs. The conservation of biodiversity is important to these needs in the following ways:

- The knowledge that we are exercising our ability to change the environment around us in a ***responsible*** manner which respects the needs of the other living things which share the Peak District with us
- The ***pleasure*** that many people derive from seeing the commonplace, rare and special wildlife of the Peak District, and from enjoying the mosaic of different habitats which go to make up the wonderful landscapes of the area (in a public opinion survey for the National Park Management Plan in 1999, landscape and wildlife were the equal top features which people felt merited protection in the National Park)
- ***Economic benefits*** such as sustainable sources of timber, "added value" produce associated with environmentally friendly management, tourism or direct grants for environmental maintenance
- The conservation of ***local distinctiveness*** and historical continuity, giving local people pride in the area where they live
- Conservation of ***genetic diversity***, which may be important in the future development of drugs of medical importance, new crops, pest control etc
- The maintenance of the basic ***life-support systems*** of the planet such as climatic stability, regeneration of clean air and water, soil formation, plant pollination etc which we take so much for granted, but which depend on the diversity of organisms around us

For all of these reasons it is important that we take steps to maintain and enhance the biodiversity of the Peak District. Despite increasing recognition of the importance of conserving biodiversity, we have entered a new millennium with wildlife losses continuing in the Peak District at a significant rate. The mid-1980s to mid-1990s saw, for example, a 50% loss of flower rich hay meadows in the National Park and a 72% decline in lapwings on the Staffordshire Moors. Such figures illustrate the massive shortfall in meeting environmental conservation objectives at the present time and the need for a joint approach to conservation targeted on priority features. Without the safeguard of irreplaceable wildlife features and opportunities taken to maximise the wildlife benefits of all our activities our stewardship of the Peak District cannot be regarded as sustainable.

2.2 Thinking Globally…

At the United Nations Conference on Environment and Development in Rio de Janeiro in June 1992, more commonly know as the "**Rio Earth Summit**", the UK government was one of over 150 nations to sign the Convention on Biological Diversity. This committed each signatory nation to draw up its own national action plan for the conservation and sustainable use of biodiversity. As a result the UK government published the **UK Biodiversity Action Plan** in 1994, which described the UK's biological resource and its importance; identified the UK's conservation strategy, programmes, problems and opportunities; and provided a forward work programme including the "**59 Steps**" to which the Government and its agencies would aim. The Government also set up a UK Biodiversity Action Plan Steering Group, and in 1995 this group published **Biodiversity: The UK Steering Group Report**, which included proposals for a UK biodiversity database; recommendations for raising public awareness of biodiversity; and proposals for action at local level. Between 1995 and1999 the Steering Group produced a

series of **national Habitat and Species Action Plans** for priority habitats and species. It also recommended the production of **Local Biodiversity Action Plans** which should have two main objectives - to reflect and help implement the national priorities identified in the UK Action Plans, and to identify and address local priorities and local distinctiveness. The Steering Group produced guidelines for the production of Local Biodiversity Action Plans in 1997.

At regional level a series of Regional Biodiversity Forums have been established. The Peak District falls geographically within four regions, but with the East Midlands acting as the focus for the Peak District. In 1999 the East Midlands Regional Biodiversity Forum published **Sustainability and Biodiversity - Priorities for Action in the East Midlands**.

2.3 ...And Acting Locally

The production of a draft Local Biodiversity Action Plan for the Peak District has been guided by the **Peak District Wildlife Executive Group**, comprising representatives from wildlife conservation organisations. Five **Habitat/Species Biodiversity Groups**, working under the guidance of the Wildlife Executive Group, have drafted a series of individual Habitat Action Plans and Species Action Plans. These Groups have been chaired by relevant land-use organisations and involved both landowning/management interests and conservation organisations, and they will be the focus for overseeing implementation and monitoring of the individual Habitat and Species Action Plans.

As the drafting of the Biodiversity Action Plan drew to a close a **Peak District Biodiversity Partnership** was established to help guide the future process of production, implementation and monitoring of the Plan. This partnership comprises representatives from government agencies, farming interests, landowners, sporting interests, recreation interests, mineral companies, wildlife conservation organisations, local naturalists' groups, Local Authorities and the National Park Authority, and is open to expressions of interest from other organisations who may wish to participate (a list of current participants is given in Appendix 8.3). Members of this partnership have been consulted on a draft of the plan and have been invited to sign up to it.

The overall structure which has been established for overseeing the Biodiversity Action plan process is shown in Appendix 8.2 and the current composition of the various Groups is listed in Appendix 8.4. The composition of the Wildlife Executive Group is currently being reviewed and it is also envisaged that the Habitat and Species Groups will co-opt other individuals or representatives of particular organisations or groups of organisations for particular purposes from time to time.

2.4 The Objectives of the Plan

The objectives of this plan are sixfold (see below).

The Plan is in two parts. The first part is the **Action Plan** itself, which focuses on the objectives, targets and actions for biodiversity conservation. The second part is a series of **Audits** for individual habitats and species, setting out in some detail what is known about the current extent, importance, trends and problems faced by those habitats/species in the Peak District. The audits are available separately from the National Park Authority, either as a set or as individual habitat or species audits.

The core of the Action Plan is a list of **25 key actions** to help deliver these objectives across the whole range of habitats and species in the Peak District, together with a series of individual **Habitat and Species Action Plans**. Each of these plans sets out conservation objectives for that habitat/species in the Peak District and specific targets for how much we hope to achieve by particular dates. They go on to identify a programme of actions to achieve those targets, with lead organisations, partners and a target date against each action.

The Plan's Objectives

- To conserve and enhance the rich variety of wildlife habitats and species in the Peak District, with particular priority to those which are of international or national importance, those which are particularly characteristic of the Peak District, and those which are endangered, vulnerable or declining in the Peak District
- To redress historic wildlife losses by the restoration of habitats and species and (re-) creation of a network of wildlife habitats
- To help deliver and demonstrate socio-economic benefits to local people through wildlife conservation. This will be done by encouraging sustainable development, attracting increased resources to the area, strengthening local distinctiveness and encouraging economic benefits for "wildlife-friendly" farming, forestry and other land management
- To build partnerships between a wide variety of people and organisations in order to agree and deliver shared objectives which benefit wildlife
- To enhance public enjoyment, appreciation and understanding of the biodiversity of the Peak District in a sustainable way
- To set out the current status and increase our knowledge of key habitats and species in the Peak District and agree targets against which progress towards achieving objectives can be monitored

2.5 The Area Covered by the Plan

Because wildlife does not respect administrative boundaries, English Nature has identified a series of "Natural Areas" covering the whole of the country. Each of these is defined by a distinctive and characteristic mosaic of wildlife habitats and species which sets it apart from other areas of England and contributes considerably to the feeling of local distinctiveness. The Peak District Biodiversity Action Plan is therefore based on the three Natural Areas - the Dark Peak, White Peak and South West Peak - which together form the area generally recognised as the Peak District. This area extends beyond the boundaries of the National Park, notably in the White Peak around Brassington/ Wirksworth, Buxton and Cauldon Low/Weaver Hills; in the South West Peak around the Ipstones Ridge, Macclesfield Forest and Whaley Bridge; and in the Dark Peak around Stalybridge, Hayfield and Matlock Moor.

In addition to these three Natural Areas the plan also takes in one or two adjacent areas not otherwise covered by Local Biodiversity Action Plans. These are the small area at the southern tip of the National Park around Fenny Bentley, which falls within the Needwood & South Derbyshire Claylands, and a small part of the Manchester Pennine Fringe around Glossop, up to the Derbyshire county boundary. It also includes the outlying Lead Rake habitats (but not other habitats) around Ashover, to provide comprehensive coverage of the South Pennines Lead Mine orefield.

The area covered by the Peak District Biodiversity Action Plan is therefore shown overleaf.

In some areas there is partial geographical overlap with other Local Biodiversity Action Plans, whilst in others the areas covered by different Plans adjoin. In either case there is a need for close liaison between different Local Biodiversity Groups to ensure duplication is avoided and opportunities for co-operation are explored where appropriate. In addition several organisations have produced their own corporate Biodiversity Action Plans which will be relevant to the Peak District. Liaison mechanisms will be established between the Wildlife Executive Group and other relevant corporate and area-based BAP Groups.

The Area Covered by the Peak District Biodiversity Action Plan

- The whole of the Dark Peak, White Peak and South West Peak Natural Areas

AND

- Those parts of the Peak District National Park lying outside these three Natural Areas

AND

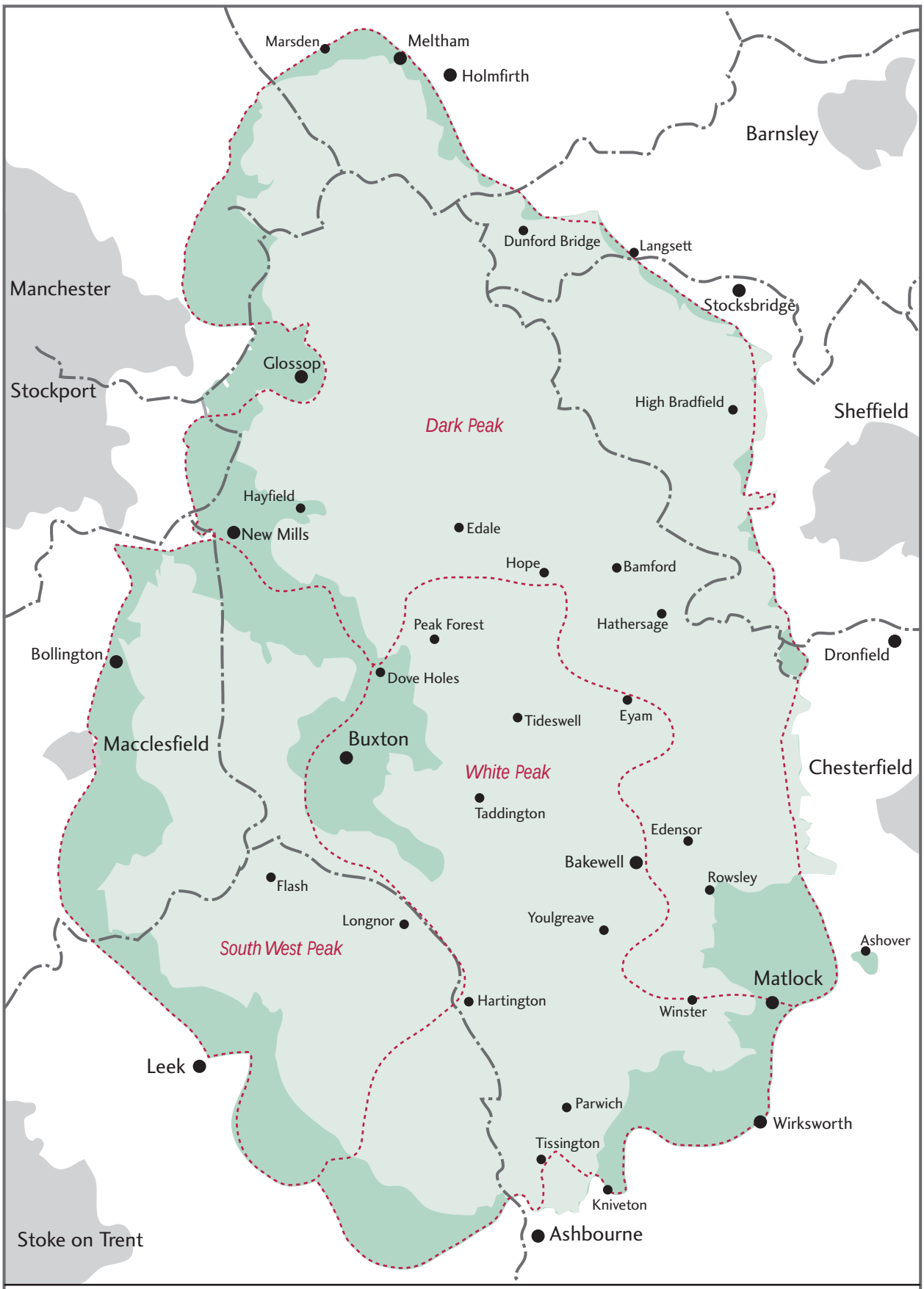
- Those parts of High Peak Borough lying outside these three Natural Areas

AND

- Outlying Lead Rakes around Ashover

Other Local Biodiversity Action Plans Overlapping or Adjacent to the Peak District

- East Midlands Region - The East Midlands Regional Biodiversity Forum has produced "Sustainability and Biodiversity - Priorities for Action in the East Midlands". This covers the East Midlands Region and the National Park, providing an important regional framework for biodiversity conservation
- Cheshire - covers the whole county and therefore overlaps with those areas which are in the Peak District
- Greater Manchester - covers the whole of the Greater Manchester area and therefore overlaps with those areas which are in the Peak District
- Kirklees - covers the whole of the metropolitan borough area and therefore overlaps with those areas which are in the Peak District
- Barnsley - covers the whole of the metropolitan borough area and therefore overlaps with those areas which are in the Peak District
- Staffordshire - covers the whole county outside the National Park and therefore overlaps with those areas of the South West Peak Natural Area which are outside the National Park (Ipstones Ridge area)
- Lowland Derbyshire - Adjoins the southern boundary of the Peak District BAP - no overlap
- Sheffield - Adjoins the eastern boundary of the Peak District BAP - no overlap



3. The Peak District - a Special Place

3.1 The Nature of the Peak District

From the purple heather moors and "featherbed" bogs of Kinder and Bleaklow to the verdant woodlands, sparkling rivers and dramatic limestone cliffs of Dove Dale, the Peak District has long been recognised as a special place. Lying at the southern tip of the Pennines, it is at the crossroads where the uplands of north-west Britain meet the lowlands of the south-east. It is also one of the most accessible areas of upland Britain, with over 20 million people living within an hour's drive, giving people a unique opportunity to enjoy the upland landscapes and the extraordinary wealth of associated wildlife.

Part of the Peak District's attraction is its diversity, the product of its distinctive climate, geology and topography overlain by centuries of land management by people. There is probably no part of the area which remains uninfluenced by human activity and most habitats are the product of traditional farming and other land management.

The Peak District essentially comprises three distinct areas each with its own characteristic landscape and wildlife - the Carboniferous limestone area of the White Peak, and the gritstone and shale areas of the Dark Peak and South West Peak.

The White Peak consists of a gently rolling limestone plateau, largely overlain by acidic wind-blown soils and dissected by limestone dales cut by glacial meltwater following successive Ice Ages. In many places the dales are steep-sided and contrast sharply with the plateau land above, whilst in other places the plateau grades more gently into shallow dales.

The limestone plateau was completely cleared of its natural woodland by people thousands of years ago and not a single example of this original woodland appears to remain today. Until the late 18th and early 19th century much of the limestone plateau was therefore "wastes and commons" - a mosaic of open heathland, scrub and unimproved grasslands - with enclosed cultivated land around villages and settlements. Nearly all of this "limestone heathland" has long since disappeared under the plough and only about 100 hectares now remain as relics of the medieval landscape of the White Peak plateau.

Today most of the plateau comprises highly productive meadows and permanent pastures divided up by the characteristic network of limestone walls and occasional linear shelterbelts. However, despite the predominance of intensively managed species-poor grassland important areas of interest remain. Extensive areas of rough grazing land occur on the higher unenclosed limestone hills around Castleton and Bradwell in the north, and in the west above Dove Dale and the Manifold Valley and around Earl Sterndale. Flower-rich hay meadows, unimproved pastures, road verges and steeper slopes, although only a small and increasingly isolated proportion of the area of farmland on the plateau, provide essential refuges for many species such as skylarks and brown hares. They also make a significant contribution to the landscape with contrasting colours and flower-rich swards, with the wonderful displays of meadow cranesbill being a particular feature of the road verges. The network of dewponds, created to provide a source of drinking water

for livestock, provides an important habitat for species such as water-crowfoot and the protected great crested newt.

Several features of wildlife importance on the plateau are associated with past mineral extraction. Centuries of lead mining have left hillocks of waste material and accompanying mineshaft hollows which stretch as linear features across the landscape. These lead rakes support specialised plant communities of considerable conservation importance which are adapted to the metalliferous soils. The extraction of limestone has also been an important industry with a significant effect on wildife. Whilst this has undoubtedly led to the loss of important and irreplaceable habitats in the past, such quarries can colonise in time with a rich flora and the rock faces provide nesting sites for birds. A number of small areas of silica sand and clay were deposited in pockets in the limestone during glacial periods and have provided a source of material for brick making. These now support a characteristic mosaic of ponds, heathland and grassland and associated wildlife.

The limestone dales are one of the jewels of the Peak District, supporting a varied mosaic of habitats of exceptionally high quality. The Ash woodlands of the dales are amongst the finest in Europe and include the most extensive examples of this habitat in Britain. They are particularly important for their rich flora and invertebrate life. Despite Dutch Elm Disease wych elm remains in many of these woodlands, supporting small colonies of white-letter hairstreak butterflies. Small- and large-leaved lime and lily-of-the-valley occur very locally on relic sites where the ancient woodlands have probably never been cleared. The ground flora shows considerable diversity, with ramsons tending to dominate in damper dale bottoms and dog's mercury or wood false-brome on screes. Invertebrates include a rich moth fauna. In a few places small fragments of wet woodland occur in dale bottoms and vestiges of oak, birch and holly woodland occur on the upper dales slopes.

Areas of scrub provide an important habitat in the dales, particularly in those areas where it forms part of a transition from woodland to open grassland and where habitat mosaics occur. These areas can be very rich botanically, with species such as globeflower, aspen and stone bramble, and they provide important habitat for birds like the whitethroat.

The grasslands of the dales are very varied, reflecting factors such as different soil types and whether they are

Habitats and Species of European Community Importance in the White Peak

The Peak District Dales Special Area of Conservation (SAC) has been put forward for the following habitats and species (the equivalent Peak District Biodiversity Action Plan habitats are shown in red):

Habitats (listed in Annex 1 of the European Habitats Directive)

- Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*)
  Calcareous grassland and dales scrub
- *Tilio-Acerion* forests of slopes, screes and ravines (listed as a priority habitat)
  Upland ashwoods
- Alkaline fens
  Wetlands (certain types)
- Calaminarian grasslands of the *Violetia calaminariae*
  Lead rakes (metalliferous communities only)
- Calcareous and calcshist screes of the montane to alpine levels (*Thlaspietea rotundifolii*)
  Limestone scree
- Calcareous rocky slopes with chasmophytic vegetation
  Limestone cliffs
- European dry heaths
  Limestone heath

Species (listed in Annex 2 of the European Habitats Directive)

- Brook Lamprey
- Bullhead
- White-clawed Crayfish

north- or south-facing. The most species-rich are the calcareous grasslands with their characteristic colourful displays of early purple orchids and cowslips in the spring. These calcareous grasslands are a habitat of European importance and the Peak District is a meeting point between northern and southern types. On south-facing slopes species characteristic of warmer southern areas such as dwarf thistle are found, whilst more northerly limestone grassland types with species such as mountain everlasting and flea sedge can be found on the north-facing slopes. On the upper slopes where soil has been washed down from the plateau more acid grassland tends to occur, often including mountain pansy, whilst extensive areas of species-rich neutral grassland occur on deeper soils. A specialised type of tall neutral grassland has developed in places, supporting Jacob's ladder for which the Peak District holds a considerable proportion of the national population. All of these grasslands are again of particular value for their flora and invertebrates, the latter including the local brown argus and dark green fritillary butterflies.

Limestone cliffs, rock outcrops and screes often form dramatic landscape features in the dales. Several important plants, including the nationally scarce hutchinsia and rock whitebeam, are adapted to these habitats and the rockfaces are often very rich in mosses, liverworts and lichens, including some very scarce species. Amongst these is Appleyard's feather-moss, known from several sites in the White Peak on shaded limestone cliffs and for which the Peak District may be the world stronghold. Limestone screes support a specialised flora and fauna of importance, notably red hemp-nettle and limestone fern, whilst the extensive network of caves and lead mines provides a habitat for hibernating bats and cave-dwelling invertebrates such as the cave spider.

Rivers and streams run through some of the dales and can hold populations of white-clawed crayfish and water voles, both of which have suffered significant declines throughout Britain over the last two decades. Fish include bullhead and brook lamprey, both regarded as of European conservation importance, as well as the more widespread brown trout. Dippers are particularly characteristic of White Peak rivers. This is also the habitat of Derbyshire feather-moss for which the single Peak District site, comprising a few square metres of wet rock, is the only known site in the world. In a few dales small springs and flushes arise on the daleside just above river level and these are rich in scarce plants and invertebrates including specialised species of soldierflies, craneflies and snails.

The Dark Peak is characterised by extensive areas of moorland with steep-sided valleys or cloughs cut by fast-flowing streams. Below the moorland edge the enclosed land comprises pastures and meadows extending down into the bottoms of wide shale valleys. Oak woodland occurs particularly in cloughs and on valley-sides, whilst reservoirs have been constructed in some valleys and the surrounding land planted with conifer forest.

On the moorlands the high plateaux have developed deep peat dominated by extensive areas of blanket bog where cottongrass predominates. Blanket bogs are an internationally rare habitat confined to areas where the climate allows extensive peat development. They can be found in Norway, Newfoundland, Alaska, Kamchatka and Japan in the northern hemisphere, and Tierra del Fuego, the Falkland Islands, Tasmania and New Zealand in the south. Britain supports about 2 million hectares - some 10-15% of the world total. Together with heather moorland this is one of the most extensive habitats in

the Peak District, dominating the areas of moorland on deep peat. The abundance of crowberry on the blanket bogs of the Peak District is unique to the southern Pennines, whilst the northern arctic species cloudberry can be locally abundant on these high moors. Some of this blanket bog has suffered from severe gullying and erosion with up to 33km^2 of bare or eroding peat present. Together with the drier heather moorlands they are of particular importance for breeding Golden Plover, whilst Dunlin occur in the vicinity of bog pools.

Below the watershed upland heath dominated by heather occurs with other dwarf shrubs such as bilberry and cowberry occuring locally. Heather- or bilberry-dominated moorland habitats are mainly confined to the UK, Ireland and the western seaboard of Europe due to the dependence of plants such as heather on the relatively mild "Atlantic" climate of this region. Britain and Ireland therefore support a substantial proportion of the world's heather moorland and it is a habitat of global conservation importance. Some types, such as heathlands with western gorse which occur locally on some of the lower moors in the Peak District, are particularly rare outside the UK. These moorland areas are of considerable importance for breeding birds, notably merlin, golden plover and short-eared owl. There are also significant populations of red grouse and curlew, the former being of particular economic importance and providing the financial incentive for much current moorland management. The Peak District moors are also home to the only English population of mountain hares, which particularly favour the boulder-strewn slopes below scarps and gritstone edges.

Characteristic insects include the northern eggar and emperor moths, and the green tiger beetle.

Several wetland habitats are found in association with areas of heather moorland. These areas support large quantities of invertebrates which are a vital food source for many moorland birds. They include acidic flushes characterised by bog mosses, star sedge and rushes, a type of vegetation which is rare outside the UK, and "transition mires" characterised by bottle sedge and bog mosses. Local plants include sundew, bog asphodel and cranberry.

Bracken is extensive on some moorland areas, providing an important habitat for birds like whinchat and nightjar, but its spread at the expense of other important habitats such as heather moorland is a serious problem. Gritstone cliffs (the "Edges") and boulder slopes are a dramatic feature of the moorland fringe in many places with gritstone or shale outcrops occuring in other sites, particularly along streamsides. These rocky habitats are important for breeding peregrine and ring ouzel and, despite historically high levels of air pollution, unusual lichen communities including nationally scarce species can be found locally.

The moorland valleys or cloughs support fast-flowing acidic streams, often with interesting lichens, mosses, liverworts and invertebrates, whilst on the clough slopes springs and flushes emerge at the junction of different rock layers. These small wetlands are often very rich in plantlife and can support uncommon species including marsh arrowgrass, ivy-leaved bellflower and bog pimpernel.

Oak and birch woodland is local in the Dark Peak, occuring principally on valley sides and as patches of relic woodland in moorland or farmland cloughs. Small areas of wet woodland occur within these woods along streams and in valley bottoms. The ground flora can range form frequent bilberry on more acid soils to bluebell-dominated woodland on deeper, more neutral soils. The bluebell is a particularly striking example of a relatively common species in this country, but which is nevertheless of major conservation importance. Although fairly widespread and common in British woodlands it is very dependent on the mild Atlantic climate of the Western European seaboard and between a quarter to a half of the world population is to be found in the UK. The oakwoods are also important for local bird species such as pied flycatcher and wood warbler and support a rich invertebrate community including the purple hairstreak butterfly.

On the enclosed land of the Dark Peak rush pasture, hay meadows and unimproved acid and neutral grasslands can be found amongst a mosaic of more agriculturally improved fields. The unimproved hay meadows can be rich in species such as yellow rattle, eyebright and common knapweed, and are a vital habitat for twite. This small moorland finch, for which the Peak District may support about 25% of the English population, is dependent on seed from such meadows for feeding. Alder-lined rivers such as the Derwent and Noe are characteristic of the larger valleys, providing habitat for fish and invertebrates, whilst goosander and common sandpiper nest along some stretches.

The South West Peak supports a similar range of habitats to the Dark Peak, but generally in a much more intimate mosaic. The largest expanses of blanket bog and heather moorland occur around the Goyt Valley and Axe Edge. To the south of Axe Edge the landscape comprises moorland on the hilltops and upper slopes in a mosaic with rush pasture, hay meadows and more improved grasslands on the lower hillsides and valley bottoms. This pattern can be seen, for example, along the main ridges which dominate the area such as the Roaches, Morridge, Lum Edge and the Ipstones Ridge.

Habitats and Species of European Community Importance in the Dark Peak and South West Peak

Habitats (listed in Annex 1 of the European Habitats Directive)

The South Pennine Moors Special Area of Conservation (SAC) has been put forward for the following habitats (the equivalent Peak District Biodiversity Action Plan habitats are shown in red):

- Blanket bogs (listed as a priority habitat)
  Blanket bog
- European dry heaths
  Heather moor and dry mixed moor
- Northern Atlantic wet heaths with *Erica tetralix*
  Wet heath
- Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles
  Upland oak/birchwoods
- Transition mires and quaking bogs
  Moorland flushes (certain types)

Species (listed in Annex 1 of the European Birds Directive)

The South Pennine Moors Special Protection Area (SPA) has been classified for the following species:

- Golden Plover
- Merlin
- Short-eared Owl

In some areas, particularly in Cheshire, continuous grazing over many years has led to replacement of the hilltop moorland by rough acid grassland. Towards the eastern and western edges of the area the land is more intensively farmed. It is the intimate mosaic of habitats in particular which contribute to the character and wildlife interest of the area. Moorland edge species,

dependent on both moorland and adjacent farmland, are particularly characteristic. The persistence of black grouse in this area until recently reflects the well-developed mosaic of habitats on which such species depend.

The moorlands are generally lower lying than most of the Dark Peak moors, comprising smaller blocks of blanket bog and heathland. Bilberry is abundant on some moors, as at Back Forest, and provides an important nectar source for the bilberry bumblebee which is dependent on a mosaic of moorland and flower-rich grasslands. The moorlands also provide some of the most southerly sites in Britain for arctic or northern species such as cloudberry and the rare rove beetle *Atheta arctica*. Rock outcrops include the dramatic crags of the Roaches and Ramshaw Rocks and the Killarney fern, a species of global conservation concern, occurs at one site. Areas of wet heath can be found locally, particularly in lower-lying moorland basins. Such habitat, which is rare outside the UK, is the only remaining site in the Peak District for the delicate lesser butterfly orchid. A wide range of moorland flushes (spring-fed wetlands) occur, supporting plants like marsh valerian, greater tussock sedge, marsh hawksbeard, bottle sedge and bog asphodel. Small areas of willow scrub are a particular feature of some moorlands and these can be rich in wetland plants.

The largest blocks of woodland in the area are the extensive plantations (mainly coniferous) around the Macclesfield Forest and Goyt Valley reservoirs. The former include fragments of clough woodland with relic populations of bay willow, aspen and bird cherry. Elsewhere semi-natural woodland is generally scarce, but with important concentrations along the Dane Valley near Danebridge and the Shell Brook near Wincle. Buzzards have recolonised several of these woodlands in the South West Peak and both pied flycatchers and wood warblers occur.

The rivers and streams of the area generally comprise fast-flowing upland streams with the largest of these being the rivers Goyt and Dane. These provide an important habitat for aquatic and bankside invertebrates, whilst some of the reservoirs support nationally scarce mosses and local plants such as shoreweed on the drawdown zones.

The enclosed grasslands of the South West Peak tend to be rather more varied than in the Dark Peak, with a greater concentration of rush pasture and hay meadows in particular. The wetter and more botanically rich rush pastures are another example of a habitat which is rare outside the UK, and the large expanses of this habitat in the South West Peak are of particular importance for breeding birds such as snipe, curlew, lapwing and reed bunting. In addition to the breeding birds the plantlife can be diverse, with local species including bogbean and marsh cinquefoil. Some of the hay meadows in the area are intermediate between those typical of lowland Britain and the very rare upland type of meadow found in the Yorkshire Dales. Great burnet and lady's mantle are characteristic of these meadows, whilst the uncommon melancholy thistle and marsh orchids can be found locally. Up until the late 1970s this was the habitat of the corncrake, a globally threatened bird which declined substantially in Britain during the latter half of the 20th century. The richest pastures support flower-rich swards with plants such as mountain pansy, adderstongue fern and the extraordinary miniature fern moonwort. The importance of acid grasslands for fungi is also increasingly being recognised.

3.2 The Shaping of the Landscape

Centuries of human activity, together with the influences of climate, geology and topography, have made the Peak District what it is today - a place of special importance which is one of Britain's best loved landscapes. People and nature together have created a truly "living landscape" and many important habitats, species, landscape and historic features have flourished because of traditional activities. Very few of these habitats can be described as truly natural and land-use by people has a fundamental effect on virtually every corner of the area. Seven land uses in particular have been important in shaping the area's landscape and wildlife:

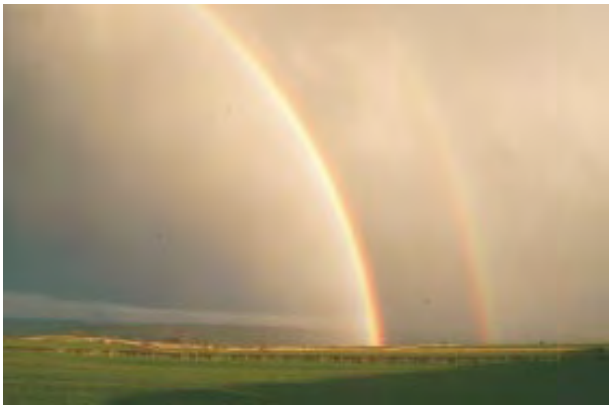
- Farming - Perhaps more than any other land-use activity the wildlife of the Peak District has been influenced by farming practice. Habitats such as the flower-rich grasslands of the limestone dales and the extensive areas of heather moorland, both highly valued wildlife habitats, largely owe their current extent to farming practices, and habitats such as flower-rich hay meadows are entirely the product of agricultural management. However, the last 50 years in particular has seen radical changes in farming at an unprecedented pace, encouraged by the Common Agricultural Policy, successive Government policies and technological developments. This in turn has led to significant loss of irreplaceable wildlife habitats. More recently agri-environment schemes, such as the North Peak and South West Peak Environmentally Sensitive Areas and the Countryside Stewardship Scheme, have brought both economic and conservation benefits to the area. Organic farming, if not carried out intensively, also has the potential to benefit wildlife. However, farming continues to go through a very difficult period and pressures on wildlife habitats inevitably remain in a difficult economic climate. The future of a healthy farming industry, with the will and economic incentive to manage land in a sustainable and environmentally friendly manner, is of considerable importance in order to maintain some of our most valued habitats and species
- Forestry - The extent of traditional woodland management such as coppicing in the Peak District is unclear, but charcoal production may have been an

important factor in the retention of some upland oakwoods. More recent planting of conifers up to the mid-1980s has sometimes resulted in the significant loss of valuable wildlife habitat whilst benefiting a few individual species. Many plantations are now being restructured to incorporate native woodland and open spaces of benefit to wildlife and the establishment of new native woodland is being encouraged

- Mineral working - Lead mining has been an important economic activity in the Peak District for many centuries. The resulting spoil heaps have developed a rich mosaic of vegetation including specialised plant communities adapted to metalliferous soils. More recent reworking of such spoil heaps for other minerals, however, and the subsequent restoration of these sites, enables agricultural improvement and consequent loss of all wildlife and historical value. Quarrying, whatever its landscape and other environmental impacts, has also had both positive and negative effects on wildlife. It destroys the original habitat but in some cases can result in the development of others of some value when working ceases, particularly where sensitive restoration can be achieved
- Grouse moor management - Management of moorlands for grouse shooting is essentially a 19th century development and has been an important influence on preserving areas of heather moorland and maintaining them in good condition. A

reduction in gamekeeping last century has probably had an adverse effect on much moorland wildlife, whilst benefiting other species of conservation importance

- Industrial activity in the surrounding cities - Past industrial activity resulted in the Peak District receiving particularly high levels of air pollution. This has left a legacy of moorland lacking the capacity to revegetate once erosion starts, and the extinction or decline of pollution-sensitive species such as some lichens and mosses. Today industrial pollution has been substantially reduced and the main source of emissions is probably from vehicles
- Water catchment - The demand for water in the surrounding cities led to the construction of a number of reservoirs in the Peak District. The original construction in the 19th and early 20th centuries often resulted in the loss of irreplaceable habitat such as valley woodlands and species-rich grasslands. Conversely new habitat has been created for some breeding and wintering birds and the drawdown zones can support distinctive vegetation including rare species not previously present in the Peak District such as Shoreweed
- Tourism and recreation - With over 22 million visits to the Peak District each year, visitors are having an increasing impact on the area. This brings more opportunities for people to enjoy and appreciate the wildlife of the Peak District, and greater economic incentive to conserve the rich variety of wildlife and habitats which attracts many people to the area. The increased disturbance, erosion and road traffic that results, on the other hand, can have a negative impact in sensitive locations



3.3 The Implications of Climate Change

Current climate change predictions suggest that the Peak District is likely to experience warmer wetter winters and hotter summers, possibly with longer drought spells. This is likely to have direct effects on wildlife such as increases in southern species and decreases in northern ones. It is the indirect effects, however, which are likely to be far more significant. If summers are warmer and drier these effects might include reduced summer river flows and prolonged periods of drying out, increased risk of accidental moorland fires, changes in agricultural management, increased peat erosion on the moors and increased recreational pressure. Warmer wetter winters could mean reduction in frosts, encouraging bracken spread.

The indirect effects are generally pressures that already exist to some extent anyway and in these cases it may be a matter of stepping up the level of actions which are already in the Action Plans (such as increasing firefighting capability and moorland firebreak creation). For the direct climatic effects on individual species it is likely to be extremely difficult to maintain sensitive populations in the face of widespread climate change, other than ensuring that there are adequate habitat refuges into which such species can "retreat" rather than face extinction. Some losses may therefore be inevitable.

The most important strategies for mitigating the effects of likely climate change will be to ensure that existing habitats are in the best possible condition so that they are more resilient to change (e.g. revegetating eroding blanket bog to minimise peat erosion), maximising the area and diversity of semi-natural habitat so that some areas are affected less and maintaining and enhancing a linked network of habitats to provide opportunities for dispersal and "retreat" of sensitive species.

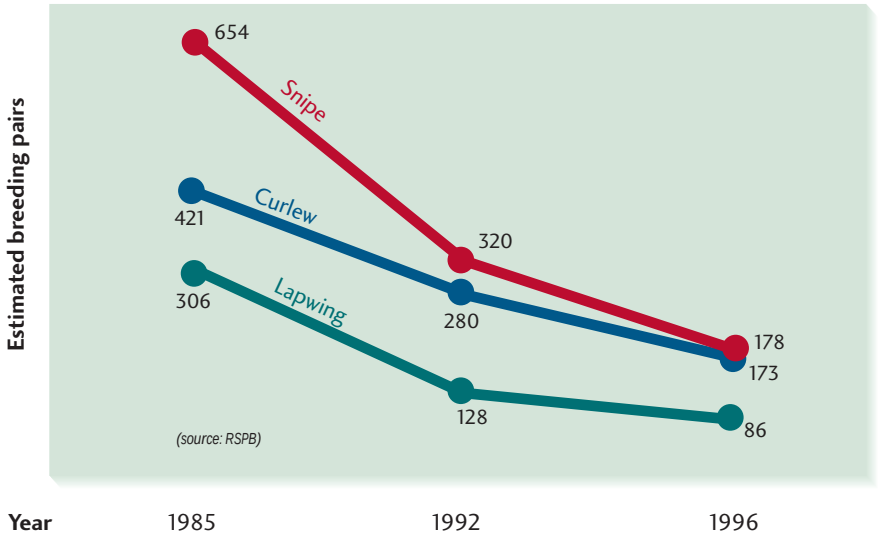
3.4 Wildlife Gains and Losses

Three groups of species of conservation value have been increasing in the Peak District over the last decade or more and continue to spread. The first group comprises species which have declined because of air or water pollution in the past and are now recovering due to improved pollution control measures. These include many lichens which are sensitive to air pollution and there are also signs that bog mosses (Sphagna) may now be more widespread on the Peak District moors than they were earlier last century. The otter is another species that declined substantially in Britain due to water pollution in the 1960s but is making a recovery and may be recolonising the Peak District. Amongst the second group are species which have benefited from legal protection from persecution. Buzzards, ravens and peregrines, for example, are all doing well in the Peak District and polecats appear to be colonising. The third group are southern species which have spread northwards with warmer weather. This includes several butterflies such as the speckled wood and comma which have been increasingly spreading into the Peak District.

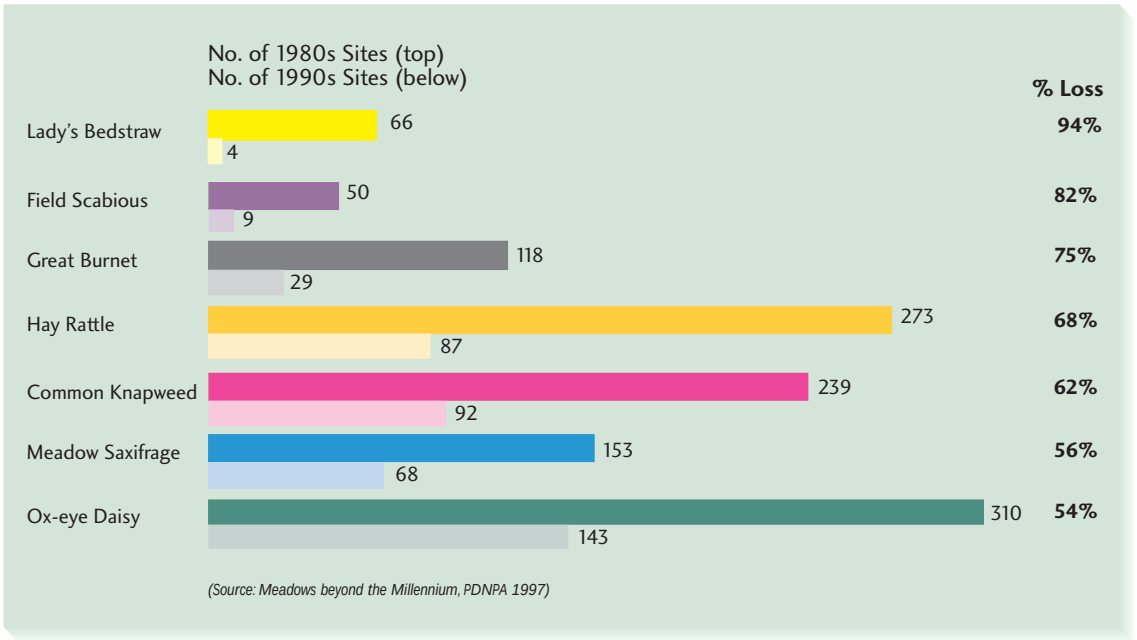
In contrast to these gains surveys by conservation organisations and local naturalists have confirmed the continuing scale of wildlife losses in the Peak District in recent years. They have revealed, for example, the following:

- 50% complete loss of flower-rich hay meadows within the National Park, and a significant decline in conservation value of a further 26%, between the mid-1980s and mid-1990s. Only some 410 flower-rich hay meadows still remain

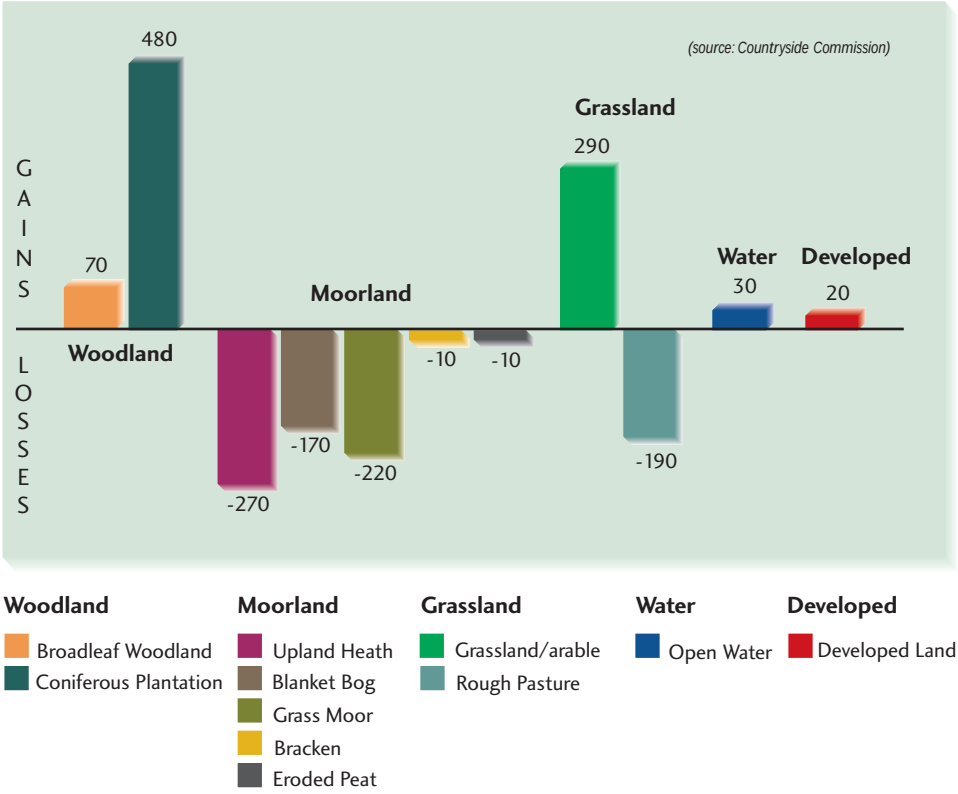
Declines in Breeding Waders in the North Staffordshire Moors, 1985-1996



The Loss of Hay Meadow Sites for Key Indicator Species in the National Park



Changes in Land Cover Types within the National Park from the 1970s to the 1990s
(figures = hectares)



- loss of up to 75% of lead rakes in parts of the National Park - the disappearance of a landscape that reflects one of the most important historical economic activities in the Peak District and one that supports special flower-rich grasslands of international importance
- loss of an estimated 50% of dewponds and their associated wildlife such as newts and dragonflies in the White Peak between 1970 and 1985 and with many others in a state of dereliction
- loss of 42.1 km of hedgerows from the 1970s to the 1980s
- loss of 270 ha of upland heath from the 1970s to the 1980s
- steep declines in breeding birds of wet grasslands in the Staffordshire Moors between 1985 and 1996 including 59% decline in curlews, 72% decline in Lapwings and 73% decline in snipe
- declines of up to 75% in water vole populations in some parts of the Peak District
- the extinction of black grouse

Such figures illustrate the massive shortfall in meeting environmental conservation objectives at the present time and the need for a joint approach to conservation targeted on priority features.

4. The Future - Action for Wildlife

4.1 Identifying the Current Wildlife Resource

A list of Peak District habitats was drawn up at an early stage in the preparation of the plan. These habitats will form the basis for monitoring and, where appropriate, reporting back at regional and national level. The relationship between the national Biodiversity Action Plan habitats and the local ones selected here is shown in Appendix 8.5. In some instances the local habitats do not correspond entirely to the national ones for one of three reasons:

- The Peak District classification identifies ALL habitats at detailed level, whereas the national classification identifies detailed habitats only where they are a priority within the broad habitat types
- Some national priority habitats have been further split in the Peak District. This has been done where the national definition includes a range of distinctive habitats in the Peak District, each with its own particular interest and conservation issues. For example 'Lowland Meadows' has been divided into Hay Meadows, Neutral Pasture and Tall Dales Grassland
- Conversely some national priority habitats have been combined where they occur in close association with each other, are hard to distinguish in the Peak District and for which separate data are not easily available. An example is Upland and Lowland Calcareous Grassland, which appear as two separate national types but have been combined as a single type - Calcareous Grassland - in the Peak District

A provisional list was drawn up of habitats and species for which the preparation of first tranche action plans should be considered. In practice this covered virtually all habitats and some 60 species. (see Appendix 8.6). *It must be emphasised that this list identifies possible priorities which could particularly benefit from targeted conservation action. It should NOT been seen as a list of all habitats and species of importance in the Peak District.* From this list the final selection of habitats and species for action plan production was made. Full audits have been prepared for these, setting out what is known about the current extent, importance, trends and problems in the Peak. These audits form the second part of this plan. The principles guiding the selection of habitats and species for the provisional list and subsequent priorities for action plans are set out in the next section.

4.2 Selection of Habitats and Species

The production of Habitat and Species Action Plans will be a continuing process, with new plans produced as they are required and as resources become available for implementation of new initiatives. The initial focus, however, has been very much on habitats rather than species, on the basis that much species conservation can be addressed by conserving the habitat. In all, 15 Habitat Action Plans have been prepared as part of this first main round including most semi-natural habitats and nearly all Peak District habitats for which there is a national Action Plan. It is intended that all habitats present in the area will be covered by an Action Plan by 2005.

7 Species Action Plans have been prepared to date. These cover species for which the Peak District supports a substantial proportion of the global population or species whose populations have declined very heavily in the Peak District over the last 20 years. There is a need for further assessment of status and population trends for many other species to identify those which warrant the production of Action Plans in the future. The possibility of reintroducing species which have become extinct in the Peak District will also be considered if feasibility studies suggest this is appropriate.

Selection of habitats and species for the provisional list, and the final selection for Action Plan production, has been based on consideration of the following factors:

- *Whether the habitat/species has a national action plan or is on the UK BAP list of species of conservation concern.* Some habitats and species with national action plans have been omitted at this stage, however, for one or more of the reasons below
- *The contribution that the Peak District makes to the national resource.* Habitats and species of

international importance, such as those listed in the European Habitats Directive, have been given particular attention (though recent changes to the internationally designated sites in the Peak District will mean some additional habitats and species are likely to be a priority in the next round of Action Plans). Conversely some species with national action plans have been omitted because conservation action in the Peak District is likely to make a very limited contribution to the national population. An example is bullfinch, a bird more characteristic of lowland Britain and for which the Peak District is probably of well below average importance. Its national decline is largely associated with the decline of orchards in southern England and its population is probably relatively stable in the Peak District

- *The conservation importance of that habitat/species in a Peak District context.* Limestone heaths, for example, are a habitat of particular historical importance in the Peak District
- *The degree of vulnerability or extent of known declines in the Peak District.* This factor has been one of the most important in deciding priorities. Thus hay meadows and lapwings for example, both of which have suffered serious declines in the Peak District over the last decade, have been given a particular priority
- *The degree to which species conservation can be addressed through habitat conservation.* The conservation of important species such as golden plover, for example, can probably be largely addressed through the Blanket Bog and Heather Moorland Habitat Action Plans, and the population appears relatively stable. Conversely a Species Action Plan has been produced for twite as they depend on more than one habitat (moorland for nesting but hay meadows for feeding) and their population has been declining to the extent that specific targeted action is required

National Biodiversity Action Plan Priority Species Relevant to the Peak District

(E) = extinct (U) = unconfirmed (I) = Introduced

Species in red are of Global Conservation Concern (globally threatened)

Mammals
Brown Hare
Dormouse (E)
Lesser Horseshoe Bat (E)
Otter
Pipistrelle
Red Squirrel (E?)
Water Vole

Birds
Black Grouse (E)
Bullfinch
Corn Bunting (E)
Corncrake (E?)
Grey Partridge
Linnet
Nightjar
Reed Bunting
Skylark
Song Thrush
Spotted Flycatcher
Tree Sparrow
Turtle Dove (E?)

Reptiles, Amphibia & Fish
Great Crested Newt

Butterflies
High Brown Fritillary (E)
Marsh Fritillary (E)
Northern Brown Argus
Pearl-bordered Fritillary (E?)

Moths
Agent & Sable
Barred Toothed Stripe
Chalk Carpet
Common Fan-foot
Square-spotted Clay
Sword-grass (E?)
Waved Carpet (E?)
White-spotted Pinion

Flies
Hornet Robberfly (U)
Lipsothrix errans (a cranefly)

Bees
Brown-banded Carder Bee (E?)
Great Yellow Bumblebee (U)
Large Garden Bumblebee (E?)
Short Haired Bumblebee (E?)

Ants
Northern Wood Ant
Shining Guest Ant

Other Invertebrates
White-clawed Crayfish

Higher Plants
Broad-fruited Cornsalad (E)
Corn Cleavers (E)
Cornflower (I,E?)
Floating Water Plantain (E?)
Grass-wrack Pondweed (E)
Juniper
Killarney Fern
Lady's Slipper Orchid (E)
Marsh Clubmoss (E)
Red Hemp-nettle
Shepherd's Needle (E)
Small-flowered Catchfly (E)
Tower Mustard (E?)

Mosses
Appleyard's Feather-moss
Derbyshire Feather-moss
Orthodontium gracile (E?)
Slender Green Feather-moss (E?)
Spruce's Feather-moss

Lichens
Bacidia incompta
Orange-fruited Elm Lichen

Fungi
Hygrocybe calyptriformis
Microglossum olivaceum (E?)

In drawing up Habitat Action Plans a "landscape ecology" approach has been taken for some groups of habitats, particularly where they form inter-dependent mosaics and frequently occur as part of the same management unit. This approach has been taken for limestone dales (covering all open dales habitats), river corridor habitats and heather moorland, where a range of associated Peak District habitats are covered by each Action Plan. In such situations the ecological interest of each habitat is often heavily interdependent so that the interest of the whole mosaic is greater than the sum of the individual habitats (e.g. species such as globeflower and dark green fritillary typically occur in a mosaic of limestone grassland and scrub); the mosaic of habitats and the dynamics between them is in itself of considerable ecological interest (e.g. the zonation of river corridor habitats in a flood plain); and the different habitats often fall within one management regime (such as areas of heather moor, bracken and flushes which may all fall within one moorland grazing block). Thus actions for one habitat will almost invariably have a significant effect on the other habitats present as well. The coverage of habitat types by relevant Habitat Action Plans in the Peak District is shown in Appendix 8.7.

4.3 Conservation, Restoration and (Re-)creation

The objectives and targets for each habitat essentially divide into three categories - conservation, restoration and (re-)creation. The definitions of these terms, as used in this Plan, are shown below.

The first objective(s) in each Action Plan relate to conservation - the safeguarding and enhancing of existing sites. This has been taken as the starting point for all of the habitats and species and is generally the first priority (see overleaf). However, the scale of historic and continuing losses for many habitats and species means that there is a real need to try and redress these losses as well if we are to hand on to future generations a landscape as rich in wildlife as the one which we inherited. Fragments of clough woodland,

The Definitons of Conservation, Restoration and (Re-)creation used in this Plan

Conservation - The maintenance and enhancement in quality of existing sites where the habitat is present. Examples include using grazing and scrub clearance to sustain and enhance flower-rich daleside grassland, or clearing rhododendron from an upland oakwood where it is common and shading out much of the associated flora

Restoration - The restoration of a habitat on sites where it has been heavily degraded by management but is still present in degraded form. Examples include encouraging the development of species-rich hay meadows on semi-improved grassland and encouraging regeneration of native woodland in moorland cloughs where a limited cover of trees or shrubs remain

(Re-)creation - The re-creation of a habitat on sites where it has been lost by conversion and has to be created again, or the creation of entirely new habitat. Examples of re-creation might include the sowing of heather seed into species-poor grassland where heathland has been lost, whilst examples of creation might include the construction of a new pond or the creation of appropriate habitats through the restoration of disused quarries

The Importance of Conserving and Expanding on Existing Sites

- Conserving existing sites will generally be more cost-effective than restoring or re-creating habitats, which is generally very resource-intensive
- Existing sites have often evolved over a long period of time (in some cases perhaps several thousand years) through complex ecological processes, resulting in a degree of diversity and complexity which cannot easily be re-created over a short period of time
- Many species are very slow to colonise new sites and/or require particular conditions that have evolved over a long period, and can therefore only be conserved through the safeguard and management of existing sites. This is particularly true of those species that are of greatest conservation importance due to their rarity or degree of specialisation. "Ancient woodland indicators" such as lily-of-the-valley are a good example of such species
- Semi-natural habitats are an important historical component of the landscape, reflecting the interaction of physical conditions and past and present management by people. As such they are of cultural significance as part of the historic landscape, as well as of importance for their wildlife interest *per se*. The limestone heaths, which once dominated the White Peak plateau and are now reduced to about 100 hectares on a few sites, are a good example of a habitat of significant historical, cultural and landscape importance
- The most effective source of colonisation for any new site is likely to be from existing habitat in the area. Without the existing habitat to provide colonists, new sites will be slow to develop interest
- The complexity and diversity of sites of conservation importance means that only a small fraction of the biodiversity of any one site is generally known, even on the most studied sites. It may therefore be possible to create something similar elsewhere, but there will generally be significant differences
- Habitat restoration and creation is a relatively new science. Whilst new techniques are being developed all of the time there is often limited information on the success or otherwise of such techniques

For all of the above reasons existing habitats of high conservation value are therefore effectively irreplaceable. Whilst new habitats can generally be created at any time in the future given sufficient knowledge, will and resources, existing habitats may be gone forever if they are lost.

for example, remain isolated with little opportunity for ancient woodland species such as bluebell to recolonise, whilst the handful of remaining native crayfish populations are extremely vulnerable to disease and pollution incidents. Further objectives and targets therefore go on to address expansion of the existing wildlife resource through restoration of degraded sites, habitat (re-)creation and targeted action for priority species. A particularly high priority has been given to restoration and (re-)creation where there are significant existing opportunities (e.g. the Forestry Commission's Woodland Challenge Fund for new native woodland in National Parks or restoration schemes following mineral extraction); where the extent of the existing resource is very limited (e.g. limestone heaths); or where a high proportion of the habitat is in poor condition (e.g. dried-out dewponds).

The creation of priority habitats at the expense of habitats of lower conservation concern (e.g. dense bracken beds, improved or species-poor grassland, recent mineral workings, plantation woodlands) will often be justified on biodiversity grounds. However it is essential that the merits of any proposed habitat expansion be carefully considered on an individual site-by-site basis. Furthermore there may be conflicts with other conservation issues, such as archaeological interest, or with economic interests, which need to be resolved.

Similarly for species the objectives principally divide into three categories- maintaining existing populations; expanding the existing population; and re-introducing populations. Again the priority is generally to safeguard and expand existing populations since these will tend to reflect the best remaining habitat and will be the best source of any future expansion. Re-introduction has only been considered where a species has become locally extinct, the likelihood of natural recolonisation is very remote, the factors that caused extinction are known and no longer apply, and reintroduction will make a very significant contribution to conservation of the species in the Peak District.

4.4 The Approach to Setting Objectives and Targets

In identifying objectives and targets several principles have been borne in mind:

- As far as possible we have tried to make targets clearly **measurable** and with a target date for achieving them. By that date it should therefore be possible to identify whether the target has been met

in full or, failing that, what proportion of the target has been met

- We have tried to make targets **ambitious but realistic**. This generally means that targets will not be achieved simply by maintaining the current level and pattern of conservation activities, but will require additional resources (in some cases quite considerable). Nevertheless in each case the Habitat Biodiversity Groups and the Wildlife Executive Group felt that such additional resources could realistically be available (although not currently guaranteed) through a combination of refocusing/targeting existing conservation work; delivering more cost-effective results through working in partnership; and seeking new resources such as Heritage Lottery or European LIFE funding. The extent to which targets are met will therefore depend heavily on the success in securing such additional resources
- Where habitats relate to national Biodiversity Action Plan habitats, the **national targets** have been taken as a starting point for identifying local targets on a *pro rata* basis according to the proportion of the national resource which occurs in the Peak District. Local experience within the Habitat Biodiversity Groups has then been used to assess whether these *pro rata* targets are appropriate. For example the White Peak supports a significant proportion of the UK's upland ashwoods, yet there are limited opportunities for expansion due to conflict with other habitats of outstanding wildlife importance in the dales so the creation target is far lower than the national target would suggest is appropriate. Conversely, the Peak District has relatively little upland oakwood and the opportunities for re-creation of new native woodlands in Dark Peak valleys and cloughs suggests that we could deliver more than our "fair share" of the national target for this habitat
- The starting point has been to try and **safeguard existing sites** or species populations and enhance their quality. Further objectives and targets then go on to try and **redress past losses** through restoration of degraded sites, habitat (re-)creation and targeted action for priority species
- In measuring achievement of the targets the starting point of April 1st 2001, or the nearest preceding date for which information is available, will be taken as the **baseline for monitoring**
- With one or two exceptions objectives and targets have generally been set over a **10-year period**, from 2001 to 2010. This ties in with most national targets where 2010 is the end date

4.5 Implementation and Resources

The Actions essentially fall into three types - those that can be pursued as part of the core work of individual organisations through prioritisation and targeting of existing resources (e.g. consideration of biodiversity issues by Planning Authorities); those which can be achieved by consensus within the Biodiversity Groups or Wildlife Executive Group (e.g. agreeing definitions of favourable condition); and those which require a project-based approach which in some cases may require significant new resources, such as the appointment of dedicated people on a contract or consultancy basis (e.g. the proposed bird conservation project). Many of these latter actions in particular will be dependent on the level of resources available, and some may depend entirely on successfully securing major new funding (e.g. from the Heritage Lottery Fund, European LIFE Fund, Rural Development Schemes, Landfill Tax or sponsorship).

Every action in this plan has a **lead organisation and partner organisations** and target date identified against it. The implementation of many actions will be resource-dependent and cannot therefore be guaranteed, but there is a commitment from the named organisations, and in particular the lead agency, to try and take these actions forward by the target date as far as possible.

Guidance on the Plan will be provided by the **Peak District Biodiversity Partnership**, whose role will more specifically be:

- commenting on and endorsing the Plan
- establishing wide awareness and ownership of the Plan
- receiving an annual progress report on implementation of the Plan
- advising the Wildlife Executive Group on update and review of the Plan, including development of further Habitat and Species Action Plans
- seeking consensus on key issues
- helping secure resources to deliver the Plan
- providing a shared identity and voice for the Plan

Overall implementation of the Plan will be overseen by the **Wildlife Executive Group**, which will have the following roles:

- providing co-ordination between the Habitat and Species Groups and ensuring there is an integrated approach towards actions where appropriate (e.g. for encouraging review of agri-environment schemes, or where a joint approach to projects would be beneficial)
- identifying overall priorities and helping resolve any potential conflicts between the Habitat and Species Groups objectives
- co-ordinating resource bids between Groups where necessary

- taking forward the 25 Key Actions on page 31
- providing the driving force for overall implementation of the full Action Plan
- preparing an annual progress report on implementation of the Plan for the Partnership

The role of the **Habitat and Species Biodiversity Groups** is central to the Action Plan process. They will oversee the implementation of the relevant Habitat and Species Action Plans, and more specifically will:

- provide the driving force for implementation
- support individual organisations in carrying out actions
- co-ordinate actions between organisations
- establish consensus on key issues
- establish appropriate projects for taking forward actions, where necessary
- seek resources for delivery of the Action Plans

Implementation will also involve liaison and co-ordination with the East Midlands Regional Biodiversity Forum, and with other Biodiversity Action Plan partnerships in the area.

The Action Plans have not been costed at this stage because of the considerable complexities of doing so, the limited value of using a broad figure when resource implications will be different for different organisations and the inevitable changes in funding requirements over the lifetime of the Plan. Nevertheless it was felt important to indicate which of the main actions in this Plan can probably be delivered with existing resources (assuming they continue at current levels) and which are likely to require additional resources in some form. To this end each Habitat and Species Action Plan has a concluding section on resources which flags up the main sources of existing resources, actions which are likely to require significant additional funding and steps currently being taken to try and secure such additional funding. The "25 Key Actions" are also followed by a brief section identifying those which are likely to require additional resources.

As they implement the Action Plans each of the Habitat and Species Biodiversity Groups will assess the amount of funding needed and possible sources in more detail. Depending on circumstances such resources might take the form of additional core funding by partner organisations or bids for discretionary grants from external organisations, for example. In some cases it may be appropriate to bid for resources at regional level or in partnership with other Local Biodiversity Action Plans. The Wildlife Executive Group, with guidance from the Peak District Biodiversity Partnership, will assess priorities between Groups to ensure potential conflicts between resource bids are avoided.

4.6 Monitoring and Review

This Action Plan is seen as an organic evolving document. Monitoring and review of progress towards targets will be overseen by the Wildlife Executive Group. Information on progress with the individual Habitat and Species Action Plans will be collated on a regular basis by the Habitat and Species Biodiversity Groups and the individual organisations on those groups as they implement the plans. This will be fed back to the Wildlife Executive Group and the results will be reported annually to the Peak District Biodiversity Partnership for comment and guidance. A loose-leaf format has been adopted so that the Plan can be updated and amended as necessary. Other Habitat and Species Action Plans will be developed as the need arises and resources allow, balancing this carefully against implementation of existing plans. The aim is to produce Action Plans for all remaining habitats by 2005 and there will be a full review of the plan in 2010.

5. 25 Key Actions

Each of the Habitat and Species Action Plans that follow have been written so that, as far as possible, they can stand alone. However, throughout many of the Action Plans there are recurring themes and actions, some of which are central to meeting the Biodiversity Action Plan's objectives and targets as a whole. 25 key actions, to complement the actions in individual Habitat and Species Action Plans, are therefore identified below. Proposed implementing organisations are listed, with lead agencies shown in bold type where relevant (for list of acronyms see Appendix 8.1).

Ref.	KEY ACTION	When	Who
Data Collation and Survey			
K1	Collate existing basic habitat data and where necessary carry out further survey work to provide a full habitat map for the area based on a geographical information system.	2001 onwards	**PDNPA**/EN WTs/LAs LRCs
K2	Produce a "Red Data Book" for the Peak District, listing those species considered to be of particular conservation concern in each of the three Peak District "Natural Areas".	2005	**PDNPA** WEG/LRCs Voluntary Sector
K3	Establish a biological records system for the area as part of a network of local and national record centres, ensuring issues of data ownership, exchange and confidentiality are addressed.	2005	**PDNPA/**EN WTs/LAs LRCs Voluntary Sector
Strategic Policies			
K4	Produce Action Plans for all remaining habitats and assess priorities for further Species Action Plans.	2005	**WEG** Biodiversity Partnership
K5	Ensure that statutory and non-statutory policy documents such as regional policy documents, Development Plans, sectoral strategies and detailed National Park Management Action Plans incorporate and implement policies consistent with the objectives and targets of the Biodiversity Action Plan.	2001 onwards	PDNPA LAs/WEG
K6	Agree a strategy for safeguarding sites of particular wildlife importance where this cannot be achieved through the normal channels of negotiation, in liaison with landowning, farming and other land management interests.	2002	WEG/NFU CLA/Mineral Companies RLMEG
Conservation Action and Incentives			
K7	Continue to operate existing "Wildlife Sites" systems to safeguard sites of particular importance and establish a system across the whole of the Peak District in liaison with landowning and farming interests. Establish common published criteria and protocols and a regular review procedure. Such sites would be a focus for positive conservation/enhancement action.	2004	**WTs/LAs** **PDNPA** WEG/NFU RLMEG/CLA LRCs Voluntary Sector
K8	Consider recommending review of agri-environment, woodland and conservation grant schemes with the aim that: ◔ Priority habitats and species remain/become adequately targeted and prioritised	2001 onwards	Biodiversity Partnership MAFF/EN PDNPA/FC WEG

Ref.	KEY ACTION	When	Who
	◔ Management prescriptions are both rigorous and flexible enough to meet local conservation objectives ◔ Payment levels provide sufficient incentive for landowners and managers of the majority of important sites to enter schemes at a tier appropriate for the conservation and enhancement of such sites ◔ As far as possible the safeguarding of particular features on a landholding does not jeopardise the conservation of other important wildlife, landscape or cultural heritage features on the holding ◔ The conservation value of a feature being conserved, enhanced or created is reflected in payment levels		
K9	Ensure a whole-holding approach is taken as far as possible when negotiating conservation agreements. Review existing agreements to ensure all priority features on the holding are adequately safeguarded as far as possible.	2001 onwards	MAFF/PDNPA EN/FWAG/WTs
K10	Investigate the potential economic benefits which could arise from implementation of the Plan and, in particular, encourage the development of alternative or "added value" incomes such as environmentally branded products, sustainable tourism etc which help deliver biodiversity objectives.	2001 onwards	ALL
K11	Encourage sustainable use of resources, both within each organisation and by others, to minimise greenhouse gas emissions, energy consumption, generation of pollutants and waste production by reducing, re-using and recycling.	2001 onwards	ALL
K12	Review desirability and opportunities for establishment of Local Nature Reserves, and establish if appropriate.	2001 onwards	**PDNPA/LAs** WEG
K13	Ensure that the conservation value of important sites is safeguarded when sold or leased by public bodies and utilities, through appropriate means such as management agreements or sale covenants.	2001 onwards	PDNPA/LAs WCs/CA
K14	Encourage the appropriate provision of integrated advice on environmental land management, environmental grants, diversification and other conservation-related information to landowners/managers.	2001 onwards	MAFF/FC/PDNPA LAs/WTs/WEG
K15	Provide practical conservation management help to landowners/managers where appropriate through the use of conservation volunteers.	2001 onwards	**BTCV/PDNPA** **FWAG**/WTs
K16	Consider opportunities for delivering Biodiversity Action Plan objectives through the planning process - in particular by considering habitat creation in all quarry restoration proposals – and implement as appropriate.	2001 onwards	LAs/PDNPA Mineral Companies
Resources			
K17	Seek opportunities for increased resourcing of conservation work including agri-environment schemes, rural development, community grants, European funding, sponsorship, targeting and pooling of existing resources, voluntary effort, local "champions" for particular habitats/species etc. Make information on resource sources widely available through a central database/website.	2001 onwards	**WEG**

Ref.	KEY ACTION	When	Who
Monitoring			
K18	Collate data on progress towards meeting objectives and targets, and produce annual report.	Annual	BAP sub-groups WEG
K19	Ensure that all conservation schemes are achieving their biodiversity objectives by regular monitoring.	2001 onwards	EN/PDNPA/MAFF FC
Awareness-Raising and Public Enjoyment			
K20	Establish a Peak District Biodiversity Partnership website.	2001	PDNPA/WEG
K21	Produce a strategy for interpretation/education/ promoting understanding of biodiversity, wildlife and nature conservation, to include identification of key messages (both general and specific to individual habitats and species), target audiences, sensitive sites/areas and "promotable" ones, and methods (leaflets, info boards etc). Integrate this with other relevant strategies for the Peak District.	2001	WEG/PDNPA
K22	Encourage involvement of local people and communities in biodiversity conservation, e.g. by developing links between the Biodiversity Partnership and Local Agenda 21/Community Strategy initiatives.	2001 onwards	WEG/LAs/PDNPA
K23	Enhance opportunities for people to enjoy the rich wildlife resource of the Peak District in a sustainable way.	2001 onwards	PDNPA/LAs/WTs NT/EN/WEG
K24	Ensure that landowners and managers are made aware of wildlife features of importance on their land, that the results of surveys are fed back to them and that they are involved in conservation measures.	2001 onwards	PDNPA/EN/WTs RSPB/NT/FWAG MAFF
Research			
K25	Establish a local shared database for information about management techniques, initiatives relating to biodiversity and sources of information on local biodiversity.	2003	**WEG**

Several of these Key Actions are likely to require significant additional resources for implementation, notably:

K2 Production of a Red Data Book (2005)

K3 Establishment of a biological records system (2005). This action will be particularly important in helping delivery and monitoring of biodiversity targets. Funding for biological recording in the East Midlands is currently being explored at regional level.

K7 Development of a Wildlife Sites system (2004)

K8 Providing adequate financial incentives to landowners and managers through agri-environment and conservation grant schemes (2001 onwards). This action is absolutely central to the delivery of virtually all targets.

In order to further the objectives, targets and actions set out in this Action Plan resources will also be needed to co-ordinate the whole process, provide administrative support, seek funding for actions and liaise with other biodiversity groups. Consideration will therefore be given to the need for a dedicated Biodiversity Project Officer and, if appropriate, the necessary funding will be sought.

UPLAND ASHWOODS

TREND IN THE PEAK DISTRICT:

Modest increase over last 200 years, probably continuing.

ESTIMATED EXTENT IN THE PEAK DISTRICT:

Approximately 900 ha.

NATIONAL BAP HABITATS:

Upland Mixed Ash Woodland (priority habitat).

ASSOCIATED NATIONAL BAP PRIORITY SPECIES:

Pipistrelle, lesser horseshoe bat (extinct), dormouse (extinct), bullfinch, song thrush, pearl-bordered fritillary (extinct?), white-spotted pinion, waved carpet (extinct?), barred toothed-stripe, square-spotted clay, lady's slipper orchid (extinct) and possibly also common fan-foot.

ASSOCIATED PEAK DISTRICT AUDITS:

Upland Ashwoods.

INTRODUCTION

Ash is widespread on the heavier calcareous soils of the English Midlands. However it is dominant only on steep dalesides in limestone areas, notably the Mendips, Southern Pennines (Peak District), West Yorkshire and North Lancashire. The Peak District sites (restricted to the White Peak Natural Area) are the largest examples of this habitat in Great Britain and hold populations of nationally rare species. They are of international importance, being listed as a priority habitat in Annex 1 of the European Union Habitats Directive where these woods are described as *Tilio-Acerion* ravine forests.

Due to gradual clearance for agriculture, the former extensive woodland cover of the White Peak has declined over many centuries to a point where virtually all ancient woodland is restricted to the steeper and more inaccessible dalesides. Following enclosure and improvement of the plateau in the 18th and early 19th century, grazing pressure on the dales relaxed, leading to expansion of semi-natural ash woodland. Former quarries and mining areas have also re-colonised with secondary ash woodland. The area of woodland has thus been increasing over the last 200 years and is probably still continuing, so that many dales comprise a mosaic of ancient and more recent ash woodland. Apart from inappropriate grazing in a minority of sites, ash woodland is under relatively little threat in the Peak District.

Many of the older ash woodlands would have traditionally been managed as coppice for turnery, tool handles, firewood/charcoal or as high forest for planking or furniture making, from medieval times to the industrial revolution. As other materials and cheap quality timber imports became readily available their utilisation declined. Former management has left many sites with a lack of veteran trees and dead wood.

Upland ashwoods are amongst the richest habitats for wildlife in the uplands, supporting a wide range of wildlife of national importance including small and large-leaved lime, mezereon and lily-of-the-valley and an outstanding invertebrate fauna including white-spotted pinion, barred toothed-stripe and the lemon slug. More common but equally characteristic species include field maple, dog's-mercury and brome grasses. Particularly fine examples include Dove Dale, Cressbrook Dale, Lathkill Dale, the Hamps and Manifold Valleys, the Wye Valley, Matlock Woods and the Via Gellia.

The White Peak ashwoods often form part of extensive areas of semi-natural vegetation in the limestone dales with transitions to other important habitats. These include calcareous, acid and neutral grassland, heath, scrub, rock faces, lead rakes, scree and a scatter of remnant oak/birch woodland on the dale brows, and wet alder woodland along the valley floors.

This diversity of habitat also contributes significantly to the landscape and recreational value of the White Peak Natural Area. There are very limited opportunities for silvicultural management for economic gain on most sites since the ground is largely inaccessible to vehicles, with steep and often rocky slopes.

ADVERSE IMPACTS	Historic	Current
Land Management		
Grazing and browsing – overgrazing by sheep, rabbits and (locally) fallow deer, damaging the ground flora and preventing natural tree regeneration.	✓	✓
Historical replacement of native trees with planted conifers and broadleaves up to the early 1980s.	✓✓	
Invasive Species		
Colonisation by non-native species - particularly the regeneration of sycamore and beech, leading to eventual canopy domination in some areas.	✓	✓✓
Effects of non-native shrub species dominating the ground flora e.g. snowberry.	✓	✓
Others		
Dutch elm disease has changed the structure and composition of many woods since the early 1970s, reducing tree diversity and reducing the food source for some significant species such as the white-letter hairstreak butterfly.	✓	✓✓
Loss of transitions from dale bottom wet woodland to dale brow oak/birchwood.	✓✓	
Loss of lime from dales woodlands.	✓	

An impact ✓ *Significant impact* ✓✓

CURRENT ACTION

Designated Sites

- 80 % of limestone ashwood habitat (ancient woodland and other semi-natural woodland sites) within the Peak District falls within SSSIs. The majority is also within the Peak District Dales cSAC.
- Some woods receive additional protection through NNR status.
- A number of ashwoods have been identified as 'Wildlife Sites'.

New Initiatives

- Since 1999 large estates have been encouraged by the FC to manage their woodlands within long term Forest Plans.
- Since 1997 a few small areas of new native ashwood have been created by landowners, encouraged/ supported through the FC's 'New Native Woodland in National Parks Challenge Fund'. This fund is currently under review.
- The FC is producing a guidance note on the restoration of native woodland on Ancient Woodland Sites. This will encourage the restoration of ancient woodland and target resources at areas with the greatest potential.

Land Management

- National Forestry policy includes a presumption against clearance of broad-leaved woodland for conversion to other land uses, and in particular seeks to maintain the special interest of ancient semi-natural woodland. Felling licences from the FC are normally required if the woods are not managed under plans approved by them.
- Important areas of ash woodland are managed within grant scheme agreements.
- The NT, WTs, PDNPA and EN own significant areas of ash woodland.

Research and Surveys

- A substantial amount of biological information is held but there is a need to collate data. However information for non-SSSI and non-ancient woodland is limited.

ACTION PLAN OBJECTIVES AND TARGETS

National Targets

- Maintain the current extent of ancient semi-natural woodland (considered to be 40000 - 50000 ha) and the total extent and distribution of upland mixed ashwood.
- Initiate measures intended to achieve favourable condition in 100 % of upland mixed ashwoods within SSSIs and SACs, and in 80 % of the total resource by 2004, and achieve favourable condition over 70% of the designated sites and 50 % of the total resource by 2010.
- Initiate restoration to upland mixed ashwood cover at least 2400 ha. Complete restoration to site-native species over half this area by 2010 and all of it by 2015.
- Initiate colonisation or planting of 6000 ha of upland mixed ashwood on unwooded or ex-plantation sites. Complete establishment of half of this by 2010 and all of it by 2015.

A Vision for the Peak District

Hugging the steeper slopes of the limestone dales ashwoods are an integral and dramatic component of the rich mosaic of habitats found within these steep rocky valleys and, as such, are a characteristic feature of the White Peak.

The future for upland ashwoods in the Peak District lies in a woodland resource where the current extent, range and quality of the habitat is not only protected, but where initiatives are instigated to bring more of the available habitat into favourable conservation condition. Opportunities will also be pursued to expand and link woods in order to create a robust and well connected ash woodland network, as part of the varied landscape of successional daleside habitats ranging from open grassland through scrub to woodland.

Peak District targets have therefore been set to reflect the opportunities which are perceived to exist locally to fulfil this vision. In recent times the area of ash woodland has increased with a reduction in the levels of grazing. Many woodlands are now either bounded by extensively farmed calcareous grassland of high nature conservation value on the steeper slopes or areas of agriculturally improved and intensively farmed grassland on the more moderate slopes. Due to this situation the main opportunities for an increase in the nature conservation value of these woods lie with bringing the existing ashwood resource into favourable condition (Objectives 1 and 2) and restoring areas of plantation woodland to native cover (Objective 3). The targets set for these objectives are in line with the proportions expected from the national BAP targets. Local objectives have also been set to identify sites for potential expansion of ashwoods onto un-wooded sites, although it is recognised such opportunities may be limited to small areas- for example, quarry restoration schemes. As such, area expansion figures have not been set and these targets will necessarily be less ambitious than expected from the national BAP.

OBJECTIVES AND TARGETS

Objective 1

Maintain the overall extent of limestone ashwoods, bringing all existing semi-natural ancient woodlands into favourable condition.

Target

Initiate measures by 2010 to achieve favourable condition in 70 % of ashwoods on the Ancient Woodland Inventory (AWI) and within SSSIs and cSACs.

Objective 2

Bring important examples of non-ancient semi-natural ash woodland into favourable condition.

Target

Initiate measures by 2010 to bring 100 ha of ashwoods which are not on the AWI into favourable condition.

Objective 3

Convert Plantations on Ancient Woodland sites (PAWS) back to ash woodland where this is a priority.

Target

Introduce appropriate management regimes over 50 % of relevant PAWS by 2010, to restore site-native species over appropriate time spans.

Objective 4

Identify opportunities for expansion of upland ash woodland and associated woodland types on non-wooded sites.

Target

Produce a register, by 2005, of potential areas of ashwood expansion to be achieved by natural colonisation, and set a target for initiating such expansion.

Main Factors Likely to Affect Achievement of Targets

Land Management

Implementation of the Rural Development Regulation and reform of the Common Agricultural Policy.

Resources and Financial Incentives

Availability/adequacy of financial incentives for woodland management.

Planning and Regulation

Planning policy.

Invasive Species

Dominance locally of sycamore or beech and their ability to regenerate in this situation.

Conflicts with Other Priorities

Competition with agricultural grant schemes and agricultural support payments.

Limited scope for expansion due to the conservation value of adjoining habitats such as calcareous grassland and species-rich scrub in the dales.

Conflict with landscape or archaeological priorities.

Practical Difficulties and Lack of Knowledge

Deer grazing preventing natural regeneration.

Extreme terrain may limit felling and removal of invasive species from certain sites.

Pollution and Climate Change

Climate change.

Others

Opportunities for woodland expansion through quarry restoration, where appropriate.

The remarkable capacity of ash to regenerate naturally both in woodland and non-woodland situations.

Public perception.

ACTIONS

Key to the achievement of the proposed targets is the securing of appropriate financial incentives to bring ashwoods into good condition and restoring priority ancient woodland sites. Key actions within the Plan include:

- considering a review of relevant grant schemes (Action AW19);
- a review of management within SSSIs (AW20);
- defining site-by-site objectives for control of non-native species (AW9);
- identifying priority sites and restoring native woodland on PAWS (AW3, AW8 and AW21 - 23), and
- ensuring continued management of sites in the ownership of conservation organisations (AW27).

Within this habitat opportunities exist for areas of non-intervention. Actions to stimulate this approach (AW8) are crucial to the development of true wilderness within the Peak District, albeit on a small scale.

	ACTIONS	TIMESCALE	LEAD AGENCY & Partners
DATA COLLATION AND SURVEY			
	Data Collation		
AW1	Collate existing information and identify gaps in the knowledge for upland ashwoods outside of SSSIs. (All Objectives)	2001	**EN**/PDNPA WTs/LAs/LRCs Voluntary Sector
AW2	Compile a register of ash woodland sites from existing knowledge, including classification into types, level of importance (including 'Wildlife Site' status), important species, NVC category, condition and conservation status, and initiate a programme for regular updating. (Objective 1 and 2)	2001	**PDNPA** WBAPG/WT LAs/LRCs Voluntary Sector
AW3	Compile a register of PAWS sites which are likely to be capable of supporting ash woodland. (Objective 3)	2001	**WBAPG**
AW4	Compile a register of currently un-wooded sites with potential for expansion of ash woodland and assess their overall suitability for expansion, in collaboration with the Limestone Dales Action Plan and other limiting factors (e.g. archaeology). (Objective 4)	2005	**PDNPA**/WBAPG

	Survey		
AW5	Complete detailed habitat survey of woodlands on the AWI. (Objective 1)	2005	W**BAPG**
	EVALUATING THE IMPORTANCE AND CONDITION OF SITES		
	Evaluating Importance and Identifying Key Sites		
AW6	Agree methodology for the evaluation of upland ashwoods and identification of 'Wildlife Sites'. (Objectives 1,2 and 3)	2002	EN/PDNPA/NT WTs
	Defining Favourable Condition		
AW7	Agree definitions of favourable condition for the complete range of sites found in the Peak District, to include the requirements of important species and a pragmatic approach to sycamore and beech control. (Objectives 1 and 2)	2001	**EN/**WBAPG
AW8	Agree guidelines for the range of appropriate management needed to achieve favourable condition including: *The identification of priority sites/areas for conservation, restoration and creation, aiming to restore the typical zonation of woodland types in the dales from wet alderwoods in dale bottoms to mixed ashwoods on dalesides and oak/ birchwoods on dale brows (in collaboration with the relevant Wet Woodland, Oak/birch Woodland and Limestone Dales Action Plans) *Options for non-intervention/wilderness areas *Appropriate methodologies for restoration and re-creation *Suitable species mixes and structures *The re-establishment of native limes on sites where they are known to have occurred in the past *Consideration of the importance of wych elm (All Objectives)	2001	**WBAPG**
	INVASIVE SPECIES		
AW9	Instigate a pragmatic 3 tier approach to control of non-native species (especially sycamore and beech), along the following lines: *Usually eradicate from woods with less than 10 % *Gradually remove from woods where frequent *Accept as a naturalised component in woods where abundant (unless threatening an important adjacent native woodland site) (Objectives 1 and 2)	2001	**EN/**WBAPG
	RESEARCH		
AW10	Compile existing information and research on: *The functional importance of wych elm within ashwoods *The differing re-generation capabilities of sycamore and ash *The time-scales required for effective restoration (regarding possible dominance of sycamore or beech, if disturbance regimes are high) *The past distribution of limes and the influence of planting on genetic integrity *The extent of ashwood expansion in the dales Ensure that this information becomes widely available. (All Objectives)	2002	**PDNPA/**WBAPG

AW11	In collaboration with other woodland action plans, evaluate the impact of numbers of deer on Peak District woodlands and implement any necessary mitigation action. (All Objectives)	2001 onwards	**WBAPG**

MONITORING

AW12	Agree methodology for, and implement, effective monitoring of ash woodlands. Ensure that the results of the process are collated and used to update the ash woodlands register. (Objectives 1 and 2)	2001	**WBAPG**

AWARENESS RAISING

AW13	Share information on the wildlife importance and management needs of key conservation, restoration and re-creation sites with the landowners/managers, including feedback from surveys. (All Objectives)	2001 onwards	PDNPA/EN/WTs FWAG/FC
AW14	Promote, through appropriate means, the use of long term management plans by woodland owners. (Objectives 1, 2 and 3)	2001 onwards	**FC**
AW15	Promote appropriate new native woodland grant schemes. (Objective 4)	2003	FC/EN/PDNPA

CONSERVATION ACTION AND INCENTIVES

Designation

AW16	Review coverage of ash woodland SSSIs and notify further sites as appropriate. (Objective 1)	2005	**EN**
AW17	Implement obligations under European (Natura 2000) legislation with respect to the review of the Peak District Dales cSAC. (Objective 1)	2001	**EN**
AW18	Review desirability and opportunities for establishment of further key sites as NNR and LNR, and establish if appropriate. (Objectives 1 and 2)	2005	**EN/LAs**/WTs NT/PDNPA

Grant Schemes

AW19	Consider recommending reviews of woodland, agri-environment and conservation schemes to ensure that: *Management prescriptions and payments encourage stock exclusion from existing semi-natural woodland, removal of non-native species where appropriate, restoration of PAWS and new native woodland creation in appropriate locations *Encouragement is given to the production of long term management plans *Incentives are sufficient to encourage appropriate management (All Objectives)	2002 - 2010	FC/MAFF/EN PDNPA/WEG WBAPG

Negotiation and Review of Agreements

AW20	Review management of all sites within SSSIs. Where necessary agree revised management regimes with owners and managers to ensure maintenance or restoration of favourable condition. (Objective 1)	2001 - 2005	**EN**
AW21	Negotiate appropriate agreements with landowners/ managers of sites outside SSSIs and existing agreements, targeting: *Priority conservation sites *PAWS for woodland restoration *Sites for new woodland creation (All Objectives)	2001 onwards	FC/PDNPA MAFF/NT/WTs FWAG

AW22	Review management of ashwoods in existing conservation agreements, outside of SSSIs. Where necessary agree revised management regimes with owners/managers to ensure that favourable condition is being maintained or restored. (Objectives 1 and 2)	2001 onwards	MAFF/NT/WTs PDNPA/FWAG FC
AW23	Review whole holding agreements which include unprotected ashwoods or sites for restoration/expansion. Consider the opportunities for amending the agreement to incorporate favourable management. (All Objectives)	2002 - 2010	MAFF/NT/WTs PDNPA/FWAG FC
AW24	Ensure action plan targets are incorporated into the production of Forest Plans. (All Objectives)	2001 onwards	FC/EN/PDNPA
	Alternative Incomes		
AW25	Where access is available, investigate whether woodland products marketing or other woodland uses would encourage appropriate management, and if so encourage development in collaboration with other woodland action plans. (All Objectives)	2001 onwards	**FC**/TGA/CLA
	Land Acquisition		
AW26	Consider negotiating purchase/lease of priority sites where this would be the most effective way of achieving conservation objectives and when a negotiated conservation solution has not succeeded. (Objectives 1 and 4)	2001 onwards	PDNPA/EN/WTs NT/WdT
	Direct Action		
AW27	On land owned by public or conservation bodies, ensure that: *Management maintains and where possible enhances the value of ash woodland *Options for the restoration of PAWS are reviewed *Opportunities for new native woodland creation are taken *Opportunities for involvement of local communities in site management are taken where possible (All Objectives)	2001 onwards	PDNPA/EN/FC NT/ WTs/WdT
AW28	Identify appropriate sources of local provenance Peak District ashwood trees and shrubs and encourage their supply. (Objectives 3 and 4)	2001 - 2003	**FC**/PDNPA/NT DWT

REGULATION

	Planning		
AW29	Ensure all planning applications and General Development Orders are adequately assessed in relation to their impact on ash woodland; that loss or damage to ash woodland is avoided; and that opportunities for the enhancement are considered in relevant planning decisions. (All Objectives)	2001 onwards	PDNPA/EN/LAs WTs
AW30	Consider the opportunities for the creation of ash woodland in relevant planning decisions, including quarry restoration schemes. (Objective 3)	2001 onwards	PDNPA/EN/LAs WTs
	Other Regulatory Mechanisms		
AW31	Consider the need for a review of both groundwater and surface water abstraction consents in catchments with sensitive ash woodland sites. (Objectives 2 and 3)	2001 onwards	**EA/WBAPG** (joint leads)

RESOURCES

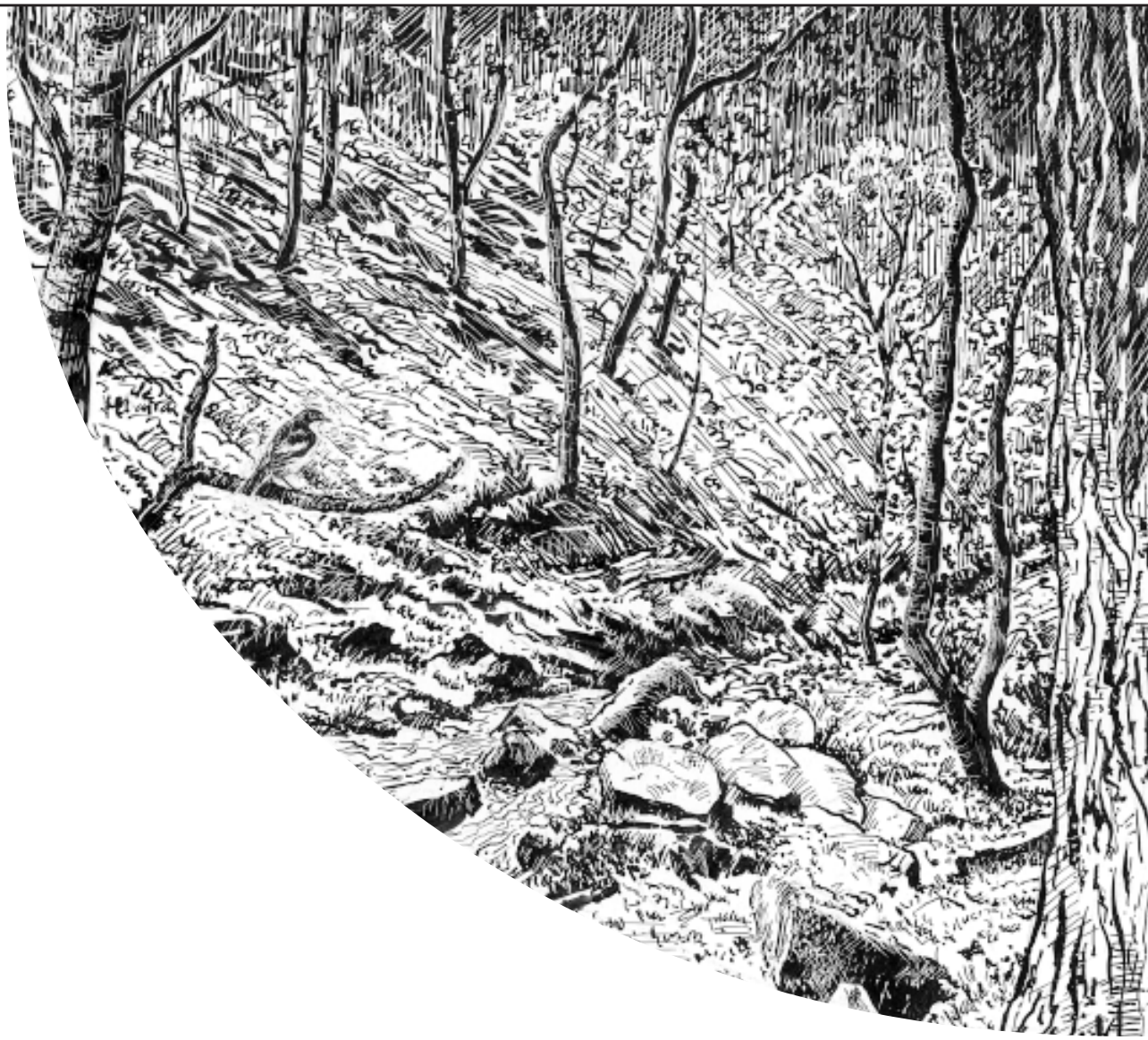
It is envisaged that the majority of actions proposed will be carried out by the relevant organisations using current resources. These include:

- the considerable investment made by landowners and managers in managing their land sympathetically for wildlife;
- EN's programme of reviewing SSSI management and its grant and management agreement schemes;
- the FC's Woodland Grant Scheme;
- MAFF's Farm Woodland Premium Scheme;
- MAFF's Countryside Stewardship Scheme;
- continuing management of woodlands in the ownership of conservation organisations and public bodies(EN, NT, WTs, LAs, PDNPA).

Additional resources are likely to be required:

- to provide adequate financial incentives for the conservation, enhancement and restoration of existing priority woodlands (2001 onwards);
- to enhance management of sites in the ownership of conservation organisations (2001 onwards).

UPLAND OAK/BIRCHWOODS



TREND IN THE PEAK DISTRICT:

Between 1909 and 1974 there was a loss of 8 – 68 % in different areas. However, currently the extent is stable although quality is gradually declining locally.

ESTIMATED EXTENT IN THE PEAK DISTRICT:

2050 - 2200 ha.

NATIONAL BAP HABITATS:

Upland Oakwood (priority habitat).

ASSOCIATED NATIONAL BAP PRIORITY SPECIES:

Pipistrelle, dormouse (extinct), red squirrel (extinct), black grouse (extinct), bullfinch, nightjar, spotted flycatcher, song thrush, tree sparrow, northern wood ant, shining guest ant and possibly common fan-foot.

ASSOCIATED PEAK DISTRICT AUDITS:

Upland Oak/Birchwoods.

INTRODUCTION

Semi-natural woodland dominated by oak and/or birch was probably one of the commonest habitats over much of the Peak District, including the limestone plateau of the White Peak, prior to woodland clearance by prehistoric people. Today it is largely confined to Dark Peak cloughs and valley-sides where it is the main woodland type, with particular concentrations along the valley of the River Derwent. Smaller areas occur in similar situations in the South West Peak, with a handful of remnants on the White Peak Plateau and upper dalesides. Many oakwood sites contain small fragments of wet or ash woodland along flushes and on the lower slopes and clough bottoms. Such features are an integral part of the woods and contribute significantly to their wildlife value and are therefore also covered by this action plan. However separate Wet Woodland and Upland Ash Woodland Action Plans have also been produced to cover typical examples of these woodland types where they dominate a site.

Nationally, upland semi-natural woods have declined by about 30 - 40% over the last 60 years. The historical decline in the economic value of coppice for charcoal production and oak bark for tanning has probably been an important factor in the deterioration of clough woodlands locally. This has led to a decline in sustainable management and consequent woodland loss and deterioration through livestock grazing. Up to 1985 forestry policy also encouraged replacement with productive conifers on some sites. Rates of loss in the Peak District between 1909 and 1974 range between 8 - 68% in different areas. Many of the original clough woodlands are now little more than a handful of relic scattered trees/shrubs, though often still supporting important species.

Upland oak/birchwoods are at the south-eastern edge of their British range in the Peak District. They often support irreplaceable ancient woodland communities with notable species such as hazel, aspen, wood-sorrel, wood anemone, wood sage, bird cherry, common cow-wheat and bluebell, and upland birds such as pied flycatcher and wood warbler. A considerable number of notable invertebrates including northern wood ant, ash-grey slug and the locally increasing purple hairstreak are also characteristic. The interface between woodland and moorland is of particular wildlife and landscape value, providing an important habitat for birds such as nightjar, tree pipit and, formerly, black grouse. In addition to their wildlife value, oak/birchwoods are often of considerable landscape importance and ancient woodland sites in particular may show features of archaeological/historical significance such as charcoal pits.

Particularly good examples of upland oak/birch woodland are Yarncliffe Wood (Padley), Abney & Bretton Clough and the Shell Brook Valley (Wincle).

ADVERSE IMPACTS	Historic	Current
Land Management		
Fragmentation caused by past woodland clearance.	✓	
Grazing pressure in un-enclosed woods.	✓	✓✓
Historical replacement of native communities by planting (notably conifers, sycamore and beech) up to the early 1980s.	✓✓	
Invasion by non-native species, notably sycamore, beech and rhododendron.		✓
Reduction in diversity through historical management for oak.	✓	
Pollution		
Air pollution has adversely affected lower plant communities.	✓	✓
Recreation		
Paintball games.		✓
Motorbike scrambling and 4x4 trials.		✓
Others		
Lack of structural diversity, particularly old/dead wood habitats.	✓	✓
Browsing by deer.		✓

An impact ✓ *Significant impact* ✓✓

CURRENT ACTION

Designated Sites

- Approximately 625 ha (28 - 30%) of upland oakwoods are included within SSSIs.
- Several upland oakwoods are included within the South Pennine Moors cSAC.
- A number of oakwoods are identified as 'Wildlife Sites'.

New Initiatives

- Since 1999 large estates have been encouraged by the FC to manage their woodlands within long term Forest Plans.
- Since 1997 landowners have created over 100 ha of new native oakwood in the Peak District encouraged/supported through the FC's 'New Native Woodland in National Parks' Challenge Fund. This fund is currently under review.

Land Management

- A small proportion of existing woodlands are owned and/or managed by conservation bodies.
- Several organisations (including the NT, DWT, NWW, STW and FC) have encouraged regeneration of relic woodland, particularly in the Upper Derwent Valley and Longdendale.
- National forestry policy includes a presumption against clearance of broad-leaved woodland for conversion to other land uses, and in particular seeks to maintain the special interest of ancient semi-natural woodland. Felling licences from the FC are normally required if the woods are not managed under plans approved by them.

Research and Surveys

- Most ancient woodlands have been surveyed by the PDNPA during the period 1970s - 1990s.
- Economic incentives for sustainable management are being investigated through the development of markets for wood products by the Objective 5b Farm & Environment Project.

ACTION PLAN OBJECTIVES AND TARGETS

National Targets

- Maintain the existing area (70000 - 100000 ha) of the upland oakwood system and improve its condition, by a mixture of management for timber (predominantly as low intensity high forest), as sheltered grazing, and minimum intervention.
- Avoiding other habitats of high nature conservation value, expand the area of upland oakwood by about 10 %, on to currently open ground, by some planting but particularly by natural regeneration, by 2005.
- Identify and encourage the restoration of a similar area (about 10 %) of former upland oak woodland that has been degraded by planting with conifers or invasion by rhododendron.

A Vision for the Peak District

A positive future for upland oak/birch woodland lies with an expanded and inter-connected network of well managed woods spanning the many moorland fringe areas and extending into the enclosed farmlands along cloughs and valley sides to form an integral component of the upland habitat mosaic. Objectives set by this action plan therefore address issues relating to both the current condition of these sites (Objectives 1 and 2) and to the potential for future expansion and restoration of the wider woodland network (Objectives 3 and 4).

Owing to the long time-scales involved with woodland management the action plan targets set have taken a staggered approach towards bringing oak/birch woodland areas into favourable condition. These targets are roughly in line with those of the national BAP. The action plan objectives for woodland expansion and restoration are more ambitious than national targets in reflection of the perceived opportunities for relatively rapid actions to occur through the conversion of plantation woodlands to native cover and the expansion of woodland cover within currently degraded, partly wooded upland cloughs.

OBJECTIVES AND TARGETS

Objective 1

Maintain extent of upland oak/birchwoods and bring all existing ancient semi-natural woodland on the Ancient Woodland Inventory (AWI) into favourable condition.

Target

Initiate measures by 2005 to bring 300 ha (approximately 30 %) of oak/birchwoods on the AWI into favourable condition, and the remainder by 2015.

Objective 2

Bring priority examples of non-ancient semi-natural oak/birchwoods into favourable management.

Target

Introduce appropriate management regimes by 2010 to bring 100 ha (approximately 10 %) of oak/birchwoods which are not on the AWI into favourable condition.

Objective 3

Convert Plantations on Ancient Woodland sites (PAWS) back to oak/birchwoods where this is a priority.

Target

Introduce appropriate management regimes over 80 ha (15 %) of relevant PAWS by 2005, to restore site-native species over appropriate time spans. Review and set a new target for 2005 - 2010.

Objective 4

Reverse woodland defragmentation by creation of new woodland, particularly by natural regeneration. Prioritise the extension/linking of existing ancient woodlands and relic clough woodland.

Target

Initiate measures by 2005 to create 200 ha of new oak/birchwood, including at least 100 ha of clough woodland in relic sites adjacent to existing ancient woodland, following current best practice. Review and set a new target for 2005 - 2010.

Main Factors Likely to Affect Achievement of Targets

Land Management

Implementation of the Rural Development Regulation and reform of the Common Agricultural Policy.

Resources and Financial Incentives

Availability/adequacy of financial incentives for woodland management/creation.

Planning and Regulation

Planning policy.

Conflicts with Other Priorities

Potential conflict with other areas of conservation interest such as rush pasture, wading birds and heather moorland.
Potential conflict with archaeological or landscape priorities.

Practical Difficulties and Gaps in Knowledge

Practicality of fencing clough woodlands.
Adequate supply of local provenance tree/shrub stocks.
Co-ordination of management on sites in varied ownership.
Browsing by deer.

Pollution and Climate Change

Climate change.

Others

Importance of woodland for stock shelter and movement in some areas.
Public perception.

ACTIONS

Key to the achievement of the proposed targets is the securing of appropriate financial incentives to bring oak/birchwoods into good condition, to restore priority ancient woodland sites and to re-create new woodland in priority locations. The expansion of oak/birch woodland is crucial to the provision of a richer woodland habitat, particularly in moorland fringe areas and cloughs. Key actions within the plan include:

- Considering a review of relevant grant schemes (Action OW20 and OW21);
- Negotiating management to control heavy grazing and non-native species on existing priority sites (OW22 - 25);
- Identifying priority sites and negotiating measures for restoring native woodland on PAWS (OW8, OW11 and OW23 - 25);
- Identifying and surveying potential woodland sites in cloughs, and negotiating restoration and re-creation in priority locations (OW1, 5, 6, 11 and 23 - 25), and
- The establishment of local provenance seed sources for key tree and shrub species (OW31).

	ACTIONS	TIMESCALE	LEAD AGENCY & Partners
DATA COLLATION AND SURVEY			
	Data Collation		
OW1	Collate existing information and identify gaps in the knowledge for upland oakwoods outside of SSSIs. (All Objectives)	2001	**EN**/PDNPA/WTs/LAs LRCs/Voluntary Sector
OW2	Compile a register of oak/birchwood sites including level of importance (including 'Wildlife Site' status), Natural Area, NVC category, condition, important species and conservation status, and initiate a programme for regular updating. (Objectives 1 and 2)	2001	**PDNPA**/FC/EN
OW3	Compile a register of relic clough woodland. (Objective 4)	2001	**PDNPA/**FC/EN
OW4	Compile a register of PAWS which are likely to be capable of supporting oak/birch woodland. (Objective 3)	2001	**FC/**EN/PDNPA
	Survey		
OW5	Complete detailed habitat survey of woodlands on the AWI. (Objective 1)	2005	**WBAPG**
OW6	Carry out habitat survey of relic clough sites with inadequate existing information. (Objective 4)	2001 onwards	**PDNPA/EN** (joint leads)
EVALUATING THE IMPORTANCE AND CONDITION OF SITES			
	Evaluating Importance and Identifying Key Sites		
OW7	Review the wildlife value of existing grazed open woodland sites. (Objective 1)	2001	**WBAPG**
OW8	Agree criteria for defining priority PAWS for restoration and non-ancient semi-natural woods for conservation. (Objectives 2 and 3)	2001	**WBAPG**
OW9	Agree methodology for the evaluation of upland oakwoods and the identification of 'Wildlife Sites'. (All objectives)	2002	**WBAPG**

	Defining Favourable Condition		
OW10	Agree definitions of favourable condition for the complete range of sites found in the Peak District including the requirements of important species. (Objectives 1 and 2)	2001	**WBAPG**
OW11	Agree guidelines for the range of appropriate management needed to achieve favourable condition including: *The identification of priority sites/areas for conservation, restoration and creation, focusing on the importance of linkages and extensions to reduce the fragmented nature of the habitat *Restoration and re-creation management including species mixes, stock provenance, planting strategies, options for natural regeneration and the interface with the moorland habitat (All Objectives)	2001	**WBAPG**
RESEARCH			
OW12	In collaboration with other woodland action plans, evaluate the impact of numbers of deer on Peak District woodlands and implement any necessary mitigation action. (All Objectives)	2001 onwards	**WBAPG**
MONITORING			
OW13	Agree methodology for and implement effective monitoring of oak/birchwood. Ensure that the results of the process are collated and used to update the oak/ birchwoods register. (All Objectives)	2001	**WBAPG**
AWARENESS RAISING			
OW14	Share information on the wildlife importance and management needs of key conservation, restoration and re-creation sites with the landowners/managers, including feedback from surveys. (All Objectives)	2001 onwards	PDNPA/EN/WTs FWAG/FC
OW15	Ensure local interpretation of FC guidance on restoration of PAWS to semi-natural woodland is made available to land owners/managers and conservation organisation staff. (Objective 2)	2001	**FC**
OW16	Ensure effective communication and distribution of FC guidance on control of rhododendron species and interpret locally where required. (Objectives 1 and 2)	2002	**WBAPG**
CONSERVATION ACTION AND INCENTIVES			
	Designations		
OW17	Review coverage of oak woodland SSSIs and notify further sites as appropriate. (Objective 1)	2005	**EN**
OW18	Implement obligations under European (Natura 2000) legislation with regard to the inclusion of oak/birch woodland within the proposed South Pennine Moors SAC. (Objectives 1 and 3)	2001 onwards	**EN**
OW19	Consider oak woodland key sites in any programme of acquisition/lease/management of nature reserves including NNRs and LNRs. (Objectives 1 and 2)	2001 onwards	**EN/LAs** (joint leads) PDNPA/WTs/ RSPB/NT
	Grant Schemes		
OW20	Consider recommending a review of woodland, agri-environment and conservation schemes to ensure that: *Management prescriptions and payments encourage stock exclusion from existing semi-natural woodland, new native woodland creation in appropriate locations		

	and restoration of plantations on ancient woodland sites *Encouragement is given to the production of long term management plans *Incentives are sufficient to encourage appropriate management (All Objectives)	2001 onwards	FC/MAFF/EN PDNPA/WEG WBAPG
OW21	Seek the development of new native woodland grant schemes. (Objective 4)	2003	**FC/**WBAPG
	Negotiation and Review of Agreements		
OW22	Review management of all sites within SSSIs. Where necessary agree revised management regimes with owners/managers, to ensure maintenance or restoration of favourable condition. (Objective 1)	2005	**EN**
OW23	Negotiate appropriate conservation agreements with land owners/managers of sites outside SSSIs and existing agreements, targeting: *Priority conservation sites *PAWS for woodland restoration *Sites for new woodland creation (All Objectives)	 2001 onwards 2003 onwards 2001 onwards	 FC/PDNPA MAFF/FWAG NT/WTs
OW24	Review management of oak/birch woodlands in existing conservation agreements, outside SSSIs. Where necessary agree revised management regimes with owners/managers to ensure that favourable condition is being maintained or restored. (Objectives 1, 2 and 3)	2002 - 2005	MAFF/NT/WTs PDNPA/FWAG FC
OW25	Review whole holding agreements which include unprotected oak/birch woodlands or sites for restoration/re-creation. Consider the opportunities for amending the agreement to ensure that favourable management is incorporated. (Objectives 1, 2 and 3)	2002 - 2005	MAFF/NT WTs/PDNPA FWAG/FC
OW26	Ensure action plan objectives and targets are incorporated into the production of Forest Plans. (All Objectives)	2001 onwards	FC/EN/PDNPA
OW27	Consider and encourage options for stock shelter which allow woodland regeneration on farms. (Objectives 1 and 3)	2002	**WBAPG**/MAFF
	Alternative Incomes		
OW28	Develop a strategy for increasing the economic benefits of woodland products and uses where this would encourage appropriate conservation management. (Objectives 1 and 2)	2002	**FC**/TGA/CLA
	Land Acquisition		
OW29	Consider negotiating purchase/lease of priority sites where this would be the most effective way of achieving conservation objectives and when a negotiated conservation solution has not succeeded. (Objectives 1 and 2)	2001 onwards	PDNPA/NT WTs/WdT
	Direct Action		
OW30	On land owned by public or conservation bodies, ensure that: *Management maintains, and where possible enhances, the value of oak/birch woodland *Options for the restoration of PAWS are reviewed *Opportunities for new native woodland creation are taken *Opportunities for involvement of local communities in site management are taken where possible (All Objectives)	2001 onwards	PDNPA/EN/LAs FC/NT/WTs WdT
OW31	Identify appropriate sources of local provenance Peak District upland oak/birchwood trees and shrubs (particularly the scarcer relic clough woodland species) and encourage their supply. (Objectives 3 and 4)	2001 - 2003	**WBAPG** PDNPA/FC/NT DWT

REGULATION

Planning

OW32	Ensure all planning applications and General Development Orders are adequately assessed in relation to their impact on oak/birch woodland, that loss or damage is avoided and that opportunities for the enhancement or creation of oak/birch woodland is considered in relevant planning decisions. (All Objectives)	2001 onwards	LAs/EN/WTs PDNPA

RESOURCES

It is envisaged that the majority of actions proposed will be carried out by the relevant organisations using current resources. These include:

- continuing investment by landowners and managers managing their land sympathetically for wildlife;
- the FC's Woodland Grant Scheme;
- EN's review of woodland management in SSSIs, and its grant and management agreement schemes;
- the PDNPA's advisory and grants sevice for landowners/managers;
- MAFF's Farm Woodland Premium Scheme;
- MAFF's Countryside Stewardship and Environmentally Sensitive Area Schemes;
- proposed restructuring of major conifer plantations by water companies, major estates, SCC and the FC;
- continuing management of woodlands in the ownership of conservation organisations and public bodies (LAs, FC, PDNPA, NT, WTs, WdT) and WCs.

A mechanism is needed to replace the Forestry Commission's 'New Native Woodland' Challenge Fund which closed in 2000 (currently under review), in order to provide financial aid for woodland creation.

Additional resources are likely to be required:

- for survey and negotiation of management for new clough woodlands and PAWS (2001 onwards);
- to provide adequate financial incentives for the conservation, enhancement and restoration of existing priority woodlands (2001 onwards);
- to aid in the production of the proposed registers (2001 onwards);
- to implement effective monitoring (2001 onwards).

TREND IN THE PEAK DISTRICT:

Historical decline but currently stable.

ESTIMATED EXTENT IN THE PEAK DISTRICT:

Estimated at approximately 200 - 250 ha.

NATIONAL BAP HABITATS:

Wet Woodland (priority habitat).

ASSOCIATED NATIONAL BAP PRIORITY SPECIES:

Otter, pipistrelle, bullfinch, spotted flycatcher, song thrush, a cranefly (*Lipsothrix errans*), and possibly also nightjar.

ASSOCIATED PEAK DISTRICT AUDITS:

Wet woodlands.

INTRODUCTION

Wet woodland comprises a range of alder, birch or willow dominated semi-natural woodland habitats and is most frequent in the Dark and South West Peak Natural Areas. It is most widespread on flushed slopes, valley sides and moorland cloughs where the ground is permanently waterlogged. It also occurs in association with other semi-natural woodland such as oak/birch or ash woodland (a good example is Clough Wood, Darley Dale) or within conifer plantations, or may form transitions to open habitats such as acid grassland, heath or acid flush. Due to these interconnections, particularly within the Dark Peak cloughs, the conservation of wet woodland is also being addressed within the Upland Oak/Birch Woodland Action Plan. Although most sites are restricted to the Dark and South West Peak Natural Areas, spring-lines on dalesides sometimes support wet woodland which, although usually on a small scale, may be important for biodiversity locally.

Wet birch woodland occurs in a few locations on deep peat around the margins of blanket bog. It may form mosaics with marshy grassland or wet heath and in some situations forms transitions to other semi-natural woodland. Sites include isolated areas on the Eastern Moors such as Ramsley Moor and birch/willow scrub on Warslow Moors.

Wet woodland, typically dominated by alder, also occurs on the floodplain of rivers such as the Derwent, Wye and Dove, where it has survived on waterlogged land not reclaimed for agriculture. Such sites may include transitions to other habitats including other priority woodland types and other wetland habitats, but also includes isolated areas separated by agricultural land.

Wet woodland has also developed in mineral extraction sites, disused railway lines and tip sites, not all of which are recent. Examples include Rowsley Sidings, Hogshaw Sidings (Buxton) and Gamesley Sidings.

Wet woodland combines elements of several other ecosystems and as such is important for many species. The flora can be very rich with species such as marsh marigold and tussock sedge. It can provide cover and breeding sites for otters and the retention of this habitat, especially along river valleys, is an important factor in the potential re-colonisation of the Peak District by this species. The numbers of invertebrates associated with birch, alder, willows and elm is large, although some are confined now to just a few sites. This is an important habitat for some groups including moths, hoverflies and craneflies that require a natural, seasonably variable, hydrology. The River Corridor Action Plan, in seeking a more natural riparian eco-system including the re-connection of rivers with their floodplains, even in upland areas, may assist with this requirement. Dead wood within the sites can be frequent and provides good habitats for associated beetles, especially longhorn beetles, other invertebrates and fungi, whilst dead branches and trunks in streams is a particularly specialised habitat supporting a rich invertebrate fauna.

ADVERSE IMPACTS	Historic	Current
Land Management		
Cessation of management e.g. pollarding/coppicing.		✓
Clearance of woods for agriculture/other uses.	✓	
Intensification of agriculture.		✓
Grazing levels, stock type and poaching.	✓	✓✓
Fragmentation due to changes in land use.	✓✓	✓
Removal of wet woodland from habitats of perceived higher value e.g. bog and marsh.	✓	✓
Lowering of water tables due to drainage, abstraction, flood protection or drought, causing drying out and gradual loss of sites.	✓	✓
Flood prevention measures, river controls, canalisation, loss of connectivity between rivers and floodplain, leading to loss of natural processes and succession.	✓	✓
Pollution, Disease and Climate Change		
Poor water quality/eutrophication affecting flora and fauna.		✓
Alder disease (*Phytophthora*).		✓
Climate change.		✓
Invasive Species		
Increase in Himalayan balsam, giant hogweed and Japanese knotweed.		✓

Others		
Natural succession to drier woodland.	✓	✓
Browsing by deer.		✓
Lack of recognition of value for biodiversity.	✓	✓
Perceived low value as woodland, including wood products.	✓	✓

An impact ✓ *Significant impact* ✓✓

CURRENT ACTION

Designated Sites

- Broomhead Wood (Dark Peak SSSI) and Clough Wood occur within SSSIs.
- A number of wet woods have been identified as 'Wildlife Sites'.

New Initiatives

- Since 1999 large estates have been encouraged by the FC to manage their woodlands within long term Forest Plans.
- Since 1997 landowners have had the opportunity for creating new areas of wet woodland through the FC's 'New Native Woodland in National Parks Challenge Fund'. This fund is currently under review.

Land Management

- A proportion of known sites are owned or managed by a conservation body or are within management agreements.
- Management of wet woodland may be part of, or incidental to, plans for larger areas of other woodland types. Only in a few exceptional cases are wet woodlands managed as an entity.
- The FC, in reviewing its forest plans, is incorporating management such as the removal of conifers from streamsides to encourage native species.
- National forestry policy includes a presumption against clearance of broad-leaved woodland for conversion to other land uses, and in particular seeks to maintain the special interest of ancient semi-natural woodland. Felling licences from the FC are normally required if the woods are not managed under plans approved by them.

Research and Surveys

- The majority of ancient woodlands have been surveyed by the PDNPA during the period 1970s - 1990s.

ACTION PLAN OBJECTIVES AND TARGETS

National Targets

- Maintain current area (currently estimated at 24000 - 30000 ha.) of ancient semi-natural wet woodlands and the total area of the type.
- Initiate measures intended to achieve favourable condition in 100 % of wet woodlands within SSSIs and SACs, and in 80 % of the total resource by 2004, and achieve favourable condition over 70 % of the designated sites and 50 % of the total resource by 2010.
- Initiate restoration of 3200 ha to native wet woodland. Complete restoration to site-native species over half of this area by 2010 and 100 % by 2015.
- Initiate colonisation and/or planting of 6750 ha of wet woodland on un-wooded or ex-plantation sites. Complete establishment of 50 % of this by 2010 and 100 % of it by 2015.

A Vision for the Peak District

Wet woodland is a habitat of surprises, often comprising a hidden and diverse spectrum of woodland types occurring over waterlogged land. Many sites remain as true un-trodden wildernesses of intertwining branches, standing dead and fallen wood, pockets of rushes and sedges broken through with flushes and

glades of sunlight. The future of this variable and unusual Peak District habitat depends on protecting the current extent and quality of existing sites and enhancing the degraded woodland network by concentrating efforts to reduce the fragmentation of this scattered habitat. Ultimately such a process should lead to a larger, inter-connected and more robust wet woodland network of increased nature conservation and landscape value.

The greatest opportunity to achieve targets has been identified as occurring within the closely linked action plan targets for expansion/restoration of riparian upland oak/birchwood within the Dark Peak. It has been assumed that 10 % of this new riparian oak/birchwood will essentially be wet woodland. Additional opportunities for expansion occur with the restoration of quarries and other mineral sites. Opportunities in the South West Peak are more limited, especially in view of the importance of wet pasture for breeding birds. Most opportunities are likely to be in plantations (mainly conifer) where wet woodland would have been the dominant habitat, e.g. in cloughs and valleys. Within the White Peak Natural Area only small scale expansion is possible, for example in quarries, along railway lines and in the bottom of some limestone dales.

OBJECTIVES AND TARGETS

Objective 1

Maintain extent of wet woodlands and bring all ancient semi-natural wet woodlands into favourable condition.

Target

Initiate measures by 2005 to achieve favourable condition in 100 % of wet woodlands within SSSIs and SACs, and 80 % of all ancient semi-natural wet woodlands. Review and set a new target for 2005 - 2010.

Objective 2

Bring important examples of non-ancient semi-natural woodland into favourable management.

Target

Introduce appropriate management regimes by 2010 to bring approximately 25 ha of secondary wet woodland into favourable management, focusing on linear routes.

Objective 3

Restore areas of semi-natural wet woodland in each Natural Area, prioritising Plantations on Ancient Woodland Sites (PAWS).

Target

Initiate measures by 2005 to restore 18 ha of wet woodland on priority sites, and a further 17 ha by 2010.

Objective 4

Reduce woodland fragmentation, through expansion of wet woodland, prioritising river valleys and links with other types of woodland where possible.

Target

Create 30 ha of new wet woodland in two stages – 50 % by 2010 and 100 % by 2020.

Main Factors Likely to Affect Achievements of Targets

Land Management

Implementation of the Rural Development Regulation and reform of the Common Agricultural Policy.

Resources

Availability/adequacy of financial incentives for woodland management or creation.

Planning and Regulations

Planning policy.

Conflicts with Other Conservation Priorities

Resolution of conflicts between habitats of high value.

Potential conflicts with archaeological and landscape priorities.

Practical Difficulties and Lack of Knowledge

Constraints on colonisation due to unsuitability of adjoining land as a result of unsympathetic management.

Inadequate survey/base data and the difficulty of completing adequate surveys in the national time-scale, especially for groups such as invertebrates.

Difficulties of identifying and separately managing wet woodland within other woodland types (e.g. conifer plantations), due to problems of access for survey and lack of resources, time or skills to revise management plans.

Constraints of planting in floodplains.

Adequate supply of local provenance stock of suitable species for restoration and re-creation schemes.

Pollution and Climate Change

Climate change.

Others

Perceived low value of wet woodland, both economically and for wildlife.

ACTIONS

Key to the achievement of the proposed targets is a whole landscape approach to the conservation and enhancement of river corridors and clough woodland. Key actions within the plan include:

- Identification of the existing resource (Action WW1) coupled with awareness raising with regard to its importance and management needs (WW13 – 18);
- Ensuring opportunities are considered for the conservation, restoration and creation of areas of wet woodland within any proposed new oak/birchwood (WW22 and WW23), and
- Identifying the potential for conserving, extending or creating new wet woodlands in river corridors when implementing the River Corridors Action Plan (WW7, WW24 - 27).

	ACTIONS	**TIMESCALE**	**LEAD AGENCY** & Partners
DATA COLLATION AND SURVEY			
	Data Collation		
WW1	Collate existing information and identify gaps in the knowledge for wet woodlands outside of SSSIs. (All Objectives)	2001	**EN**/PDNPA/WTs/LAs/LRCs Voluntary Sector
WW2	Compile a register of wet woodland sites from existing knowledge including classification into types, level of importance (including 'Wildlife Site' status), Natural Area, important species and conservation status, and initiate a programme for regular updating. (Objectives 1, 2 and 3)	2001	**PDNPA**/WTs/EN/NT/FC/WCs
WW3	Compile a register of PAWS which are likely to be capable of supporting wet woodland. (Objective 3)	2001	**FC/**EN/PDNPA
	Survey		
WW4	Complete detailed habitat surveys of sites where existing information is inadequate. (Objectives 1, 2 and 3)	2005	**PDNPA**/FC/WTs/EN/NT
EVALUATING THE IMPORTANCE AND CONDITION OF SITES			
	Evaluating Importance and Identifying Key Sites		
WW5	Agree methodology for the evaluation of wet woodlands and identification of 'Wildlife Sites'. (Objectives 1, 2 and 3)	2002	**WBAPG**

	Defining Favourable Condition		
WW6	Agree definitions of favourable condition for the complete range of sites found in the Peak District, including the requirements of important species. (Objectives 1, 2 and 3)	2001	**WBAPG**
WW7	Review opportunities for the creation of wet woodland in river corridors as part of their evaluation under the River Corridors Action Plan. (Objective 4)	2006	**WBAPG/ABAPG** (joint leads)
WW8	Agree guidelines for the range of appropriate management needed to achieve favourable condition including: *The identification of priority sites/areas for conservation, restoration and re-creation, focusing on the importance of linkages and extensions to reduce the fragmented nature of the habitat *Restoration and re-creation management including species mixes, stock provenance, planting strategies and options for natural re-generation, with cross-reference to other action plans where relevant (All Objectives)	2001	**WBAPG**
	RESEARCH		
WW9	Encourage further research into disease of riverside alder and willow and develop a mitigation strategy. (Objective 4)	2001 onwards	**EA/FC** (joint leads)
WW10	In collaboration with other woodland action plans, evaluate the impact of numbers of deer in Peak District woodlands and implement any necessary mitigation action. (All Objectives)	2001 onwards	**WBAPG**
	INVASIVE SPECIES		
WW11	Develop a strategy for the control of Himalayan balsam, giant hogweed and Japanese knotweed and implement where necessary and appropriate. (All Objectives)	2001 onwards	**WBAPG/ABAPG** (joint leads)
	MONITORING		
WW12	Agree methodology for, and implement, effective monitoring of wet woodlands. Ensure that the results of the process are collated and used to update the wet woodlands register. (All objectives)	2001	**WBAPG**
	AWARENESS RAISING		
WW13	Share information on the wildlife importance and management needs of key conservation, restoration and re-creation sites with the landowners/managers, including feedback from surveys. (All Objectives)	2001 onwards	PDNPA/EN/WTs FWAG/FC
WW14	Increase awareness through appropriate means amongst landowners/managers, local people and conservation organisations of the importance of the habitat for wildlife and other values. (All Objectives)	2001 onwards	**WBAPG**
WW15	Make guidance available to land owners/managers and conservation organisation staff on restoration techniques. (Objective 3)	2003	**WBAPG**

WW16	Consider the establishment of demonstration site(s) as a focus for discussion of best practice management, restoration and creation. (All Objectives)	2005	**WBAPG**
WW17	Promote appropriate new native woodland grant schemes. (Objective 3)	2003	**FC**/LAs/PDNPA
WW18	Increase awareness, through appropriate means, of the value of dead wood in streams and rivers amongst riparian landowners, managers and agencies. (Objectives 1 and 4).	2001 onwards	**WBAPG/EA** (joint leads)

CONSERVATION ACTION AND INCENTIVES

	Designations		
WW19	Review coverage of wet woodland within SSSIs and notify further sites as appropriate. (Objective 1)	2002	**EN**
WW20	Consider wet woodland key sites in any programme of acquisition/lease/management of nature reserves including NNRs and LNRs. (Objectives 1 and 2)	2001 onwards	**EN/LAs** (joint leads) PDNPA/WTs/RSPB/NT
	Grant Schemes		
WW21	Consider recommending reviews of woodland, agri-environment and conservation schemes to ensure that: *Targeting gives adequate priority to wet woodland at a local, regional and national level *Management prescriptions for small areas of woodland and buffers are considered *Payments for stock exclusion, small areas of woodland and buffers are introduced/increased to reflect particular management issues *Incentives are sufficient to encourage uptake. (Objectives 1, 2 and 4)	2001 onwards	FC/MAFF/EN/PDNPA WEG/WBAPG
	Negotiation and Review of Agreements		
WW22	Review management of all sites within SSSIs. Where necessary agree revised management regimes with owners/managers to ensure maintenance or restoration of favourable condition. (Objective 1)	2005	**EN**
WW23	Ensure that wet woodland conservation, restoration and re-creation is comprehensively addressed when implementing the Upland Oak/ birchwood and Upland Ashwood Action Plans, targeting: *Priority conservation sites *PAWS *Sites for woodland creation Include a consideration of buffers where appropriate. (All Objectives)	2001 onwards	FC/EN/PDNPA
WW24	Negotiate appropriate agreements to conserve important wet woodland sites, particularly in river corridors. (Objectives 1 and 2)	2001 onwards	**PDNPA**/FC WTs MAFF/ FWAG/NT
WW25	Review management of wet woodlands in existing conservation agreements, outside of SSSIs. Where necessary agree revised management regimes with owners/managers to ensure that favourable condition is being maintained or restored. (Objectives 1 and 2)	2002 onwards	MAFF/NT/WTs/PDNPA FWAG

WW26	Review whole holding agreements which include unprotected wet woodland. Consider the opportunities for upgrading the agreement to incorporate favourable management. (Objective 1 and 2)	2002 -2010	MAFF/NT/WTs/PDNPA FWAG
WW27	Negotiate agreements to restore and create wet woodland in appropriate river corridor locations, following survey and evaluation proposed in the River Corridors Action Plan. (Objectives 3 and 4)	2007 - 2010	**PDNPA**/WTs/MAFF FWAG/NT
WW28	Ensure action plan objectives and targets are incorporated into the production of Forest Plans. (Objectives 1 and 2)	2001 onwards	**FC**/EN/PDNPA
	Alternative Incomes		
WW29	Develop a strategy for increasing the economic benefits of woodland products and uses where this would encourage appropriate conservation management. (Objectives 1 and 3)	2001 onwards	**FC**/TGA/CLA
	Land Acquisition		
WW30	Consider negotiating purchase/lease of priority wet woodland sites where this would be the most effective way of achieving conservation objectives and when a negotiated conservation solution has not succeeded. (Objectives 1 and 4)	2001 onwards	PDNPA/NT/WTs/WdT
	Direct Action		
WW31	On land owned by public bodies or conservation organisations ensure that: *Management maintains and where possible enhances the value of wet woodland *The restoration of PAWS on such land is considered *Opportunities are taken for new native woodland creation *Opportunities for involvement of local communities in site management are taken where possible (Objectives 1, 2, 3 and 4)	2001 onwards	PDNPA/FC/LAs/WTs WdT/NT/EN
WW32	Continue to ensure that the nature conservation interest of river corridor habitats are taken into consideration by the EA when carrying out their annual programme of maintenance work on main rivers, and in any proposed flood defence works. (Objectives 1 and 4)	2001 onwards	**EA/**ABAPG
REGULATION			
	Planning		
WW33	Ensure all planning applications and General Development Orders are adequately assessed in relation to their impact on wet woodland; that loss or damage to wet woodland is avoided; and that opportunities for the enhancement or creation of wet woodland is considered in relevant planning decisions. (All Objectives)	2001 onwards	LAs/EN/WTs/PDNPA
WW34	Encourage a review of Permitted Development Rights that currently allow potentially damaging recreational activities for 14 days per year – such as 4-wheel drive trials. (Objectives 1 and 2)	2001 onwards	**WBAPG**

WW35	Ensure policy documents, including LEAPs, include appropriate guidelines for the safeguard, enhancement and, where appropriate, creation of wet woodland. (All Objectives)	2001	**WBAPG/EA** (joint leads)
	Other Regulatory Mechanisms		
WW36	Consider the need for a review of both groundwater and surface water abstraction consents in catchments with sensitive wet woodland sites. (Objectives 1 and 3)	2001 onwards	**EA**/WBAPG

RESOURCES

It is envisaged that the majority of actions proposed will be carried out by the relevant organisations using current resources. These include:

- continuing investment by landowners and managers managing their land sympathetically for wildlife;
- the FC's Woodland Grant Scheme;
- proposed restructuring of major conifer plantations by WCs, the FC, SCC and private landowners;
- MAFF's Farm Woodland Premium Scheme;
- MAFF's Environmentally Sensitive Area and Countryside Stewardship Schemes;
- continuing management of woodlands in the ownership of conservation organisations and public bodies (EN, NT, WTs, WdT, LAs, FC, PDNPA) and WCs.

A mechanism is needed to replace the FC's 'New Native Woodland Challenge Fund' which closed in 2000 (currently under review), in order to provide financial aid for woodland creation.

Additional resources are likely to be required:

- for the survey and negotiation of wet woodland creation measures in river corridors, as part of the survey work proposed in the River Corridors Action Plan (2004 - 05);
- to provide adequate financial incentives for the conservation, enhancement and restoration management of existing woodlands and for woodland creation (2001 onwards);
- to aid in the production of the proposed registers (2001 onwards);
- to implement effective monitoring (2001 onwards).

TREND IN THE PEAK DISTRICT:

Stable in parkland. In the wider countryside recruitment of veteran trees may balance losses, but probable decline in sites with a continuity of veteran trees.

ESTIMATED EXTENT IN THE PEAK DISTRICT:

110 ha parkland, veteran trees unknown.

NATIONAL BAP HABITATS:

Lowland Wood-pasture and Parkland (priority habitat).

ASSOCIATED NATIONAL BAP PRIORITY SPECIES:

Pipistrelle, nightjar, song thrush, spotted flycatcher, orange-fruited elm-lichen (extinct?), a lichen (*Bacidia incompta*) (extinct) and possibly also bullfinch and tree sparrow.

ASSOCIATED PEAK DISTRICT AUDITS:

Parkland and Veteran Trees.

INTRODUCTION

Parkland can be defined as lowland wood-pasture. It is the product of an historic land management system rather than being a specific plant community. Typically the habitat consists of large, open-grown or high forest trees at various densities within a matrix of grazed vegetation which may have affinities with various types of grassland, heathland and/or woodland floras. The 'matrix' habitats may be biodiversity priorities in their own right. The key interest of the habitat largely derives from the presence of old growth trees and their associated flora and fauna.

Parkland sites are often of great historic, cultural and landscape importance with continuity of management sometimes stretching back for hundreds of years. The richer sites may have direct linkages back to the pre-neolithic natural 'wildwood'.

The extent of the habitat is uncertain but the best available estimate is that there is around 10000 – 20000 ha in the UK. The most important parklands for nature conservation are those with large numbers of veteran trees. These are more abundant in the U.K. than elsewhere in Europe. Their associated distinctive old growth fauna and fungi, with a rich epiphytic 'flora', are of great importance. Parklands may also be of interest for bats and birds and important as a reservoir of indigenous tree genotypes. However, the critical component of these sites is the assemblage of veteran trees. The conservation and protection of these individuals are the principal keys to maintaining the biodiversity interest of parklands.

Biologically interesting veteran trees may be either indigenous or introduced species. It is difficult to precisely define the term 'veteran' tree. However they can be broadly defined as trees, 'which because of their age, size or condition are of exceptional value culturally, in the landscape and for wildlife'.

The age at which an individual can be termed 'veteran' varies widely depending on the species. Species such as birch, rowan, alder and willow, for example, can become veteran trees with associated biological interest at 40 - 80 years old. Size is not necessarily a good guide either, most trees over 1.0 m diameter (at breast height) are potentially interesting, the majority of trees over 1.5 m diameter are valuable and all those over 2 m diameter are truly ancient. A range of other properties are associated with veteran trees: quantities of dead and rotting wood, crown die-back, and the presence of gnarled, fissured, twisted and 'old-looking' features. Non-native tree species, if long-established, may support a flora or fauna which is somewhat different from native tree species, but which may nevertheless be of equal or occasionally even greater ecological interest. Beech, horse chestnut, common lime and sycamore may all be of particular importance locally, and trees such as these are complementary to the interest of native veteran trees.

In the Peak District, only two relatively small parkland sites are well known, Chatsworth Old Park and Lyme Park. Parkland may also be present at other locations but it is currently unclassified. However, such sites may not necessarily be in ecologically poor condition at present and sympathetic management could be initiated to enhance their value following survey.

The two known key sites are remnants of formerly extensive areas of forest with veteran trees, and there is still an association with areas of semi-natural woodland, some of which is ancient. Both of these parklands have a long history of continuous grazing by deer (red and fallow at Chatsworth, red at Lyme) with associated management. Chatsworth Old Park is around 60 ha in extent and has the greatest interest because of its history of sensitive management. It is the only site considered to be of outstanding interest. It includes 4 Red Data Book species, 13 nationally scarce species and a number of regionally significant species. The Park is currently considered to be under very good management. Lyme Park is 526 ha in size but there are only 50 ha of the habitat being considered by this Action Plan. Due to the small number of veteran trees, the park is not currently of quality. The proportion of the national resource present in the Peak District is therefore around 0.55 - 1.1%.

Veteran trees are present in the wider countryside as concentrations of trees or as isolated individuals in hedgerows, woodland edges and churchyards as well as in parklands *per se*. These are also of significant ecological value.

Upland oak/birch and ash woodlands with a long history of grazing also need to be assessed for their veteran tree interest and will be examined within the other relevant woodland action plans. Many such sites have groupings of veteran trees and associated flora and fauna and grazing will be essential to maintain their interest. These include 'woods' in Alport Dale, Dove Dale and Hinkley Wood.

ADVERSE IMPACTS

	Historic	Current
Tree Management		
Neglect and loss of expertise of traditional tree management techniques leading to trees collapsing or being felled for safety reasons.	✓	✓
Removal of veteran trees and deadwood for forest hygiene or supply of firewood.	✓	✓
Excessive planting of young trees near veterans.	✓	✓
A skewed age structure because of a lack of younger generations. This has lead to breaks in the continuity of dead wood habitat and of replacement veteran trees.	✓	✓✓
Damage to roots from soil compaction and erosion caused by trampling by livestock, people and car parking.	✓	✓
Changes to groundwater levels leading to water stress and tree death.	✓	✓
Land Management		
Inappropriate grazing levels: under-grazing leading to loss of habitat structure with bracken and scrub invasion; over-grazing leading to bark browsing, prevention of regeneration, soil compaction and loss of nectar plants.	✓	✓✓
Pasture loss due to conversion to arable.	✓	
Pasture improvement through re-seeding, deep ploughing, fertiliser and other chemical treatments leading to tree root damage, loss of nectar-bearing plants, damage to soil and epiphytes.	✓	✓✓
Wall rebuilding.		✓
Clearance of timber in watercourses.	✓	✓
Natural Processes		
Loss of veteran trees through old age, disease, physiological stress and competition for resources from younger nearby trees.	✓	✓
Others		
Pollution from industry and traffic.	✓	✓
Problems of perceptions of safety, public liability and tidiness associated with deadwood/veteran trees where sites have high amenity use.	✓	✓✓
Development adjacent to/affecting veteran trees.		✓
Vandalism.		✓
Isolation and fragmentation of remnant parklands, combined with the poor dispersal ability of many species and increasing distances they need to travel.	✓	✓✓

An impact ✓ *Significant impact* ✓✓

CURRENT ACTION

Designated Sites

- Chatsworth Old Park SSSI continues to be sensitively and appropriately managed by the Chatsworth Estate. A recent survey by EN observed that the Old Park was currently under an ideal management regime for old growth invertebrates and fungi associated with veteran oaks. Much new planting of individual trees has also taken place in surrounding parkland areas.
- A number of veteran trees are protected by Tree Preservation Orders (TPO) or within Conservation Areas.

Land Management

- Lyme Park is owned by the NT where the current management regime is becoming more favourable to its parkland areas.

- National forestry policy includes a presumption against clearance of broad-leaved woodland for conversion to other land uses, and in particular seeks to maintain the special interest of ancient semi-natural woodland. Felling licences from the FC are normally required if the woods are not managed under plans approved by them.
- Felling licences are normally required for felling trees over 5 m^3.

ACTION PLAN OBJECTIVES AND TARGETS

National Targets

- Protect and maintain the current extent (10000 - 20000 ha) and distribution of lowland wood-pasture and parkland in a favourable ecological condition.
- Initiate, in areas where examples of derelict wood-pasture and parkland occur, a programme to restore 2500 ha to favourable ecological condition by 2010.
- By 2002, initiate the expansion of 500 ha of wood-pasture or parkland in appropriate areas, to help reverse fragmentation and reduce the generation gap between veteran trees.

A Vision for the Peak District

This habitat, once probably one of the commonest in Britain, is now very scarce throughout Europe. Britain currently holds a high proportion of these sites that are in many ways relics of the once extensive 'wildwood' that clothed much of Europe some 7000 years ago.

The conservation and enhancement of this valuable habitat contributes not only to our cultural heritage but also to a very special resource of gnarled and weather-beaten trees, shaped through time by man's management and the actions of the many species that are dependant upon them. Preservation of these species is dependant on our management of the host tree (their life-line) within a hospitable landscape. This broad habitat requires protection, enhancement and expansion to ensure that there are future generations of trees to sustain this grand and atmospheric habitat.

The targets for conservation and restoration of parkland are in line with the proportions expected from national targets. Isolated veteran trees are not covered by national targets, but are likely to hold interest locally and may be a much loved and well recognised feature of local communities. Therefore, relatively high targets have been set to reflect their importance and the opportunities that may exist for community involvement in the recording and monitoring of such trees.

OBJECTIVES AND TARGETS

PARKLAND

Objective 1

Protect and maintain the current extent and distribution of ecologically important parkland in the Peak District.

Target

Ensure continuing management to maintain favourable condition on 60 ha of parkland at Chatsworth.

Objective 2

Restore the value of poor quality parkland through the establishment of favourable management regimes.

Target

Initiate steps by 2010 to restore more favourable management regimes to 100% of parkland of existing low interest.

Objective 3

Create new areas of parkland in situations which will help reverse fragmentation, or where it will help reduce the generation gap between veteran trees.

Target

Initiate the expansion of 20 ha of parkland in appropriate areas by 2010.

VETERAN TREES IN THE WIDER COUNTRYSIDE

Objective 4

Protect and maintain the current extent and distribution of veteran trees in the wider countryside.

Targets

Initiate measures by 2005 to achieve favourable condition of 20 % of known veteran trees. Review and set a new target for 2005 - 2010.

Initiate the establishment of sensitive management of approximately 20 % of veteran trees by 2010.

Objective 5

Plan to expand the veteran tree resource and connect groups of veteran trees by the establishment of habitat corridors.

Targets

Agree an annual target for securing a commitment to retain individual trees or groups of trees as veterans in the long term.

Initiate the establishment of corridors connecting 20 % of groups of veteran trees by 2010.

Main Factors Likely to Affect the Achievement of Targets

Land Management

Implementation of the Rural Development Regulation and the reform of Common Agricultural Policy.

Availability of suitable land for extension and de-fragmentation of the habitat.
The inclusion of veteran tree conservation measures in the whole-holding approach to negotiation of agri-environment and conservation scheme agreements.

Effectiveness of agri-environment and conservation scheme cross-compliance.
Intensive farming practices and other developments which continue to kill trees before they attain veteran status.

Resources and Financial Incentives

Availability of funds - there are opportunities within parklands but not for individual trees in the wider countryside.

Planning and Regulation

Planning policy.
Felling licence regulations - currently there is no requirement for landowners to possess felling licenses for the felling of old hedgerow or isolated trees.

Conflicts with Other Priorities

Potential conflicts with other ecological, archaeological and landscape priorities.

Practical Difficulties and Gaps in Knowledge

Lack of knowledge on the location of veteran trees within the wider countryside.

Others

Perceptions of owners and visitors towards 'tidiness' and hygiene – and other desirable management.
Public liability of potentially dangerous trees and the differing costs involved in 'making safe' through felling/surgery or retaining dangerous limbs and ensuring no public risk remains, e.g. fencing.

ACTIONS

Crucial to the future of these habitats is a greater understanding of their distribution and ensuring continuity of old trees and dead wood habitat in the vicinity of existing sites. Awareness-raising and public involvement will form an important part of the process (Actions PK16 – 21).

Key actions within the plan include:

- A continuation of the management regime at Chatsworth Old Park to maintain the excellent condition of this outstanding site (PK24);
- The recognition of the importance of individual trees within relevant grant schemes (PK23);
- The identification and safeguarding of individual veteran trees within woodlands and along field boundaries (PK1, PK4, PK6, PK25 - 27 and PK33 - 35), and
- Extending the veteran tree resource in woodlands and along field boundaries (PK25 - 27).

	ACTIONS	TIMESCALE	LEAD AGENCY & Partners
DATA COLLATION AND SURVEY			
	Data Collation		
PK1	Collate existing information and identify gaps in the knowledge of parkland and veteran trees outside of SSSIs (Objectives 1, 2 and 4).	2001	PDNPA/WTs LAs/LRCs Voluntary Sector
PK2	Compile a register of sites of importance for veteran trees in parklands, woodlands and the wider countryside to include level of importance (including Wildlife Site status), condition, species and conservation status, and initiate a programme for regular updating. Include relevant data from English Heritage's Parkland Inventory. (Objectives 1, 2 and 4)	2003	**PDNPA**/EN/FC LAs/WTs/NT
	Survey		
PK3	Carry out a survey of parklands, where existing information is inadequate, to include all species groups - lichens, fungi, flora and fauna (including mammals). (Objectives 1 and 2)	2001 - 2005	PDNPA/EN WTs/NT
PK4	Carry out habitat survey of semi-natural woodlands, in collaboration with other woodland action plans, with regard to wood-pasture/veteran tree interest. (Objective 2 and 4)	2001 onwards	PDNPA/EN/WTs NT
PK5	Consider the opportunities for public involvement in the identification and survey of veteran trees in the wider countryside. (Objective 4)	2001 onwards	PDNPA/EN WTs/NT
PK6	Implement a programme of veteran tree surveys ensuring public involvement, if considered appropriate/feasible. (Objective 4)	2004	PDNPA/WTs/NT
EVALUATING THE IMPORTANCE AND CONDITION OF SITES			
	Evaluating the Importance and Identifying Key Sites		
PK7	Identify and produce a list of biological indicators of old growth trees which suggest conservation value and which can be used to prioritise other trees. (Objectives 2 and 4)	2002	**WBAPG**
PK8	Agree methodology for the evaluation of parklands and veteran trees including definition of key site/tree and the identification of 'Wildlife Sites'. (Objectives 1, 2 and 4)	2002	**WBAPG**
	Defining Favourable Condition		
PK9	Agree definitions of favourable condition for the complete range of sites and individual trees in the Peak District, including the requirements of important species. (All Objectives)	2001	**WBAPG**
PK10	Agree guidelines for the range of appropriate management needed to achieve favourable condition including: *The identification of priority sites/areas for conservation, restoration and re-creation		

	*Methodologies for restoration and re-creation including species mixes, planting strategies, options for natural re-generation (All Objectives)	2001	**WBAPG**
RESEARCH			
PK11	Evaluate the need for specific action plans for individual species of importance. (Objectives 1 and 4)	2004	**WBAPG**
PK12	Ensure that the results of research into the effects of Ivermectin on invertebrate communities associated with animal dung are addressed at a local level. (Objectives 1 and 2)	2001 onwards	**WEG**
INVASIVE SPECIES			
PK13	Develop a strategy for the control of rhododendron and implement where necessary and appropriate. (Objective 1)	2001 onwards	**WBAPG**
PK14	Continue to update and implement the local Code of Practice for Bracken Control and encourage bracken control in appropriate locations. (Objective 1)	2001 onwards	**RLMEG**
MONITORING			
PK15	Agree methodology for, and implement effective monitoring of, parklands and veteran trees. Ensure that the results of the process are collated and used to update the relevant register. (All objectives)	2001	**WBAPG**
AWARENESS RAISING			
PK16	Share information on the wildlife importance and management needs of key conservation, restoration and re-creation sites/individual trees with the landowners/managers, including feedback from surveys. (All Objectives)	2001 onwards	PDNPA/EN/WTs FWAG/FC
PK17	Make guidance available to landowners/managers and conservation organisation staff highlighting the importance of parkland, wood-pasture and veteran trees. (All Objectives)	2001	**WBAPG**
PK18	Make guidance available to landowners/managers and conservation organisation staff on methodologies for assessing when woodland should be treated as wood pasture. (Objective 1)	2001	**WBAPG**
PK19	Make guidance available to landowners/managers on: The creation of new pollards and management which promotes longevity especially around groupings of veteran trees *The establishment and management of hedgerows in relation to veteran trees *Management which optimises the dead wood habitat without compromising the longevity of the individual trees or the ability of trees to generate fresh habitat in parks and the wider countryside *The management of veteran trees in or adjacent to walls, particularly relating to wall rebuilding *Management of associated habitats of importance to the veteran tree fauna, e.g. nectar sources (All Objectives)	2001	**WBAPG**

PK20	Increase awareness, through appropriate means, of the value and importance of remnant parklands, wood-pasture and veteran and ageing trees, amongst both landowners/managers and the public, e.g. 'adopt a tree', or 'oldest tree in the parish' schemes. (Objective 1)	2001 onwards	**WBAPG/**EH
PK21	Increase awareness, through appropriate means, of the value of dead wood in streams and rivers amongst riparian landowners and managers and agencies. (Objective 1 and 4)	2001 onwards	**WBAPG/**EA

CONSERVATION ACTION AND INCENTIVES

Designations

PK22	Consider veteran tree key sites in any programme of acquisition/lease/management of nature reserves including NNRs and LNRs. (Objective 4)	2001 onwards	**EN/LAs**(joint leads)/ PDNPA WTs/ RSPB/NT

Grant Schemes

PK23	Consider recommending reviews of woodland, agri-environment and conservation schemes to ensure that: *Targeting gives adequate priority to wood-pasture, and to individual trees within the wider countryside, at the local, regional and national levels *Management prescriptions for adjacent habitats are reviewed, and for wood-pasture management prescriptions are introduced/reviewed *Payments for the conservation of individual trees are introduced, and for buffers are increased to reflect particular management issues (Objectives 1, 2 and 4)	2001 onwards	FC/MAFF/EN PDNPA/WEG WBAPG

Negotiation and Review of Agreements

PK24	Review management of all parkland and veteran tree sites within SSSIs. Where necessary agree revised management regimes with owners/managers, to ensure maintenance or restoration of favourable condition. (Objective 1 and 4)	2005	**EN**
PK25	Negotiate appropriate agreements with landowners and managers of sites outside of SSSIs, targeting: *Enhanced management of important parkland sites, individual trees, hedgerows with veteran trees and adjacent habitat *Priority sites for restoration of parkland *Opportunities for creating corridors to aid in the connection and de-fragmentation of important sites and individual trees (Objectives 1, 2, 3 and 4)	2001 2003 onwards 2003 onwards	MAFF/NT/WTs PDNPA/FWAG/FC
PK26	Review management of parkland in existing conservation agreements, outside of SSSIs. Where necessary agree revised management regimes with owners/managers to ensure that favourable condition is being maintained or restored. (Objectives 1 and 2)	2002 - 2005	MAFF/NT/WTs PDNPA/FWAG/FC
PK27	Review whole holding agreements which include unprotected areas of parkland or veteran trees. Consider the opportunities for amending the agreement to incorporate their safeguard and enhancement. (Objective 1, 2, 4 and 5)	2002-2005	MAFF/NT/WTs PDNPA/FWAG FC

	Land Acquisition		
PK28	Consider negotiating purchase/lease of priority sites (including land with important individual trees) where this would be the most effective way of achieving conservation objectives and when a negotiated conservation solution has not succeeded. (Objectives 1, 2 and 4)	2004	PDNPA/WTs NT/WdT
	Direct Action		
PK29	Ensure that management of land owned by public and conservation bodies: *Maintains, and where possible, enhances the value of parkland and veteran trees *Considers the restoration of sites/individual trees *Takes opportunities for new native parkland creation *Takes opportunities for involvement of local communities in site management where possible (Objectives 1, 2, 3 and 4)	2001 onwards	PDNPA/LAs/FC WTs/WdT/NT EN
	REGULATION		
	Planning		
PK30	Ensure all planning applications and General Development Orders are adequately assessed in relation to their impact on parkland and veteran trees, that loss or damage is avoided and that opportunities for the enhancement or creation of parkland is considered in relevant planning decisions. (Objectives 1, 2, 3 and 4)	2001 onwards	LAs/EN/PDNPA WTs
PK31	Encourage a review of Permitted Development Rights that currently allow potentially damaging recreational activities for 14 days per year – such as 4-wheel drive trials. (Objectives 1 and 4)	2001 onwards	**WBAPG**
	Pollution Control and Waste Management		
PK32	Ensure good practice is followed in disposing of sheep dip, avoiding the vicinity of priority parklands and veteran trees and minimising possible run-off. Implement by extending consultation procedures for disposal applications to the whole of the Peak District and by a continuing programme of licence processing and, where necessary, enforcement action. (Objectives 1 , 2 and 4)	2001	EA/PDNPA/LAs
	Other Regulatory Mechanisms		
PK33	Review existing Tree Preservation Orders and consider the desirability of applying further Orders to veteran trees of wildlife importance. (Objectives 1, 2 and 4)	By 2002	**LAs/PDNPA**
PK34	Consider recommending review of felling license procedures in relation to single old trees. (Objective 4)	2001 onwards	**WBAPG**
PK35	Ensure that veteran trees of significant wildlife value are retained when granting felling licences. (Objective 4)	2001 onwards	**FC/LAs** (joint leads)
PK36	Consider the need for review of abstraction consents and licences where these may be adversely affecting ground water levels of important sites. (Objectives 1, 2 and 4)	2001 onwards	**EA**

RESOURCES

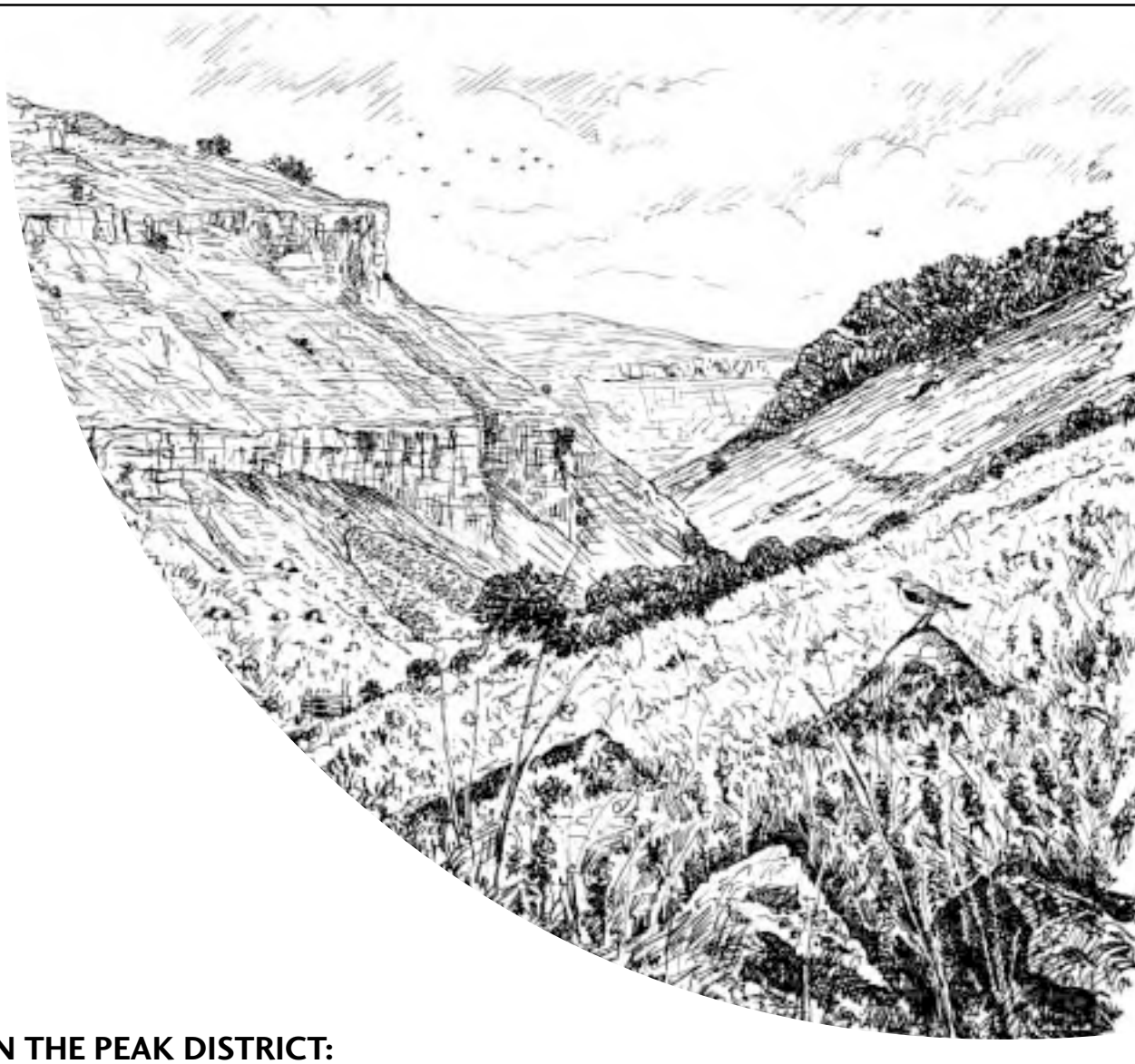
It is envisaged that the majority of actions proposed will be carried out by the relevant organisations using current resources. These include:

- continuing investment by landowners and managers managing their land sympathetically for wildlife;
- the FC's Woodland Grant Scheme;
- EN's review of parkland and woodland management in SSSIs, and its grant and management agreement schemes;
- MAFF's Countryside Stewardship Scheme;
- MAFF's Farm Woodland Premium Scheme;
- the PDNPA's advisory and grants service for landowners/managers;
- continuing management of woodlands in the ownership of conservation organisations and public bodies (LAs, PDNPA, FC, EN, NT, WTs, WdT) and WCs.

Additional resources are likely to be required:

- for survey and negotiation of management of veteran trees in the wider countryside (2001 onwards);
- to provide adequate financial incentives for the conservation, enhancement, restoration and re-creation of parklands and veteran trees (2001 onwards);
- to aid in the production of the proposed registers (2001 onwards);
- to implement effective monitoring (2001 onwards).

Resources for survey could be in the form of public involvement in the identification of veteran trees of interest and specialist volunteer time in the identification of important but less well known species groups.



TREND IN THE PEAK DISTRICT:
Currently stable, though small losses to quarrying. Decline in quality locally.

ESTIMATED EXTENT IN THE PEAK DISTRICT:
Approximately 4000 ha.

NATIONAL BAP HABITATS:
Lowland Calcareous Grassland, Lowland Dry Acid Grassland, Upland Heathland and Lowland Meadows (priority habitats); Fens and Inland Rock (broad habitat types).

ASSOCIATED NATIONAL BAP PRIORITY SPECIES:
Lesser horseshoe bat (extinct), brown hare, skylark, grey partridge, linnet, bullfinch, song thrush, pearl bordered fritillary (extinct), marsh fritillary (extinct), chalk carpet moth, great yellow bumble bee (extinct), red hemp nettle, Appleyard's feather-moss, pipistrelle bat and possibly brown banded carder bee, large garden bumble bee and short haired bumble bee.

ASSOCIATED PEAK DISTRICT AUDITS: Calcareous Grassland, White Peak Acid Grasslands, Limestone Heath, Neutral Grassland, Wetlands, Lead Rakes, Limestone Cliffs, Limestone Scree, Limestone Dales Scrub and Tall Dales Grasslands.

INTRODUCTION

The limestone dales are confined entirely to the Carboniferous limestone of the White Peak Natural Area. They support the most biologically rich habitats of the White Peak with a complex mosaic of communities including grassland, scrub, scree, cliffs, woodland and heathland. With the exception of the ash woodlands (covered by the Upland Ashwoods Action Plan) and rivers (covered by the River Corridor Habitats Action Plan) all of these habitats are covered in this action plan. The dales have provided important sheltered grazing for the White Peak farmers for many centuries and a continuation of this practice is essential to maintain the delicate balance of habitats at each site. Given their inaccessiblity to machinery, unlike other grasslands, they have largely escaped agricultural improvement.

The grasslands of the dales are very variable ranging from the predominantly calcareous grasslands to neutral and acid swards, tall herb grassland and lead rake communities. The geographical location, varying topography and underlying influence of the limestone results in a range of transitional communities. Furthermore, the Peak District Dales grasslands are renowned for the presence of plant species which occur at the edge of both their northern (e.g. globeflower, limestone bedstraw) and southern ranges (e.g. dwarf thistle, horseshoe vetch).

The calcareous grasslands of the lime rich soils in the dales are internationally important and can be incredibly species rich, with distinct plant communities on different slopes. Typically, the cooler and wetter north-facing slopes support damp-loving species such as grass-of-parnassus in a sedge rich sward. On the thin drought prone soils of south facing slopes some of the richest grasslands in the U.K. are found with many small and slow growing species co-existing, such as rockrose, salad burnet, small scabious, thyme and fairy flax. This diversity is reflected in the rich and important invertebrate fauna found within the dales.

Where deeper soils have developed masking the underlying effect of the lime-rich bedrock relatively acid or neutral conditions persist. The neutral grasslands include very species rich examples with an abundance of common knapweed, betony and lady's bedstraw. In areas inaccessible to stock, tall-herb neutral grassland may be found. These striking swards with a variety of tall herbs such as common valerian, water avens and burnet saxifrage are of very high conservation value. Jacob's ladder, a rare speciality of the Peak District, is associated with such communities. Around the less intensely grazed edges of scrub, and in particular the open areas within hazel scrub, important species such as bloody cranesbill and globeflower can be found. Such areas are particularly important for invertebrates, including the dark green fritillary.

On the brows of dales, wind blown deposits can obscure the influence of the limestone, resulting in distinct patches and strips of acid grassland with swathes of fescue and bent grass, with heath bedstraw, heath speedwell, tormentil and even bilberry. Notably mountain pansy can be conspicuous in such swards. These areas of acid soils can extend down the dalesides giving rise to distinct zones of acid grassland. The acid grasslands occasionally grade into dry heathland, dominated by heather, such as occurs at Coombs Dale and Back Dale. Elsewhere, interesting mosaics and transitions can be found where both acid vegetation and lime-loving plants grow in an intimate mix, responding to the varying depth and character of the soils.

Scrub can be an important component. Retrogressive hazel scrub is thought to derive from ancient ash woodland, consisting mainly of hazel with perhaps field rose, guelder rose and wild privet. Such scrub is a treasure trove of plants with remnants of woodland flora, such as lily of the valley and wood sage, growing with a variety of grassland plants. Important birds such as whitethroat and song thrush favour these areas. Elsewhere, hawthorn scrub, the commonest scrub type in the dales, may be well established, providing nesting sites for songbirds and nectar and shelter for insects. However, encroaching hawthorn scrub is undesirable ecologically as it leads to the loss of important species-rich grassland. A third type of scrub, dominated by gorse, is often found where acid conditions prevail. These areas are important for birds such as linnet and a rich nectar source for insects.

The spectacular limestone cliffs which are found within many limestone dales also support very variable vegetation types on the ledges and within rock crevices. These include communities of small annual plants, ferns, mosses and lichens, calcareous grassland plants, tall herbs, woodland ground flora and occasional trees and shrubs. Almost inaccessible, cliffs support perhaps the most natural type of vegetation in the Peak District. Rich in a variety of rare vascular plants, lichens, mosses and liverworts, cliffs are also important as nest sites for breeding birds such as ravens, and hibernation roosts for bats.

Limestone screes are commonly found on the dalesides, often at the foot of the cliffs. These support a restricted flora commonly composed of specialist plants including the nationally scarce limestone fern and dark-red helleborine. Some areas of scree have been or are being colonised by a vigorous growth of ash in the first stages of succession to ash woodland.

A number of important lead rakes - surface spoil heaps of waste material from the mining of lead - are also found. These rakes support a complex mosaic of different grassland types, which reflect the variations in topography and the nature of the waste material. Notably, the toxic nature of some of the lead rake material results in distinct areas of open metallophyte vegetation with nationally important species such as spring sandwort.

The unusual drainage qualities of limestone has resulted in a number of important basic flushes within the dales. Such areas are characterised by a number of species which are uncommon in the White Peak, such as butterwort and flat sedge and a rich invertebrate fauna. These rare habitats are found where springs occur, a result of impervious, volcanic rock layers forcing water to the surface on the dalesides, usually close to rivers. Monks Dale and the Wye Valley both have small but good examples of these communities.

Increased stocking levels and changes in types of stock will have affected the quality of some sites. Losses to scrub encroachment through lack of grazing are known to have been significant since World War 2. In the past a small number of sites have probably been lost to plantations.

The limestone dales are of exceptional landscape value, with their steep impressive slopes, interspersed with dramatic cliffs and screes. They are often visually striking with the light catching them in all their moods from carpets of wildflowers in the summer to frost clad grasses in the winter. With such a variety of vegetation types they are a feast for the eyes with their ever-changing tones and textures. Often hidden from the White Peak plateau they are a retreat into a truly semi-natural habitat. Given this unique landscape value the dales attract a significant number of visitors and the cliffs are popular with rock climbers.

ADVERSE IMPACTS	Historic	Current
Land Management		
Inappropriate grazing regimes, including: type of stock; undergrazing resulting in invasion by coarse grassland and scrub; overgrazing, and supplementary feeding (causing localised enrichment and poaching).	✓	✓✓
Applications of organic and inorganic fertilisers or herbicide, pesticides and lime on accessible parts of the dale or on adjacent land.		✓
Applications on accessible areas.		✓
Pollution		
Use of Ivermectin and its associated effects on invertebrates.		✓
Atmospheric pollution (particularly of Nitrous oxide).	✓	✓✓
Climate change.		✓
Others		
Tree planting schemes.	✓	
Limestone quarrying and mineral extraction.	✓	✓
Recreation – this tends to be a local threat in relation to rock climbing, footpaths erosion and disturbance to screes.	✓	✓

An impact ✓ *Significant impact* ✓✓

CURRENT ACTION

Designated Sites

- The majority of the limestone dales (approximately 3300 ha) are designated as SSSIs.
- 1344 ha of the SSSI dales are protected within the Peak District Dales cSAC (of which approximately 930 ha are open habitat). The complexity of these sites is recognised in the list of features now covered by this designation, with calcareous grasslands, metallophyte vegetation, heath, base-rich wetlands, tall herb grassland, screes and inland rock (chasmophytic) vegetation all considered of international importance.
- A number of limestone dales are identified as 'Wildlife Sites'.

New Initiatives

- EN has embarked on a comprehensive monitoring programme with the aim of agreeing favourable management with owners and occupiers to bring all SSSI sites into favourable condition.

Sites Owned and Managed by Conservation Organisations

- 374 ha of daleside SSSI are owned or managed by EN and form the Derbyshire Dales NNR, of which approximately 60 % is open habitat.
- The PDNPA owns several limestone dale sites, including northern Tideswell Dale, part of Taddington Dale and Millers Dale Quarry (which the DWT manage as a Nature Reserve).
- 65 ha of open dales habitats are managed by DWT as Nature Reserves.
- The NT owns significant areas of limestone dales, including substantial proportions of Dove Dale and the Hamps and Manifold Valleys.
- In 1999 Plantlife purchased an important limestone dale SSSI covering 36 ha and the site is now managed as a Nature Reserve.

Sites Within Conservation Agreements

- 35 owners or occupiers of 400 ha of daleside open habitats hold management agreements with EN through the White Peak Wildlife Enhancement Scheme (WES).
- A significant area of daleside is managed within the Countryside Stewardship Scheme (CSS).
- 420 ha of steep grassland are managed under the PDNPA Farm Conservation Scheme (FCS). A proportion of this will be within the limestone dales.
- Of the SSSI grasslands so far monitored, approximately 280 ha of grassland outside WES or other conservation management agreements and not owned by nature conservation bodies, is in favourable conservation status.

ACTION PLAN OBJECTIVES AND TARGETS

National Targets

Lowland Calcareous Grassland, Lowland Dry Acid Grassland and Lowland Meadows:

- Arrest the depletion throughout U.K.
- Agree favourable management on all resource within SSSIs in unfavourable condition by 2005 and achieve favourable condition wherever feasible by 2010.
- Secure favourable condition over 30 % of resource outside SSSIs by 2005 and as near 100 % as practicable by 2015.
- Re-establish 1000 ha of calcareous grassland, 500 ha of acid grassland and 500 ha of lowland meadow at carefully targeted sites by 2010.

Upland Heath:

- Maintain current resource in favourable condition.
- Achieve favourable condition on all resource within SSSIs by 2010 and improve the condition of at least 50 % of resource outside SSSIs by 2010.
- Restoration of 50000 - 100000 ha by 2010.
- Re-creation of 5000 ha by 2005.

Inland Rock:

- Broad habitat type only, no national targets set.

A Vision for the Peak District

The following objectives and targets are ambitious, in excess of the national targets. In part this reflects the fact that the majority of the dales are within existing statutory sites, which adds to the resources available for the implementation of conservation measures. It also reflects how important the Peak District is for this habitat. Undoubtedly the dales are scientifically important, particularly for their impressive calcareous grasslands. But they are also special places of beauty and to some they effuse spiritual qualities. With their steep sided valley slopes, impressive rock outcrops and ancient screes they can be visually striking. The dales are often a surprise, hidden from the White Peak Plateau and rarely traversed by roads. On a small scale they harbour a myriad of nooks and crannies full of contrasts, beautiful flowers, lush ferns and mosses, or strange rock formations. It is hoped that organisations and land managers can work together to manage the dales positively, not only to enhance and conserve the immense wealth of wildlife found in the dales, but to ensure that these unique areas, found nowhere else in Britain, can be enjoyed and appreciated in the future.

OBJECTIVES AND TARGETS

Objective 1

Maintain the current extent and distribution of priority daleside habitats and seek to secure favourable condition on 100 % of the resource.

Target

Secure favourable management, by 2005, on 100 % of all SSSI dalesides and 80 % of all sites outside of SSSIs, by negotiating appropriate voluntary, CSS, WES or other conservation agreements. Review and set new targets for 2005 - 2010.

Objective 2

Restore priority daleside habitat, determined on a site by site basis, on heavily overgrazed or scrub invaded dalesides with the aim being to achieve favourable condition within relevant nationally or locally important habitat types.

Target

Assess the need for restoration of daleside habitats and target priority areas as appropriate. Initiate the restoration of 30 ha of daleside habitat by 2010.

Objective 3

Create new daleside habitats, giving priority to areas adjacent to important sites or which link existing fragmented sites (particularly aiming to link sites for BAP species).

Target

Identify the opportunities for creation of a minimum of 10 ha of daleside habitats on appropriate sites by 2010.

Main Factors Likely to Affect Achievement of Targets

Land Management

Implementation of the Rural Development Regulation and reform of the Common Agricultural Policy.

Effectiveness of agri-environment and conservation scheme prescriptions.

The availability of appropriate grazing stock in the current agricultural climate.

Difficulties of managing limestone dales sites with a complex range of habitats and communities, each with differing and sometimes conflicting management requirements.

Resources and Financial Incentives

Availability of funding for negotiations and agreements.

Limited rewards from agri-environment and conservation schemes and lack of incentives for favourable management.

Planning and Regulations

Planning policy.

Conflicts with Other Priorities

Conflicting conservation priorities, particularly during restoration (e.g. value of scrub).

The practicality/desirability of re-creating dale grasslands where succession to scrub has been proceeding since the 1950s.

Others

The impact of access, including the Countryside and Rights of Way Act 2000, which gives right of access on foot across open country. This could include limestone dales.

The effectiveness of methods to minimise recreational impact.

ACTIONS

Key to the achievement of the proposed targets is a whole landscape approach taking into account the ash woodland as well as the grassland, wetland, scrub, limestone heath and lead rake communities. Key actions within the plan include:

- Defining objectives (favourable condition) on a site-by-site basis (Action LD8);
- A review of management within SSSIs (LD23);
- Continuing to provide appropriate financial incentives for enhancement to landowners (LD22), and
- Ensuring positive management of sites in the ownership of conservation organisations (LD28).

	ACTIONS	**TIMESCALE**	**LEAD AGENCY** & Partners
DATA COLLATION AND SURVEY			
	Data Collation		**EN**/PDNPA
LD1	Collate existing information and identify gaps in the knowledge for dales outside of SSSIs. (Objectives 1 and 2)	2001	WTs/LAs/LRCs Voluntary Sector
LD2	Compile a register of potential areas for restoration and identify priority sites for action. (Objectives 1 and 2)	2001	**EN**/PDNPA/WTs
LD3	Compile a limestone dales register of sites including classification into types, level of importance (including 'Wildlife Site' status), condition, constituent habitats, important species and conservation status and initiate a programme for regular updating. (Objectives 1 and 2)	2001	**EN**/PDNPA/WTs
	Survey		
LD4	Identify priority sites for detailed habitat survey. (Objectives 1 and 2)	Spring 2002	**EN**/PDNPA/WTs

LD5	Following collation of data and identification of priorities, carry out detailed habitat survey of any un-surveyed dales. (Objectives 1 and 2)	2002	**EN**/PDNPA/WTs

EVALUATING THE IMPORTANCE AND CONDITION OF SITES

Evaluating Importance and Identifying Key Sites

LD6	Agree methodology for the evaluation of limestone dales, to include the identification of 'Wildlife Sites'. (Objectives 1 and 2)	2002	**EN**/PDNPA/NT WTs
LD7	Identify target areas appropriate for scrub clearance and grassland restoration. (Objective 2)	2003 - 2005	**EN**/PDNPA

Defining Favourable Condition

LD8	Define favourable condition for dalesides on a site-by-site basis within a Peak District wide framework, including assessment of the appropriate balance of different habitats. (Objectives 1 and 2)	2001 onwards	**EN**/PDNPA/NT WTs
LD9	Agree guidelines for the conservation and restoration of limestone dale habitats. To include: *The range of appropriate management needed to achieve favourable condition *The identification of target areas for restoration *The techniques needed for restoration (Objectives 1& 2)	2001	**EN**/PDNPA/NT WTs
LD10	Agree guidelines for the creation of limestone dale habitats. (Objective 3)	2001	**EN**/PDNPA/NT WTs

RESEARCH

LD11	Continue to support research into nitrous oxide deposition on calcareous grassland and ensure that results are made widely available. (Objectives 1 and 2)	2001 onwards	**EN**
LD12	Continue to investigate and ultimately identify the most appropriate stock type and breed to deal with problem sites. (Objectives 1 and 2)	2001 - 2003	**EN**
LD13	Ensure that the results of research into the effects of Ivermectin on invertebrate communities associated with animal dung are implemented at a local level. (Objectives 1 and 2)	2001 onwards	**WEG**

PUBLIC ACCESS

LD14	Agree and implement both general and site specific approaches to the management of access in limestone dales that enables public enjoyment of the environment but prevents significant damage. (Objective 1)	2001 onwards	**PDLAF**/NT/EN WTs/PDNPA/LAs

MONITORING

LD15	Agree methodology for and implement effective monitoring of limestone dales. Ensure that the results of the process are collated and used to update the limestone dales register. (Objectives 1 and 2)	2001 onwards	**EN/**PDNPA MAFF/WTs/NT

AWARENESS RAISING

LD16	Share information on the wildlife importance and management needs of key conservation and restoration sites with the landowners/managers, including feedback from surveys. (Objectives 1 and 2)	2001 onwards	PDNPA/NT/EN WTs/MAFF FWAG/LAs
LD17	Make guidance available to land managers and conservation organisations on restoration techniques for limestone dale habitats. (Objectives 1 and 2)	2003	**EN**/PDNPA/NT WTs
LD18	Make guidance available on creation techniques for limestone dale habitats for use in, for example, quarry restoration schemes. (Objectives 1 and 2)	2003	**EN**/PDNPA/NT WTs

CONSERVATION ACTION AND INCENTIVES

Designations

LD19	Implement obligations under European (Natura 2000) legislation with respect to review of the Peak District Dales cSAC. (Objective 1)	2001 onwards	**EN**
LD20	Review coverage of daleside SSSIs and notify further sites as appropriate. (Objectives 1 and 2)	2002 - 2005	**EN**
LD21	Review desirability of and opportunities for establishment of further key sites as NNRs and LNRs, and establish if appropriate. (Objectives 1 and 2)	2005	**EN/LAs** (joint leads) WTs/NT/PDNPA

Grant Schemes

LD22	Consider recommending a review of all agri-environment and conservation schemes to ensure that: *Targeting at national, regional and local level continues to give adequate priority to limestone dales *Management prescriptions are reviewed to include flexible site-specific measures *Adequate financial incentives for safeguard, enhancement and restoration are available (Objectives 1 and 2)	2001 - 2005	MAFF/EN PDNPA/WEG GBAPG

Negotiation and Review of Agreements

LD23	Review management of all sites within SSSIs. Where necessary agree revised management regimes with owners/ managers, through appropriate mechanisms such as WES, to ensure maintenance or restoration of favourable condition. (Objectives 1 and 2)	2001 - 2005	**EN**
LD24	Negotiate appropriate conservation agreements with landowners/managers of all key sites outside of SSSIs and existing agreements, in order to achieve maintenance or restoration of favourable condition. (Objective 1 and 2)	2001 - 2010	MAFF/NT PDNPA/WTs FWAG
LD25	Review management of limestone dales in existing conservation agreements, outside of SSSIs. Where necessary agree revised management regimes with owners/ managers to ensure that favourable condition is being maintained or restored. (Objectives 1 and 2)	2002 - 2005	MAFF/NT/WTs PDNPA/FWAG
LD26	Review whole holding agreements which include unprotected limestone dales. Consider the opportunities for upgrading the agreement to incorporate their safeguard and enhancement. (Objective 1 and 2)	2002 - 2010	MAFF/NT/WTs PDNPA/FWAG

	Land Acquisition		
LD27	Consider negotiating purchase/lease of priority sites where this would be the most effective way of achieving conservation objectives and when a negotiated conservation solution has not succeeded. (Objectives 1 and 2)	2001 onwards	PDNPA/EN WTs/RSPB/NT
	Direct Action		
LD28	On land owned by public or conservation bodies, ensure that: *Management maintains and where possible enhances the value of limestone dales *Options for the restoration of limestone dales are considered *Opportunities for involvement of local communities in site management are taken where possible (Objectives 1 and 2)	2001 onwards	PDNPA/WTs NT/LAs/EN
LD29	Consider providing appropriate specialist stock for grazing problem areas within the limestone dales. (Objectives 1 and 2)	2004	**EN**/LAs/PDNPA NT/WTs
	REGULATION		
	Planning		
LD30	Ensure all planning applications and General Development Orders are adequately assessed in relation to their impact on limestone dales and that loss or damage is avoided. (Objectives 1 and 2)	2001 onwards	PDNPA/EN WTs/LAs
LD31	Consider the opportunities for the creation of limestone dales in relevant planning decisions, including quarry restoration schemes. (Objective 3)	2001 onwards	PDNPA/EN/LAs WTs
LD32	Ensure that the impact of disposal of waste from new buildings is addressed in the planning process. (Objectives 1 and 2)	2001 onwards	PDNPA/EN WTs/LAs
	Pollution Control and Waste Management		
LD33	Review procedures and consultation processes in relation to the spreading of paper pulp. (Objectives 1 and 2)	2001	**EA**/EN/PDNPA LAs
	Other Regulatory Mechanisms		
LD34	Ensure that all woodland planting proposals consider the adverse effects of planting on limestone dales. (Objectives 1 and 2)	2001 onwards	**FC**/LAs/EN PDNPA

RESOURCES

It is envisaged that the majority of work as a result of the actions proposed will be carried out by the relevant organisations using current resources. These include:

- the continuing investment by landowners and managers in managing their land sympathetically for wildlife;
- EN's programme of reviewing SSSI management and designation and its grant and management agreement schemes ;
- MAFF's Countryside Stewardship Scheme;
- continuing management of limestone dales owned by conservation organisations and public bodies (LAs, EN, NT, WTs, PDNPA, Plantlife);
- the PDNPA's advisory and grants service for landowners/managers.

Additional resources are likely to be required:

- for enhanced management of sites in the ownership of conservation organisations.

HAY MEADOWS

TREND IN THE PEAK DISTRICT:

Dramatic declines and continued losses. 76% loss or decline in value between the mid 1980s and mid 1990s in the National Park.

ESTIMATED EXTENT IN THE PEAK DISTRICT:

Estimated 2000 ha of hay meadows of conservation interest.

NATIONAL BAP HABITATS:

Lowland Hay Meadows (priority habitat).

ASSOCIATED NATIONAL BAP PRIORITY SPECIES:

Brown hare, corncrake (extinct), skylark, grey partridge, tree sparrow and possibly great yellow bumble bee, brown banded carder bee, large garden bumble bee and short haired bumble bee.

ASSOCIATED PEAK DISTRICT AUDITS:

Hay Meadows.

INTRODUCTION

Traditionally managed flower rich hay meadows are a rich resource for wildlife, an intimate mix of grasses and herbs. They are a colourful refuge for some of our prettiest and increasingly uncommon plants. The dramatic seasonal changes in appearance of meadows reflects the cyclical nature of farming, to many they express the soul of the English countryside. Such meadows would have been an integral part of each farm, providing essential winter-feed for stock. The resource of hay meadows is now fragmented and flower-rich examples are becoming increasingly uncommon in the Peak District.

Nationally, it is recognised that flower-rich grasslands declined by 97 % between the 1930s and the mid 1980s. The National Park Authority's Hay Meadows Project (HMP) found a 50 % loss and an additional 26 % decline in hay meadows between the mid 1980s and mid 1990s. Follow-up survey to the project highlighted a further 25 % loss and/or decline in quality of meadows in the National Park from 1995 to 1998. The rate of loss and decline has varied across the National Park with the greatest losses occurring in intensive dairy areas such as Peak Forest.

Ecologically the most interesting meadows are those which are long established, each field having developed a unique assemblage of plants over a considerable period of time. Across the Peak District there are a range of community types. The majority are neutral in character and typically support ox-eye daisy, hay rattle, meadow vetchling, common knapweed and meadow clover. A smaller number of meadows support damp meadow communities with great burnet, whilst others show affinity with acid and calcareous grasslands. Many of the species found in flower rich meadows are confined to traditionally managed grasslands, having exacting management and/or environmental requirements. In addition to their floristic interest hay meadows are an important habitat for birds such as the evocative skylark and it has been shown that hay meadows are an essential habitat for the nationally significant twite.

Hay meadows make a significant contribution to the landscape of the Peak District, with their dramatic change in appearance throughout the seasons. They are often a welcome contrast to surrounding agricultural, bright green silage fields. Culturally hay meadows are significant, a product of human activity over many years. They are celebrated in folklore, customs and literature and are an outward sign of rural life that most of us have lost. The flower rich swards are part of our cultural heritage- they may be the oldest link with the past that a village has, perhaps even older than the church. The continuing loss of hay meadows can be a loss of an historical place as much as it is a wildlife habitat.

Within the White Peak Natural Area there are known concentrations of hay meadows in several parishes, for example Little Hucklow, Bonsall, Sheldon and Middleton-by-Wirksworth. Within the Dark Peak and South West Peak Natural Areas there are clusters of hay meadows around some of the hamlets and villages, including Edale, Sparrowpit, Brandside and Grindon.

ADVERSE IMPACTS	Historic	Current
Land Management		
Agricultural intensification: ploughing, re-seeding, drainage, artificial fertilisers, combined with an early cut date, slurry application and a shift from hay to silage.	✓	✓✓
Conversion to heavily grazed pasture or arable from hay meadow regime.	✓	✓✓
Practical difficulties of making hay, e.g weather dependency.	✓	✓
Application of paper pulp.		✓
Pollution		
Disposal of sheep dip.		✓
Use of Ivermectin and its associate effect on invertebrates.		✓
Tipping		
The use of hollows for the disposal of building waste etc.		✓
Quarrying		
Quarrying and mineral extraction.	✓	✓

Others		
Tree planting schemes.	✓	✓
Fragmented sites – risk of species extinctions and negative effect on the feasibility of hay meadow restoration.	✓	✓

An impact ✓ *Significant impact* ✓✓

CURRENT ACTION

Designated Sites

- There are 20 meadows designated as SSSI, including Rose End Meadows, Bradwell Meadows, Lee Farm Meadow and meadows within the Leek Moors SSSI.
- Meadows within the Leek Moors SSSI form part of the South Pennines Moors SPA, designated for its populations of upland breeding birds.
- A number of important meadows are designated as 'Wildlife Sites'.

New Initiatives

- In 1998 the PDNPA increased the rate of payment within its conservation schemes to bring the annual payment closer to the income which would be available to a farmer who converted the meadow to intensive silage or arable.
- In 1998 the PDNPA introduced wider use of Section 39 agreements to try to overcome the problems of loss of meadows when land changes hands.
- In 1998 the payments for hay meadows were enhanced in the North Peak Environmentally Sensitive Area (ESA).

Sites Owned and Managed by Conservation Organisations

- The PDNPA owns 47 hay meadows, including those on North Lees Estate, Warslow Moors Estate, Eastern Moors Estate and at Hard Rake, Sheldon.
- The WTs own and manage important hay meadows including part of the Rose End Meadows SSSI.
- The NT owns significant hay meadows, for example at Monyash and in the Upper Derwent.

Sites Within Conservation Agreements

- 218 ha of hay meadow are managed by farmers within the PDNPA's Farm Conservation Scheme (FCS).
- 258 ha of hay meadow are within an agreement in the North Peak ESA**.** 95 ha of this is being managed traditionally with no fertiliser and a late cutting date.
- 818 ha of meadow are within an agreement in the South West Peak ESA.
- 664 ha of hay meadow are being managed within the national Countryside Stewardship Scheme (CSS), a total of 90 agreements (a proportion of these will not be of high conservation interest).

Research and Survey

- In 1998 the PDNPA completed a 3 year pro-active conservation project on hay meadows (the HMP), resulting in 151 hay meadows being entered into conservation agreements.
- In 1999 EN established a field trial to look at practical ways of restoring species poor semi-improved grasslands to flower rich meadows. This trial is located adjacent to Lathkill Dale, near Monyash.
- Work to restore hay meadows on tenanted farmland owned by the NT is in progress in the Edale Valley and at Monyash.

Awareness Raising

- As a result of the HMP, 'Meadows Beyond the Millennium' was published by the PDNPA, raising the profile of meadows within the farming community and landowners. It highlighted the importance of meadows, their loss and continued threats, and the report was used to progress positive action for hay meadows at both local and national level.

ACTION PLAN OBJECTIVES AND TARGETS

National Targets

Lowland Meadows:

- Arrest the depletion throughout U.K.
- Agree favourable management on all the resource in unfavourable condition within SSSIs by 2005 and achieve favourable condition wherever feasible by 2010.
- Secure favourable condition over 30 % of resource outside SSSIs by 2005 and as near 100 % as practicable by 2015.
- Attempt to re-establish 500 ha of lowland hay meadow at carefully targeted sites by 2010.
- Develop carefully researched guidelines to restore hay meadows.

A Vision for the Peak District

The targets below are ambitious but with commitment, resources, realistic financial incentives and a willingness by farmers and landowners, they are achievable. It is hoped that these targets can be turned into real action, benefiting conservation and the farming community. The realisation of the objectives will ensure that hay meadows, one of our most evocative and characteristic habitats of the countryside with their array of flowers and grasses and their strong cultural links, are not just a romantic memory. Through a co-ordinated effort we can not only save what we have left of these special places but enhance others, extending the resource of meadows, linking important sites and ensuring that birds such as the skylark can still breed in the Peak District and that the swathes of colour and texture of meadows can still be enjoyed by future generations.

The target for bringing existing flower-rich hay meadows into favourable management is in excess of national BAP targets since the HMP has already taken a considerable step towards this. This target reflects the potential to build upon the momentum in hay meadow conservation which has been generated by the HMP.

OBJECTIVES AND TARGETS

Objective 1

Bring all hay meadows of conservation interest into favourable condition.

Targets

Review the management of all hay meadows within existing SSSIs and secure favourable management on all sites by 2005.

Review the management of all hay meadows within existing conservation agreements, outside of SSSIs, by 2005, with a view to ensuring favourable condition and management.

Secure appropriate conservation agreement on 50 % of all the resource outside of SSSIs, by 2005. Review and set a new target for 2005 - 2010.

To achieve these targets a number of sub-targets have been set:

Identify and survey all meadows of wildlife interest outside of agreement, including those within the ESA areas, by 2004.

For all hay meadows outside of existing agreements make all landowners/land managers aware of available conservation agreements by the end of 2005.

Secure appropriate conservation agreement on 30 % of the area of these newly identified hay meadows by 2005.

Objective 2

Restore semi-improved species-poor grasslands to flower rich meadows in carefully targeted areas to reverse the trend of hay meadow loss and address the problems of habitat fragmentation and isolation.

Targets

Identify the most practical, economic and widely available system for restoring meadows on a field by field basis by 2005.

Initiate restoration on a minimum of 500 ha of species poor grassland to flower rich hay meadows by 2010, targeting key areas.

Objective 3

Create new areas of flower rich hay meadows, giving priority to areas adjacent to important sites or which link existing fragmented sites.

Target

Identify the opportunities for creation of at least 10 ha of hay meadows by 2010.

Main Factors Likely to Affect Achievement of Targets

Land Management

Implementation of the Rural Development Regulation and reform of the Common Agricultural Policy.

Effectiveness of agri-environment and conservation scheme prescriptions.

Resources and Financial Incentives

Perceived low economic value of flower rich hay meadows. Decline in perceived agricultural value of species rich hay meadows and poor economic return from hay crops.

High land prices – forcing intensive management following purchase of land.

Limited rewards from agri-environment and conservation schemes and lack of incentives for favourable management.

Availability of funding for survey, negotiations and agreements.

Others

Lack of safeguard or effective conservation mechanisms outside of SSSIs. It is often at the time of change of ownership that hay meadows, as with other grassland habitats, are most at risk. At present there is no systematic procedure or mechanism for conservation bodies and local authorities to have an opportunity to safeguard such land.

ACTIONS

Key to the achievement of the proposed targets are actions relating to:

- Survey, coupled with negotiations to secure conservation agreements on sites of particular importance outside the National Park (Actions HY6 and HY26);
- Ensuring agri-environment and conservation schemes provide adequate financial incentive and appropriate management prescriptions to safeguard and restore hay meadows (HY24);
- Developing restoration techniques (HY14), and
- Developing a strategy for safeguarding sites of particular wildlife importance where this cannot be achieved through the normal channels of negotiation, since the current systems are still inadequate to secure the future of some of our best remaining meadows (HY32).

	ACTIONS	TIMESCALE	LEAD AGENCY & Partners
DATA COLLATION AND SURVEY			
	Data Collation		
HY1	Collate existing information on hay meadows outside of the National Park. (Objective 1)	2001	**WTs**/EN/NFU MAFF/LRCs/LAs Voluntary Sector

HY2	Compile a hay meadows register including classification into types, level of importance, 'Wildlife Site' status, Natural Area, condition, important species and conservation status, and initiate a programme for regular updating. (Objective 1)	2001 onwards	**PDNPA**/EN/ WTs
HY3	Compile a register of suitable seed sources for meadow restoration projects. (Objective 2)	2001 onwards	**EN**/PDNPA/WTs
HY4	Identify the gaps in knowledge of hay meadows, highlighting areas which require further survey work. (Objectives 1 and 2)	2001 - 2002	**EN**/GBAPG
	Survey		
HY5	Agree methodology for surveying hay meadows. (Objective1)	2001	**PDNPA**/GBAPG
HY6	Carry out detailed habitat surveys of hay meadows in areas where existing information is inadequate. (Objective 1)	2001 – 2004	**WTs/PDNPA** (joint leads)
HY7	Carry out detailed surveys of potential restoration hay meadows in target areas. (Objective 2)	2005 - 2010	**PDNPA**/EN/NT FWAG

EVALUATING THE IMPORTANCE AND CONDITION OF SITES

	Evaluating Importance and Identifying Key Sites		
HY8	Agree methodology for the evaluation of hay meadows. To include definition of priorities for conservation action and identification of 'Wildlife Sites'. (Objectives 1 and 2)	2001	**PDNPA**/GBAPG
	Defining Favourable Condition		
HY9	Agree definitions of favourable condition for the complete range of sites in the Peak District. (Objectives 1 and 2)	2001	**EN**/WTs/PDNPA
HY10	Agree guidelines for the range of appropriate management needed to achieve favourable condition. (Objectives 1 and 2)	2001	**EN**/WTs/PDNPA
HY11	Agree guidelines for the identification of key areas to target for restoration in collaboration with the Twite Action Plan. To include areas crucial for extending and linking habitats and others of importance to birds. (Objectives 1 and 2)	2001	**PDNPA**/EN/WTs

RESOURCES

HY12	Seek resources, in collaboration with other relevant grassland and bird action plans, for a detailed survey of hay meadows in areas where existing information is inadequate. (Objective 1)	2001	**PDNPA**/WTs
HY13	Seek resources for a hay meadows restoration project. (Objective 2)	2005	**PDNPA**/EN

RESEARCH

HY14	Continue the Monyash meadow restoration project – ensuring that a practical and economic option for meadow restoration is found. (Objective 2)	2001 - 2005	**EN**/PDNPA/NT
HY15	Seek to expand the Monyash project to a farm scale. (Objective 2)	2001 - 2002	**NT/EN** (joint leads)
HY16	Seek funding and purchase seed collection machine. (Objective 2)	2001	**EN**

HY17	Ensure that the results of research into the effects of Ivermectin on invertebrate communities associated with animal dung are implemented at a local level. (Objectives 1 and 2)	2001 onwards	**WEG**

MONITORING

HY18	Agree methodology for and implement effective monitoring of hay meadows. Ensure that the results of the process are collated and used to update the hay meadows register. (Objectives 1 and 2)	2001 onwards	**PDNPA**/MAFF EN/WTs/NT

AWARENESS RAISING

HY19	Develop an awareness-raising strategy, to include identification of key audiences, key messages, and methods of promotion/awareness-raising. (Objectives 1 and 2)	2002	**PDNPA**/EN/NT WTs
HY20	Share information on the wildlife importance and management needs of key conservation and restoration sites with the landowners/managers, including feedback from surveys. (Objectives 1 and 2)	2001 onwards	PDNPA/NT/EN WTs/MAFF FWAG/LAs
HY21	Make guidance available on restoration techniques, habitats suitable for restoration, available seed sources and appropriate species mixes, to land managers/owners and conservation organisation staff. (Objective 2)	2003 onwards	**PDNPA/EN** GBAPG

CONSERVATION ACTION AND INCENTIVES

Designations

HY22	Review coverage of hay meadow SSSIs and notify further sites as appropriate. (Objective 1)	2002	**EN/**PDNPA
HY23	Review desirability and opportunities for establishment of further key sites as NNRs and LNRs and establish if appropriate. (Objectives 1 and 2)	2001 - 2005	**EN/LAs** (joint leads)/WTs/NT PDNPA

Grant Schemes

HY24	Consider recommending a review of all agri-environment and conservation schemes with the aim that: *Targeting at national, regional and local level continues to gives adequate priority to the conservation of existing meadows *Management prescriptions are reviewed to include flexible site-specific measures *Hay meadow restoration prescriptions are effective *Payments for hay meadows are increased to at least the level of profits foregone *Payments for restoration are adequate, ensuring that appropriate techniques are used in schemes (Objectives 1 and 2)	2001 onwards	MAFF/EN PDNPA/WEG GBAPG

Negotiation and Review of Agreements

HY25	Review management of all sites within SSSIs. Where necessary agree revised management regimes with owners and managers, through appropriate mechanisms, such as WES, to ensure maintenance or restoration of favourable condition. (Objectives 1 and 2)	2001 - 2005	**EN**

HY26	Negotiate appropriate agreements with landowners and managers of all key conservation and restoration sites outside of existing agreements and SSSIs, in order to achieve maintenance or restoration of favourable condition. (Objectives 1 and 2)	2001 - 2005 conservation; 2005 – 2010 restoration.	MAFF/PDNPA NT/WTs/FWAG
HY27	Review management of hay meadows in existing agreements, outside of SSSIs. Where necessary agree revised management regimes with owners/managers to ensure that favourable condition is being maintained or restored. (Objectives 1 and 2)	2001 - 2005	MAFF/PDNPA NT/WTs/FWAG
HY28	Review whole holding agreements which include unprotected hay meadows. Consider the opportunities for amending the agreement to incorporate their safeguard and enhancement. (Objective 1 and 2)	2002 - 2010	MAFF/NT/WTs PDNPA/FWAG
	Alternative Incomes		
HY29	Identify and consider developing other sources of income for owners and managers of hay meadows, to include possible sale of seed for meadow restoration and links to conservation products. (Objective 1)	2002	**EN**/WTs/PDNPA
	Land Acquisition		
HY30	Consider negotiating purchase/lease of priority sites where this would be the most effective way of achieving conservation objectives and where a negotiated conservation solution has not been successful. (Objectives 1 and 2)	2001 onwards	PDNPA/EN WTs/RSPB/NT
	Direct Action		
HY31	On land owned by public or conservation bodies, ensure that: *Management maintains and where possible enhances the value of hay meadows *Options for the restoration of hay meadows are considered *Opportunities for involvement of local communities in site management are taken where possible (Objectives 1 and 2)	2001 onwards	PDNPA/WTs NT/LAs/EN
HY32	Agree a strategy for safeguarding sites of particular wildlife importance where this cannot be achieved through the normal channels of negotiation in liaison with land-owning, farming, and other land management interests. (Objective 1)	2001	**WEG**/NFU/CLA RLMEG

REGULATION

	Planning		
HY33	Ensure all planning applications and General Development Orders are adequately assessed in relation to their impact on hay meadows, that loss or damage is avoided and that opportunities are taken for enhancement. (Objectives 1 and 2)	2001 onwards	PDNPA/EN LAs/WTs
HY34	Consider the opportunities for the creation of hay meadows in relevant planning decisions, including quarry restoration schemes. (Objective 3)	2001 onwards	PDNPA/EN/LAs WTs
HY35	Ensure that the impact of disposal of waste from new buildings is addressed in the planning process. (Objectives 1 and 2)	2001 onwards	PDNPA/EN/LAs WTs

	Pollution Control and Waste Management		
HY36	Review procedures and consultation processes in relation to the spreading of paper pulp. (Objectives 1 and 2)	2001	**EA**/LAs/PDNPA EN/WTs
HY37	Ensure good practice is followed in disposing of sheep-dip, avoiding hay meadows. Implement by continuing with an awareness raising strategy amongst land managers; continuing the programme of licensing; extending consultation procedures for disposal applications to the whole of the Peak District and, where necessary, by enforcement action. (Objectives 1 and 2)	2001 onwards	**EA**/LAs/PDNPA
	Other Regulatory Mechanisms		
HY38	Ensure that all woodland planting proposals consider the adverse effects of planting on hay meadows. (Objectives 1 and 2)	2001 onwards	**FC**/LAs/EN/ PDNPA/WTs

RESOURCES

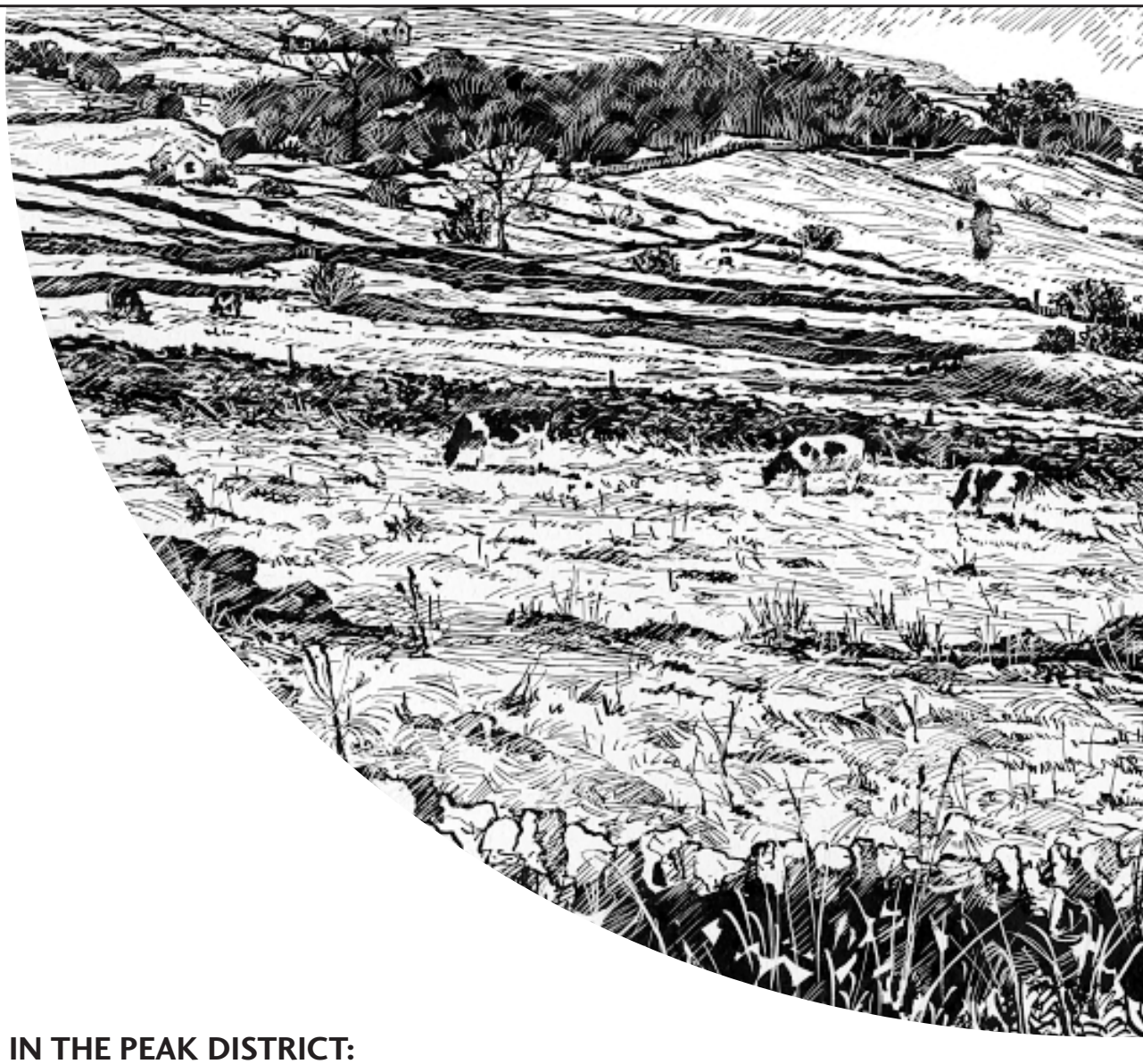
It is envisaged that many of the actions proposed will be carried out by the relevant organisations using current resources. These include:

- continuing investment by landowners and managers managing their land sympathetically for wildlife;
- EN's programme of reviewing SSSI management and designation and its grant and management agreement schemes;
- MAFF's Countryside Stewardship and Environmentally Sensitive Area schemes;
- the PDNPA's advisory and grants service for landowners/managers and its rolling programme of special conservation projects;
- FWAG and the WTs' advisory services;
- continuing management of hay meadows owned by conservation organisations and public bodies (LAs, EN, PDNPA, NT, WTs), and WCs;
- EN's hay meadow restoration trials.

Additional resources are likely to be required:

- for survey of hay meadows and negotiation of agreements in areas where information/conservation action is lacking (2001 - 2002);
- for implementation of restoration both in terms of the necessary machinery (2001) and the required surveys and negotiations (2005 - 2010);
- to provide adequate financial incentives for the conservation and restoration management of hay meadows (2001 onwards);
- to aid in the production of the proposed registers (2001 onwards);
- to implement effective monitoring (2001 onwards).

The RSPB, PDNPA and EN are currently seeking resources for a Ground-nesting Bird Habitat Project (to run from 2001 - 2004) which would also have implications for hay meadow conservation.



TREND IN THE PEAK DISTRICT:

Local experience and extrapolation from the Hay Meadows Project suggests that there has been a dramatic decline and loss.

ESTIMATED EXTENT IN THE PEAK DISTRICT:

Estimated to be less than 1500 ha.

NATIONAL BAP HABITATS:

Lowland Meadow, Lowland Acid Grassland and Lowland Calcareous Grassland (all priority habitats).

ASSOCIATED NATIONAL BAP PRIORITY SPECIES:

Brown hare, skylark, grey partridge, linnet, black grouse (extinct), great yellow bumble bee (extinct), a waxcap fungus (*Hygrocybe calyptriformis*), an earth tongue fungus (*Microglossum olivaceum*) and probably brown banded carder bee, large garden bumble bee, short haired bumble bee and hornet robberfly.

ASSOCIATED PEAK DISTRICT AUDITS:

Neutral Grassland, Calcareous Grassland, White Peak Acid Grasslands, Acid Pastures on Gritstone/Shale.

INTRODUCTION

This action plan includes enclosed fields of unimproved acid, neutral and calcareous pasture within all three Natural Areas. Their extent and composition is very variable dependent on a range of environmental and management factors. The best examples support a myriad of different plants, many of which are restricted to traditionally managed grasslands.

The plan excludes all species-poor improved grasslands except where they are relevant to restoration schemes. It also excludes all extensive areas of rough grazing, daleside grassland, wet grassland, rush pasture and the grasslands which are associated with lead rakes. Unimproved grasslands within these areas are covered in the following action plans: Limestone Dales, Rough Grazing, Rush Pasture, River Corridors and Lead Rakes.

In the White Peak there are important areas of neutral pasture within the enclosed fields of the limestone plateau. The best examples here can support strikingly rich grasslands with swathes of attractive herbs such as meadow saxifrage, betony and lady's bedstraw. Unimproved acid pastures are also found here, often characterised by swathes of the distinctive mountain pansy. Scattered across the small enclosed fields of the White Peak plateau are also a number of notable rocky outcrops and banks. These often support rich calcareous grasslands with lime-loving plants such as thyme and early purple orchid.

Within the Dark Peak and South West Peak the unimproved fields support both neutral and acidic grasslands. Such swards often exist in a mosaic and may be accompanied by areas of wet rushy grassland and flushes. The richest examples exhibit a whole suite of species including the uncommon greater butterfly orchid and melancholy thistle.

In addition to their botanical interest unimproved pastures are extremely important for birds, mammals and insects in all three Natural Areas. They provide essential habitat for a range of National BAP species including brown hares and skylarks. There is increasing recognition of the importance of unimproved pastures for fungi, particularly waxcaps.

The pastures are of importance in the landscape. Within the White Peak their flower-rich swards provide a contrast in the grass-dominated landscape. Within all three Natural Areas they are often surrounded by traditional boundaries such as dry stone walls and hedges. These help to define the character of the area and are often historically significant.

Within the White Peak concentrations of flower-rich unimproved pastures are found in the small fields of Bonsall Moor and around Middleton-by-Wirksworth. Other notable sites are scattered across the plateau, particularly in the parishes of Sheldon, Monyash, Hurdlow and Bradwell.

Within the Dark Peak and South West Peak information is more limited but there are good examples of unimproved pastures at Dungworth Reservoir and Rowarth in the Dark Peak and throughout the Leek Moors.

Nationally, unimproved pastures have undergone dramatic declines in the 20th century. It is estimated that between the 1930s and mid 1980s semi-natural grassland declined by 97 % in lowland England and Wales. In the Peak District there are no comprehensive figures for loss of this habitat but local experience suggests that they are likely to be as alarming as those for hay meadows, which have suffered 50 % loss and 26 % decline in quality between the mid-1980s and mid-1990s.

ADVERSE IMPACTS	Historic	Current
Land Management		
Agricultural intensification – ploughing, re-seeding, drainage, artificial fertilisers, herbicide, slurry application, conversion to arable and heavy grazing pressure.	✓	✓✓
Increased use of small unimproved pastures as horse and pony paddocks associated with high stocking rates and development of patchy swards.		✓✓
Application of paper pulp.		✓✓
Neglect, leading to the development of rank swards and scrub encroachment.		✓
Pollution		
Disposal of sheep dip.		✓
Use of Ivermectin and its associated effects on invertebrates.		✓
Climate change.		✓

Tipping		
The use of hollows for the disposal of building waste etc.		✓
Quarrying		
Quarrying and mineral extraction.	✓	✓
Others		
Tree planting schemes.	✓	✓
Fragmentation – Risk of species extinctions and negative effect on unimproved pasture restoration.	✓	✓✓
Motorbike scrambling and 4x4 trials.		✓

An impact ✓ *Significant impact* ✓✓

CURRENT ACTION

Designated Sites

- The area of unimproved pasture within designated (SSSI) sites is unknown but at least five sites - Leek Moors, Via Gellia, Wye Valley, Colshaw Pastures and Rose End Meadows - include such habitat within them.
- A number of important unimproved pastures are identified as 'Wildlife Sites'.

New Initiatives

- The PDNPA has been running a Pastures Project for the last three years. To date this has concentrated on the survey and negotiation of agreements on wet pastures and limestone heaths but it is envisaged that the next stage will focus on the unimproved pastures covered in this action plan.

Sites Owned and Managed by Conservation Organisations

- The PDNPA owns a number of unimproved pastures on the North Lees Estate, Warslow Moors, Hard Rake near Sheldon, Tideswell Dale and at Magpie Mine Field.
- The WTs own and manage important unimproved pastures including Spring Cottage, Long Clough and Weags Barn.
- The NT owns significant areas of unimproved pastures, for example on the Longshaw Estate, at Monyash, and in the Upper Derwent.

Sites Within Conservation Agreements

- 152 ha of flat pasture are being traditionally managed by landowners within the PDNPA's Farm Conservation Scheme (FCS). The majority of these are unimproved pastures of the White Peak and areas of the Dark and South West Peak which fall outside of the Environmentally Sensitive Areas (ESAs).
- Significant areas of unimproved pasture are being positively managed by farmers, with support from MAFF, within the South West Peak and North Peak ESAs and within the Countryside Stewardship Scheme (CSS).

ACTION PLAN OBJECTIVES AND TARGETS

National Targets

The National BAP targets for Lowland Meadows and Lowland Dry Acid Grassland relate to the Peak District Unimproved Pastures Action Plan.

- Arrest the depletion of unimproved lowland meadows and lowland acid grasslands.
- Within SSSIs, achieve favourable status by initiating re-habilitation management.
- Outside SSSIs, secure favourable condition over 30% of lowland meadows and acid grassland by 2005 and, for lowland acid grassland, 100% by 2015.

- Attempt to re-establish 500 ha of lowland hay meadow and 500 ha of lowland acid grassland of wildlife value at carefully targeted sites by 2010.
- Develop carefully researched guidelines to restore hay meadows.

A Vision for the Peak District

The targets are ambitious since flower-rich unimproved pastures are an increasingly rare part of the Peak District countryside. As with other grasslands their conservation will be challenging. Fundamental to their existence is farming, but their future seems bleak without the right environmentally friendly economic incentives for farmers. It is hoped that these often small pastures will continue to support a profusion of wildflowers, grasses and insects and will provide feeding and nesting sites for birds and small mammals. It is only by directing co-ordinated energy and resources that this vision will be realised.

The targets below for bringing existing unimproved pasture into favourable management are in excess of national BAP targets. This reflects the potential to build upon action to date and recognises the importance and continued loss of unimproved pasture. The targets for re-creation are lower than the national targets, since unlike many lowland areas of Britain there is an enormous potential in the Peak District for restoration of unimproved pastures from semi-improved grassland rather than re-creation.

OBJECTIVES AND TARGETS

Objective 1

Bring all important unimproved pastures into favourable condition.

Targets

Review the management of all unimproved pastures within existing SSSIs and secure favourable management on all sites by 2005.

Review the management of all unimproved pastures within existing conservation agreements, outside of SSSIs, by 2005, with a view to ensuring favourable condition and management.

Secure appropriate conservation agreements on 50 % of all the resource outside of SSSIs by 2005.

Review and set a new target for 2005 - 2010.

To achieve these targets a number of sub-targets have been set:

Identify and survey all unimproved pastures of wildlife interest outside of agreements, including those within the ESA areas, by 2004.

For all unimproved pastures outside of existing agreements make all landowners/land managers aware of available conservation agreements by the end of 2005.

Secure an appropriate conservation agreement on 30 % of these newly identified pastures by 2005.

Objective 2

Restore semi-improved species-poor grasslands to species-rich swards in carefully targeted areas, to reverse the trend of loss and address the problems of habitat fragmentation and isolation.

Targets

Identify practical management prescriptions for restoring pastures, in relation to neglect, scrub and over-grazing, by 2005.

Initiate restoration of a minimum of 50 ha of species-poor pasture, targeting key areas, by 2010.

Objective 3

Create new areas of unimproved pasture, giving priority to areas adjacent to important sites or which link existing fragmented sites.

Target

Identify the opportunities for creation of species-rich pastures in appropriate locations by 2010.

Main Factors Likely to Affect Achievement of Targets

Land Management

Implementation of the Rural Development Regulation and reform of the Common Agricultural Policy.

High land prices - forcing intensive management following purchase of land.

Effectiveness of agri-environment and conservation scheme prescriptions.

Resources

Limited financial rewards from agri-environment and conservation schemes and lack of incentives for favourable management.

Availability of funding for survey, negotiations and agreements.

Planning and Regulations

Lack of planning controls for agricultural operations – Permitted Development Rights (PDR) allow in-filling and levelling of hollows within a farm holding.

Planning policy.

Others

Lack of safeguard or effective conservation mechanisms outside of SSSIs - It is often at the time of change of ownership that pastures, as with other grassland habitats, are most at risk. At present there is no systematic procedure or mechanism for conservation bodies and local authorities to have an opportunity to safeguard such land.

ACTIONS

Key to the achievement of the proposed targets are actions relating to:

- The collation of information and survey, coupled with negotiations to secure appropriate land management (Actions UP1, 4 and 19 - 22);
- Considering review of agri-environment and conservation schemes to ensure that they provide adequate financial incentive and appropriate management prescriptions to safeguard and enhance pastures (UP18), and
- Developing a strategy for safeguarding sites of particular wildlife importance where this cannot be achieved through the normal channels of negotiation, as the current systems are still inadequate to secure the future of some of our best remaining pastures (UP26).

	ACTIONS	TIMESCALE	LEAD AGENCY & Partners
DATA COLLATION AND SURVEY			
	Data Collation		
UP1	Collate existing information and identify gaps in the knowledge for unimproved pastures outside of SSSIs. (Objective 1)	Spring 2001	**PDNPA/WTs** (joint leads)/EN/LRCs/LAs Voluntary Sector
UP2	Compile a register of unimproved pasture, including classification into types, level of importance (including 'Wildlife Site' status), Natural Area, condition, important species and conservation status and initiate a programme for regular updating. (Objective 1)	2002	**PDNPA/WTs** (joint leads)
	Survey		
UP3	Identify priority areas for detailed habitat survey. (Objective 1)	2001 - 2002	**PDNPA/WTs** (joint leads)/EN
UP4	Carry out detailed survey of unimproved enclosed pasture. (Objective 1)	2001 - 2004	**WTs/PDNPA** (joint leads)/NT/LAs

UP5	Survey key sites for potential restoration schemes in target areas. (Objective 2)	2005 - 2010	**PDNPA/WTs** (joint leads)/EN/NT/FWAG

EVALUATING THE IMPORTANCE AND CONDITION OF SITES

Evaluating Importance and Identifying Key Sites

UP6	Agree methodology for the evaluation of unimproved pasture, to include definition of priorities for conservation action and identification of 'Wildlife Sites'. (Objective 1)	2001	**PDNPA/**GBAPG

Defining Favourable Condition

UP7	Agree definitions of favourable condition for the complete range of sites in the Peak District. (Objectives 1 and 2)	Autumn 2001	**EN/**GBAPG
UP8	Agree guidelines for the conservation and restoration of unimproved pastures, to include the range of management needed to achieve favourable condition, techniques for restoration and definition of key areas for targeting. (Objectives 1 and 2)	Autumn 2001	**EN/**GBAPG

RESOURCES

UP9	Seek resources for detailed survey and subsequent negotiation of conservation agreements of unimproved pastures (including those within the ESA areas but outside of agreement) in collaboration with other grassland action plans. (Objectives 1 and 2)	2001	**PDNPA/WTs**(joint leads)
UP10	Seek funding for an unimproved pastures restoration project. (Objective 2)	2005	**PDNPA/EN**(joint leads)

RESEARCH

UP11	Ensure that the results of research into the effects of Ivermectin on invertebrate communities associated with animal dung are implemented at a local level. (Objectives 1 and 2)	2001 onwards	**WEG**

MONITORING

UP12	Agree methodology for and implement effective monitoring of unimproved pastures. Ensure that the results of the process are collated and used to update the register. (Objectives 1 and 2)	2001 onwards	**PDNPA**/MAFF/EN WTs/NT

AWARENESS RAISING

UP13	Develop an unimproved pasture awareness-raising strategy, to include identification of key audiences, key messages, and methods of promotion/awareness-raising. (Objectives 1 and 2)	2002	**PDNPA/**GBAPG
UP14	Make guidelines on unimproved pasture restoration available to landowners/managers and conservation organisation staff. (Objective 2)	2001 onwards	**PDNPA/**GBAPG
UP15	Share information on the wildlife importance and management needs of key conservation and restoration sites with the landowners/managers, including feedback from surveys. (Objectives 1 and 2)	2001 onwards	PDNPA/NT/EN/WTs MAFF/ FWAG/LAs

CONSERVATION ACTION AND INCENTIVES

Designations

UP16	Review coverage of unimproved pastures within SSSIs and notify further sites as appropriate. (Objectives 1 and 2)	2002	**EN**
UP17	Review desirability and opportunities for establishment of key sites as NNRs and LNRs and establish if appropriate. (Objectives 1 and 2)	2001 - 2005	**EN/LAs** (joint leads) WTs/ NT/PDNPA

Grant Schemes

UP18	Consider recommending a review of all agri-environment and conservation schemes to ensure that: *Targeting at a national, regional and local level continues to gives adequate priority to the conservation of unimproved pastures *Management prescriptions are reviewed to include flexible, site-specific measures *Payments for unimproved pastures are increased to at least the level of profits foregone (Objectives 1 and 2)	2001 onwards	MAFF/EN/PDNPA WEG/GBAPG

Negotiation and Review of Agreements

UP19	Review management of all sites within SSSIs. Where necessary agree revised management regimes with owners and managers, through appropriate mechanisms, to ensure maintenance or restoration of favourable condition. (Objectives 1 and 2)	2001 - 2005	**EN**
UP20	Negotiate appropriate agreements with landowners and managers of all key conservation and restoration sites outside of existing agreements and SSSIs, in order to achieve maintenance or restoration of favourable condition. (Objectives 1 and 2)	2001 – 2005 conservation; 2005 – 2010 restoration.	PDNPA/MAFF/FWAG WTs/NT
UP21	Review management of unimproved pastures in existing agreements, outside SSSIs. Where necessary agree revised management regimes with owners/managers to ensure that favourable condition is being maintained or restored. (Objectives 1 and 2)	2001 - 2005	PDNPA/MAFF/FWAG WTs/NT
UP22	Review whole holding agreements which include unprotected unimproved pastures. Consider the opportunities for upgrading the agreement to incorporate their safeguard and enhancement. (Objective 1 and 2)	2002 - 2010	MAFF/NT/WTs PDNPA/FWAG

Alternative Incomes

UP23	Identify and assist the development of other sources of income for owners and managers of unimproved pastures, to include links to conservation products. (Objectives 1 and 2)	2002	**PDNPA/**EN/WTs/NT

Land Acquisition

UP24	Consider negotiating purchase/lease of priority unimproved pastures where this would be the most effective way of achieving conservation objectives and where a negotiated conservation solution has been unsuccessful. (Objectives 1 and 2)	2001 onwards	PDNPA/EN/WTs/RSPB NT

Direct Action

UP25	On land owned by public or conservation bodies, ensure that:		

	*Management maintains and where possible enhances the value of unimproved pastures *Options for restoration of unimproved pastures are considered *Opportunities for involvement of local communities in site management are taken where possible (All Objectives)	2001 onwards	PDNPA/EN/LAs/FC NT/WTs
UP26	Agree a strategy for safeguarding sites of particular wildlife importance where this cannot be achieved through the normal channels of negotiation, in liaison with land-owning, farming and other land management interests. (Objective 1)	2001	**WEG**/NFU/CLA RLMEG

REGULATION

Planning

UP27	Ensure all planning applications and General Development Orders are adequately assessed in relation to their impact on unimproved pastures, that loss or damage is avoided, and that opportunities are taken for enhancement. (Objectives 1 and 2)	2001 onwards	PDNPA/EN/LAs/WTs
UP28	Consider the opportunities for the creation of unimproved pastures in relevant planning decisions, including quarry restoration schemes. (Objective 3)	2001 onwards	PDNPA/EN/LAs/WTs
UP29	Ensure that the impact of disposal of waste from new buildings is addressed in the planning process. (Objectives 1 and 2)	2001 onwards	PDNPA/EN/LAs/WTs

Pollution Control and Waste Management

UP30	Review procedures and consultation processes in relation to the spreading of paper pulp. (Objectives 1 and 2)	2001	**EA**/LAs/PDNPA/EN WTs
UP31	Ensure good practice is followed in disposing of sheep-dip, avoiding unimproved pastures. Implement by continuing with an awareness-raising strategy amongst land managers; continuing the programme of licensing; extending consultation procedures for disposal applications to the whole of the Peak District and, where necessary, by enforcement action. (Objectives 1 and 2)	2001	**EA**/LAs/PDNPA

Other Regulatory Mechanisms

UP32	Ensure that all woodland planting proposals consider the adverse effects of planting on unimproved pastures. (Objectives 1 and 2)	2001 onwards	**FC**/LAs/PDNPA/EN

RESOURCES

It is envisaged that many of the actions proposed will be carried out by the relevant organisations using current resources. These include:

- continuing investment by landowners and managers in managing their land sympathetically for wildlife;
- EN's programme of reviewing SSSI management and designation and its grant and management agreement schemes;
- MAFF's Countryside Stewardship and Environmentally Sensitive Area Schemes;
- the PDNPA's advisory and grants service for landowners/managers and its rolling programme of special conservation projects;

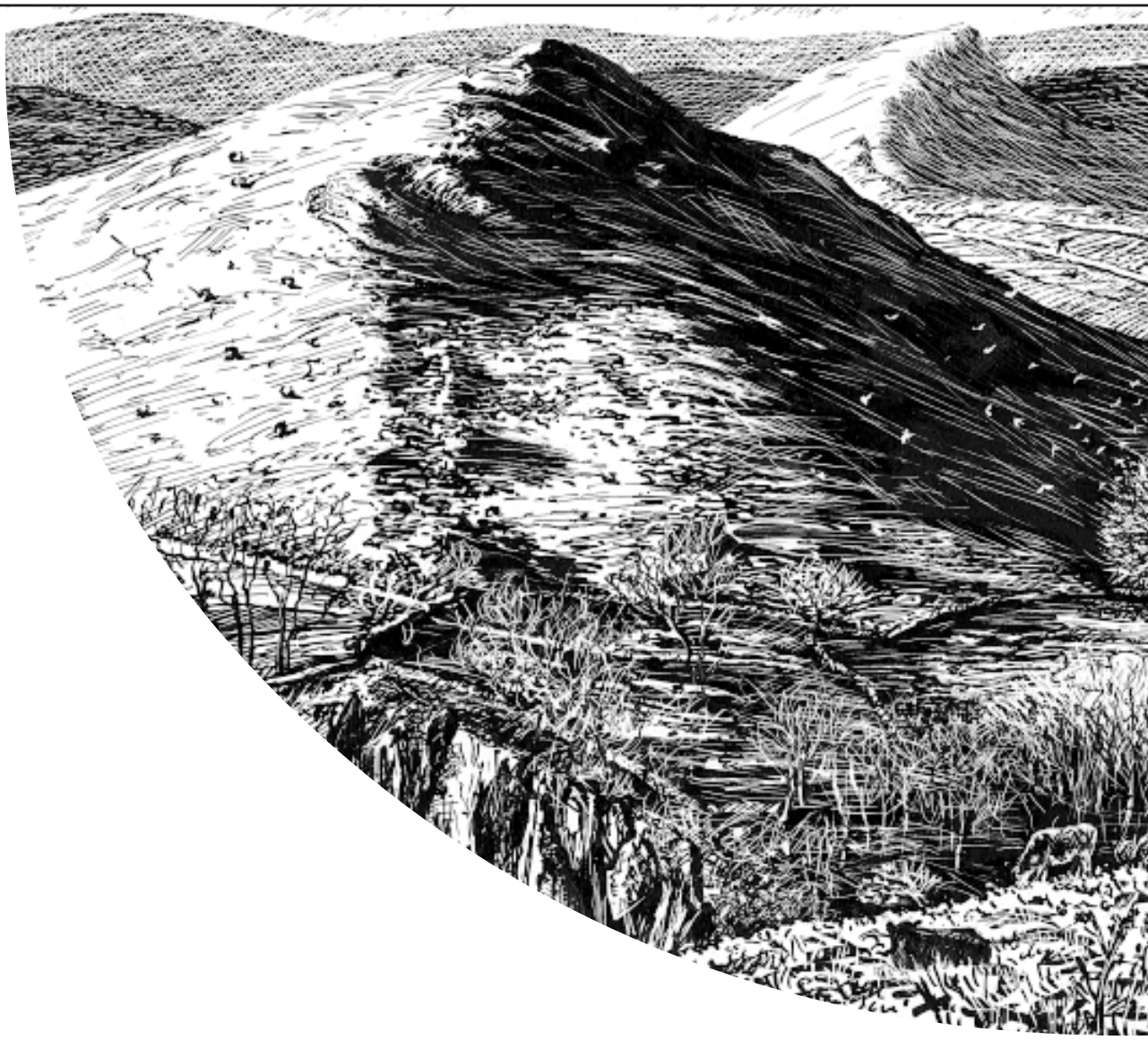
- FWAG and the WTs' advisory services;
- continuing management of unimproved pastures in the ownership of conservation organisations and public bodies (LAs, EN, NT, WTs, PDNPA) and WCs.

Additional resources are likely to be required:

- for survey of pastures (2001- 2003) and negotiation of agreements (2001- 2005);
- for surveys and negotiations at priority restoration sites (2005 - 2010);
- to provide adequate financial incentives for the conservation and restoration management of pastures (2001 onwards);
- to aid in the production of the proposed registers (2001 onwards);
- to implement effective monitoring (2001 onwards).

The PDNPA and EN are currently seeking resources to continue the Pastures Project, aimed at surveying and securing high quality sites within appropriate agreements. The RSPB, PDNPA and EN are currently seeking resources for a Ground-nesting Bird Habitat Project (to run from 2001 - 2004) which would also have implications for unimproved pasture conservation.

ROUGH GRAZING



TREND IN THE PEAK DISTRICT:

Lack of comprehensive information but decline in quality is likely.

ESTIMATED EXTENT IN THE PEAK DISTRICT:

Estimate not possible with current information.

NATIONAL BAP HABITATS:

Lowland Calcareous Grassland, Upland Calcareous Grassland and Lowland Acid Grassland (priority habitats). Inland Rock (broad habitat type).

ASSOCIATED NATIONAL BAP PRIORITY SPECIES:

Brown hare, black grouse (extinct), grey partridge, linnet, skylark, juniper, a waxcap fungus (*Hygrocybe calyptriformis*) and an earth tongue fungus (*Microglossum olivaceum*).

ASSOCIATED PEAK DISTRICT AUDITS:

Calcareous Grassland, White Peak Acid Grassland, Acid Pastures on Gritstone/Shale, Neutral Grassland and Grass Moor.

INTRODUCTION

This action plan covers all extensive areas of rough grazing which are primarily unimproved, including: the extensive pastures of the limestone hills such as Chrome and Parkhouse Hills and Eldon Hill; the rough grazings of the shale and gritstone hills such as Mam Tor and Lose Hill; and the extensive areas of rough grazings on the moorland edges, such as the flanks of Kinder plateau and the edges of Ollersett Moor and Abney Moor.

It excludes rough grasslands within a moorland unit (covered by the Heather Moorland Action Plan), rush pasture (covered by the Rush Pasture Action Plan) and the extensive grasslands of the limestone which occur within the system of dales (covered by the Limestone Dales Action Plan). Lead rakes occur within some of these rough grazings but these are covered in the Lead Rakes Action Plan.

The areas of rough grazing are a rich and varied resource of unimproved and semi-improved grasslands providing habitat for a range of different plant communities and their associated populations of insects, birds (for example wheatear) and small mammals (field voles). A host of different vegetation types are found on the rough grazings, such as dry acid grassland, rock and scree, calcareous grassland on the limestone, areas of remnant dwarf shrub, scrub and, in wetter areas, flushes and rush dominated grassland. These areas of primarily semi-natural habitat are an extremely important part of the landscape, often denoting the character of distinct areas of the Peak District.

There have been no systematic surveys of rough grazings in the Peak District. A number of sites have been surveyed as part of surveys for other specific types of grassland or by the Peak District National Park Authority as part of surveys relating to agri-environment and conservation schemes and casework. Unlike other grasslands the losses to direct agricultural improvement are likely to have been limited since many areas are inaccessible to machinery. However, some sites will have declined in quality as a result of increases in stock numbers.

Rough grazings have a separate action plan to other unimproved pastures because of the different emphasis of the actions. Potentially rough grazings could be targeted by habitat restoration and creation schemes within other action plans. In particular there is scope for the restoration of limestone heath on some of the limestone hills. In the Dark Peak and South West Peak, moorland restoration may be a priority for some areas. Having these extensive rough grazings as a separate action plan ensures that their future is clarified and that the interest of this habitat in its own right is not overlooked.

The rough grazings are often important in the landscape, occupying a prominent position. Frequently there is public access in the form of footpaths, bridle-ways, and locally, open access, and they are much used for walking and other recreational activities.

ADVERSE IMPACTS	Historic	Current
Land Management		
Agricultural intensification - ploughing, re-seeding, drainage, and the application of artificial fertilisers, herbicide and slurry.	✓	✓✓
Application of paper pulp.		✓✓
Inappropriate stock type, such as the expansion in sheep numbers relative to cattle	✓	✓✓
Inappropriate grazing levels, including over-grazing and neglect.	✓	✓✓
Pollution		
Disposal of sheep dip.		✓
Use of Ivermectin and its associated effects on invertebrates.		✓
Others		
Motorbike scrambling and 4x4 trials.		✓
Division and enclosure of rough grazings.		✓
The use of hollows etc for disposal of waste from building works.		✓
Tree planting schemes.	✓	✓

Quarrying.	✓	✓
Bracken encroachment.	✓	✓

An impact ✓ *Significant impact* ✓✓

CURRENT ACTION

Designated Sites

- Important rough grazings include Chrome and Parkhouse Hills SSSI (298.8 ha) and Castleton SSSI (823.9 ha) which includes Eldon Hill (although this is principally a geological SSSI).

Sites Owned and Managed by Conservation Organisations

- The NT owns and manages significant areas of rough grazings, including Mam Tor and Wetton Hill.

Sites Within Conservation Agreements

- 420 ha of steep grassland are being traditionally managed by landowners within the PDNPA's Farm Conservation Scheme (FCS). A proportion of this will be rough grazings.
- Significant areas of rough grazings are being managed by farmers, with support from MAFF, within the South West Peak and North Peak Environmentally Sensitive Areas (ESAs) and within the Countryside Stewardship Scheme (CSS).

ACTION PLAN OBJECTIVES AND TARGETS

National Targets

There is no National Action Plan for rough grazings but the following relate to this Action Plan:

Lowland Calcareous Grassland, Lowland Dry Acid Grassland and Upland Calcareous Grassland

- Arrest the depletion throughout U.K.
- Agree favourable management on all the resource in unfavourable condition within SSSIs by 2005 and achieve favourable condition wherever feasible by 2010.
- Secure favourable condition over 30% of lowland calcareous and acid grassland by 2005 and as near 100% as practicable by 2015. Secure favourable condition over 75 % of upland calcareous grassland outside SSSIs by 2005.
- Re-establish 1000 ha of lowland calcareous grassland and 500 ha of lowland dry acid grassland by 2010 and initiate pilot attempts to re-create at least 200 ha of upland calcareous grassland by 2005.

A Vision for the Peak District

The extensive areas of rough grazings are a unique part of the Peak District landscape. Ecologically they are a varied resource and the plan recognises that each site will need to be individually assessed. The targets below reflect this importance but are intended to be realistic, recognising that each site will be unique in terms of its conservation requirements. For example, restoration of upland heath may be appropriate at certain sites. Others, important for their grassland but perhaps in poor condition may need challenging and innovative solutions to management problems. It is recognised that farming has not only created these extensive rough areas, often on prominent and striking hills, but it is also essential to their future. To take these targets forward into real action will require co-operation from wide ranging organisations and land managers.

OBJECTIVES AND TARGETS

A number of rough grazing sites may be targeted by the Heather Moorland, Rush Pasture and Limestone Heath Action Plans for the integrated restoration of these priority habitats.

Objective 1

Bring all areas of importance into favourable condition. Given the variability in the types of rough grazings, this could include a range of criteria - botanical interest, bird interest, fungi and/or invertebrate interest.

Target

Initiate management to bring 30% of rough grazings into favourable condition by 2005, and 50% by 2010.

Objective 2

Restore areas of poor quality rough grazings (where the grassland habitat is the priority) to increase the area and quality of key communities.

Targets

Assess the need for restoration of rough grazing land and target priority areas as appropriate.

Initiate the restoration of 50 ha of heavily grazed rough grazings to richer habitat (species and landscape) by 2010.

Objective 3

Link or extend areas of rough grazing (e.g. between two isolated limestone hills) by the creation of appropriate mosaics of semi-natural habitats.

Target

Identify the opportunities for creation of rough grazings by 2010.

Main Factors Likely to Affect Achievement of Targets

Land Management

Implementation of the Rural Development Regulation and reform of the Common Agricultural Policy.

Effectiveness of agri-environment and conservation scheme prescriptions.

The added complications arising from managing a number of rough grazings as commons.

The move away from headage payments (may be a favourable influence on the management of rough grazings).

Resources and Financial Incentives

Limited rewards from agri-environment and conservation schemes (though less of a problem on this inaccessible marginal land).

Availability of funding for survey, negotiations and agreements.

High land prices – forcing intensive management following purchase of land.

Planning Policy and Regulations

Planning policy.

Lack of planning controls for agricultural operations – Permitted Development Rights (PDR) allow in-filling and levelling of hollows within a farm holding.

Others

The demand for limestone and resulting quarrying activity.

Lack of safeguard or effective conservation mechanisms outside of SSSIs. It is often at the time of change of ownership that rough grazings, as with other grassland habitats, are most at risk. At present there is no systematic procedure or mechanism for conservation bodies and local authorities to have an opportunity to safeguard such land.

The impact of access, including the Countryside and Rights of Way Act 2000, which gives right of access on foot across open country. This could include some areas of rough grazing.

ACTIONS

Key to the future of this habitat are the actions relating to survey and negotiations of conservation agreements (Actions RG4 and RG17 - 20). Actions relating to the control of paper pulp (RG 27) and the interface with recreation interests (RG 11) will add to the success of the plan, as will considering a review of agri-environment and conservation scheme prescriptions and payments (RG 16). Crucial is a balanced and pragmatic view to the overlap with the limestone heath, rush pasture and moorland habitats.

	ACTIONS	TIMESCALE	LEAD AGENCY & Partners
DATA COLLATION AND SURVEY			
	Data Collation		
RG1	Collate existing information on rough grazings to include PDNPA database, WT data, NT records, SSSI and ESA information. (Objective 1 and 2)	Winter 2001	**PDNPA**/EN/WTs/NT LAs/MAFF/Voluntary Sector
RG2	Compile a register of rough grazings including classification into types, level of importance (including 'Wildlife Site' status), condition, ownership, important species and conservation status, and initiate a programme for regular updating. (Objective 1 and 2)	Winter 2001	**PDNPA**/EN/WTs/NT LAs /MAFF
RG3	Ensure that the site register and collated information is easily available for use and updating by relevant organisations. (Objectives 1 and 2)	Winter 2001	**PDNPA**/EN/WTs/NT LAs/MAFF
	Survey		
RG4	Carry out a detailed habitat survey of rough grazings where current information is inadequate – liase closely with other grassland and moorland surveys. (Objectives 1 and 2)	Summer 2002 - 2003	**PDNPA**/EN/NT/LAs WTs
EVALUATING THE IMPORTANCE AND CONDITION OF SITES			
	Evaluating Importance and Identifying Key Sites		
RG5	Agree methodology for the evaluation of rough grazings including definition of key sites and priorities for conservation action. To include consideration of nationally and locally important species. (Objectives 1 and 2)	Winter 2001	**PDNPA**/GBAPG
RG6	Produce a list of key sites for targeting for conservation action and restoration management. (Objectives 1 and 2)	Winter 2001	**PDNPA**/GBAPG
	Defining Favourable Condition		
RG7	Agree definitions of favourable condition for the complete range of sites in the Peak District. (Objectives 1 and 2)	Winter 2001	**EN**/GBAPG
RG8	Agree guidelines for the conservation of rough grazings, to include the range of appropriate management needed to achieve favourable condition. (Objectives 1 and 2)	Winter 2001	**EN**/GBAPG
RG9	Agree guidelines for the restoration of rough grazings. This will include: *The identification of priority areas for restoration based on type of site, location, potential for enhancement and relationship to key species - targeting sites which are potentially important for their grasslands *Guidance on conservation priorities and a review of		

	restoration techniques This will involve close liaison with Limestone Heath, Rush Pasture and Heather Moorland Action Plans. (Objectives 1 and 2)	Winter 2001	**PDNPA**/GBAPG

RESEARCH

RG10	Ensure that the results of research into the effects of Ivermectin on invertebrate communities associated with animal dung are implemented at a local level. (Objectives 1 and 2)	2001 onwards	**WEG**

PUBLIC ACCESS

RG11	Agree and implement both general and site specific approaches to the management of access on rough grazing land that enables public enjoyment of the environment but prevents significant damage. (Objective 1)	2001 onwards	**PDLAF**/NT/EN/WTs PDNPA/LAs

MONITORING

RG12	Agree methodology for and implement effective monitoring of rough grazings. Ensure that the results of the process are collated and used to update the register. (Objectives 1 and 2)	2001 onwards	**PDNPA**/MAFF/EN WTs/NT

AWARENESS RAISING

RG13	Share information on the wildlife importance and management needs of key conservation and restoration sites with the landowners/managers, including feedback from surveys. (Objectives 1 and 2)	2001 onwards	PDNPA/NT/EN/WTs MAFF/FWAG/LAs
RG14	Make guidance on rough grazing conservation and restoration available to landowners/managers and conservation organisation staff. (Objectives 1 and 2)	2002 onwards	**PDNPA**/GBAPG

CONSERVATION ACTION AND INCENTIVES

Designations

RG15	Review desirability and opportunities for establishment of further key sites as NNRs or LNRs and establish if appropriate. (Objectives 1 and 2)	2005	**EN/LAs** (joint leads) WTs/NT/PDNPA

Grant Schemes

RG16	Consider recommending a review of all agri-environment and conservation schemes to ensure that: *Targeting at a national, regional and local level gives adequate priority to rough grazings *Management prescriptions are reviewed to include flexible site-specific measures *Payments for rough grazings are increased to at least the level of profits foregone and include consideration of a cattle grazing supplement (Objectives 1 and 2)	2001 onwards	MAFF/EN/PDNPA WEG/GBAPG

Negotiation and Review of Agreements

RG17	Review management of all sites within SSSIs. Where necessary agree revised management regimes with owners/managers, through appropriate mechanisms, to		

	ensure maintenance or restoration of favourable condition. (Objectives 1 and 2)	2003	**EN**
RG18	Negotiate appropriate agreements with landowners and managers of all key sites for conservation or restoration, outside of SSSIs or existing agreements, in order to achieve maintenance or restoration of favourable condition. (Objectives 1 and 2)	Summer 2002 - 2010	PDNPA/NT/WTs/FWAG LAs/MAFF
RG19	Review management of rough grazings in existing agreements, outside of SSSIs. Where necessary agree revised management regimes with owners and managers to ensure that favourable condition is being maintained or restored. (Objectives 1 and 2)	Spring 2002 - 2005	PDNPA/MAFF/FWAG WTs/NT
RG20	Review whole holding agreements which include unprotected rough grazings. Consider the opportunities for amending the agreement to incorporate their safeguard and enhancement. (Objective 1 and 2)	2002 - 2005	MAFF/NT/WTs PDNPA/FWAG
	Land Acquisition		
RG21	Consider negotiating purchase/lease of priority rough grazings where this would be the most effective way of achieving conservation objectives and where a negotiated conservation solution has not succeeded. (Objectives 1 and 2)	2001 onwards	PDNPA/EN/WTs/RSPB NT
	Direct Action		
RG22	On land owned by public or conservation bodies, ensure that: *Management maintains and where possible enhances the value of rough grazings *Options for restoration of rough grazings are considered *Opportunities for involvement of local communities in site management are taken where possible (All Objectives)	2001 onwards	PDNPA/EN/LAs/FC/NT WTs
	REGULATION		
	Planning		
RG23	Ensure all planning applications and General Development Orders are adequately assessed in relation to their impact on rough grazings; that loss or damage is avoided and that opportunities are taken for enhancement. (Objectives 1 and 2)	2001 onwards	PDNPA/EN/LAs/WTs
RG24	Consider the opportunities for the creation of rough grazings in relevant planning decisions, including quarry restoration schemes. (Objective 3)	2001 onwards	PDNPA/EN/LAs/WTs
RG25	Encourage a review of Permitted Development Rights that currently allow potentially damaging recreational activities for 14 days per year – such as 4 wheel drive trials. (Objectives 1 and 2)	2001 onwards	**PDNPA**/EN/LAs/WTs
RG26	Ensure that the impact of disposal of waste from new buildings is addressed in the planning process. (Objectives 1 and 2)	2001 onwards	PDNPA/EN/LAs/WTs

	Pollution Control and Waste Management		
RG27	Review procedures and consultation processes in relation to the spreading of paper pulp. (Objectives 1 and 2)	2001	**EA**/EN/PDNPA/NT WTs
RG28	Ensure good practice is followed in disposing of sheep-dip, avoiding rough grazings. Implement by continuing with an awareness raising strategy amongst land managers; continuing the programme of licensing; extending consultation procedures for disposal applications to the whole of the Peak District and, where necessary, by enforcement action. (Objectives 1 and 2)	2001	**EA**/LAs/PDNPA
	Other regulatory mechanisms		
RG29	Ensure that all woodland planting proposals consider the adverse effects of planting on rough grazings. (Objectives 1 and 2)	2001 onwards	**FC/**LAs/EN/WTs

RESOURCES

It is envisaged that many of the actions proposed will be carried out by the relevant organisations using current resources. These include:

- the continuing investment by landowners and managers managing their land sympathetically for wildlife;
- EN's programme of reviewing SSSI management and designation and its grant and management agreement schemes;
- MAFF's Countryside Stewardship and Environmentally Sensitive Area Schemes;
- the PDNPA's advisory and grants service for landowners/managers and its rolling programme of special conservation projects;
- FWAG and the WTs' advisory services;
- continuing management of rough grazing land owned by conservation organisations and public bodies (LAs, PDNPA, EN, NT, WTs) and WCs.

Additional resources are likely to be required:

- for survey of rough grazing land (2002 - 2003) and negotiation of agreements (2002 - 2005);
- to provide adequate financial incentives for the conservation and restoration management of rough grazings (2001 onwards);
- to aid in the production of the proposed registers (2001 onwards);
- to implement effective monitoring (2001 onwards).

The PDNPA and EN are currently seeking resources to continue a Pastures Project aimed at surveying and securing high quality sites within appropriate agreements. Similarly, the RSPB, PDNPA and EN are currently seeking resources for a Ground-nesting Bird Habitat Project (to run from 2001 - 2004) which would also have implications for rough grazing conservation.

RUSH PASTURE

TREND IN THE PEAK DISTRICT:

Insufficient information but bird species dependent on this habitat are known to be in sharp decline.

ESTIMATED EXTENT IN THE PEAK DISTRICT:

Rush pasture is widespread in the headwaters of Dark and South West Peak river valleys and along the moorland fringe. It is not known how much of this is high quality habitat.

NATIONAL BAP HABITATS:

There are no relevant national BAP habitats. Rush pasture is considered to be of Peak District importance because of its contribution to the landscape and its importance for nationally and regionally important species.

ASSOCIATED NATIONAL BAP PRIORITY SPECIES:

Water vole, black grouse (extinct), reed bunting, skylark, brown hare.

ASSOCIATED PEAK DISTRICT AUDITS:

Rush Pasture.

INTRODUCTION

Rush pasture includes all mires and wet grasslands in the upper reaches of rivers and at the moorland edge within the South West Peak and Dark Peak Natural Areas. These areas are commonly dominated by either soft or sharp-flowered rush in some instances with a rich assemblage of marsh species but in others in association with relatively species-poor grassland. All are potentially of importance for their invertebrate and bird populations. Waders such as lapwing, curlew and snipe depend on this habitat for feeding and/or breeding, as do several of our farmland birds such as skylark.

Rush pasture does not include mires and wet grasslands throughout the White Peak or in the lower and middle reaches of river valleys within the Dark and South West Peak. It also does not include flushes on open moorland but together with these habitats and with wet woodland it contributes to a rich picture of wetlands across the Peak District.

Rush pasture occurs as a complex mosaic of community types along the fringe of the moorland areas. In this context it often exists in close association with spring-heads, flush-lines, field ditches and small streams. It also exists extensively over permanently damp soils in areas of impeded drainage.

Traditionally these areas have been used for light grazing by cattle. During the 20th century they have come under pressure for drainage and improvement and have suffered from increased stocking rates, which have dramatically altered the quality of the habitat type.

There has been no comprehensive assessment of the area of rush pasture. However it is likely to be in excess of the 32 km^2 quoted in 1993 for severely disadvantaged areas within the Peak District. It is unclear how much of this is valuable habitat for either flora or fauna although much of it is likely to be potentially important.

Rush pasture exists as part of the intimate mosaic of farmland habitats. The tussocky structure and damp soils contribute to the richness of its invertebrate fauna whilst the structure and rich feeding grounds make it of crucial importance to the survival of many of our best loved farmland birds which have shown dramatic declines in numbers over the last 15 years. For example, curlew, lapwing and snipe numbers declined by 57 – 73 % in the North Staffordshire area between 1985 and 1996. It is also the habitat for increasingly uncommon plants including marsh orchid, ragged robin and marsh cinquefoil.

Rush pasture makes a valuable contribution to the landscape, often existing as a transition and buffer between the more intensively used in-bye land and the moorlands above. Several of the species it supports are equally dependent on the moorland habitat e.g. twite, ring ouzel, golden plover and merlin. It is only by conserving both of these elements within the landscape that we can positively contribute to the enhancement of the populations of these key species.

ADVERSE IMPACTS	Historic	Current
Land Management		
Ploughing and other types of land cultivation including chain harrowing and rolling.	✓	✓✓
In-field drainage.	✓	✓
The modification of stream and ditch profiles.	✓	✓
Inorganic and organic fertilizer, lime and herbicide applications	✓	✓✓
Extensive and regular mechanical rush cutting.	✓	✓
Application of paper pulp.		✓✓
Inappropriate stock type owing in part to the expansion in sheep numbers relative to cattle on many moorland edge land holdings, and the growth in the use of in-bye fields as pony paddocks.		✓✓
Inappropriate grazing levels including over-grazing in some instances leading to compaction, and neglect in others.	✓	✓✓
Pollution		
Sheep dip disposal.		✓
The adverse effects of Ivermectin on invertebrates.		✓

Others		
Tree planting schemes.	✓	✓
Fragmentation – leading to a risk of species extinction and a negative effect on the feasibility of rush pasture restoration.	✓	✓✓

An impact ✓ *Significant impact* ✓✓

CURRENT ACTION

Designated Sites

- Rush pasture within enclosed fields forms part of the reason for notification of the Goyt Valley and Leek Moors SSSIs. The floodplain mire at Moss Carr in the headwaters of the River Manifold, which includes elements of the rush pasture habitat, is also a SSSI.
- Both the Goyt Valley and Leek Moors SSSIs form part of the South Pennine Moors SPA, designated for its upland bird populations. Rush pasture also contributes to the feeding grounds available for upland birds in the Dark Peak SSSI where the moorland alone forms the SPA.
- A number of important rush pastures are identified as 'Wildlife Sites'.

New Initiatives

- The National Park's Pastures Project targeted wetlands for conservation action in 2000 and five key rush pasture sites each including a number of fields were surveyed during the summer.
- Both Environmentally Sensitive Area (ESA) schemes have introduced re-wetting options and re-wetting projects are underway both in the Dark Peak and South West Peak with the aim of increasing the area of marsh and marshy grassland and soil moisture generally.

Sites Owned and Managed by Conservation Organisations

- The PDNPA owns a number of rush pastures on the North Lees, Warslow Moors and Eastern Moors Estates.
- The NT holdings in the Dark Peak Natural Area probably include in the order of 1000 - 1500 ha of rush pasture, approximately one-fifth of the in-bye farmland.

Sites Within Conservation Agreements

- There are 152 ha of flat pasture managed within the PDNPA Farm Conservation Scheme (FCS), which includes small areas of rush pasture.
- In 1994 54 % of the rough grazing land within the North Peak ESA was in an agreement.
- In 1996 62 % of the rough grazing land within the South West Peak ESA was in an agreement.
- Areas of rush pasture are being positively managed by farmers within Countryside Stewardship (CS) agreements.

Research

- Research projects are underway to explore the possibility of re-wetting rush pasture by breaking up the surface of the soil using a slotting machine.

ACTION PLAN OBJECTIVES AND TARGETS

National Targets

There are no relevant national BAP habitats and so no relevant national objectives and targets (some small areas of mire and tall-herb fen vegetation correspond to the National Fens Key Habitat but the national objectives and targets for the Fens Action Plan relate poorly to the Peak District examples.)

A Vision for the Peak District

The objectives and targets outlined below have been chosen to reflect:

i) The importance of the rush pasture habitat for internationally, nationally and regionally important bird, invertebrate and plant species,

ii) The contribution that rush pasture makes to the moorland/farmland interface and to the landscapes of the South West Peak and Dark Peak Natural Areas,

iii) The presence of two ESAs within the BAP area which should be able to make a significant impact on the conservation and enhancement of the rush pasture habitat.

Rush pastures form a distinctive habitat with tussocky and unruly appearance and reflect decades of hard toil by farmers, struggling to farm marginal and difficult land. They now provide an essential habitat for many important birds, plants and invertebrates. The targets are very ambitious but with resources and targeted effort they can be achieved. The realisation of the actions will ensure that these rough marginal fields remain an important part of the character of the Peak District. It is hoped that the conservation and enhancement of this habitat will be accompanied by a reversal in the depressing decline in marshland plants and important birds such as the curlew.

OBJECTIVES AND TARGETS

Objective 1

Safeguard all existing rush pasture of botanical, bird or invertebrate importance by ensuring favourable management aimed at achieving favourable condition.

Target

Initiate management by 2005 to bring 50% of all rush pasture into favourable condition. Review and set a new target for 2005 - 2010.

Objective 2

Enhance the rush pasture habitat to achieve an extension in the habitat of key species.

Target

Initiate the restoration of 100 ha of poor quality rush pasture by 2005 and 500 ha by 2010 to provide quality habitat for key species, targeting important sites.

Objective 3

Create new areas of rush pasture with the priority being to link or extend existing areas, for example alongside stream-sides or in relation to key species.

Target

Initiate the creation of new rush pasture by 2010, where this is essential in linking and extending the habitat.

Main Factors Likely to Affect Achievement of Targets

Land Management

Implementation of the Rural Development Regulation and reform of the Common Agricultural Policy.

Predicted decreases in the numbers of stock in the uplands as a result of the move to area as opposed to headage payments within the subsidy system – this may well prove positive for the rush pasture habitat.

Decreasing numbers of cattle in the Peak District compared to sheep.

The effectiveness and lack of flexibility within grant schemes particularly ESA schemes. This is of particular concern for the rush pasture habitat where appropriate management often requires additional management prescriptions not available within the scheme, for example stipulations of stock type or all year round stocking rates.

Resources and Financial Incentives

Availability of funding for survey, negotiations and agreements.

Limited rewards from agri-environment and conservation schemes – this is particularly significant for the rush pasture habitat which may cover a large proportion of a holding and can include productive grassland. Annual payments need to reflect the impact that a conservation agreement could have on the economics of the holding if a large proportion of relatively productive land is included in a scheme.

High land prices – forcing intensive management following purchase of land.

Practical Difficulties and Gaps in Knowledge

Inadequate understanding of the habitat and the management necessary for its conservation and enhancement.

Others

The critically small size of populations of key species.

The fragmentation and small size of some rush pastures, particularly botanically rich wetlands.

Lack of safeguard or effective conservation mechanisms outside of SSSIs - it is often at the time of change of ownership that pastures, as with other grassland habitats, are most at risk. At present there is no systematic procedure or mechanism for conservation bodies and local authorities to have an opportunity to safeguard such land.

ACTIONS

Key to the achievement of the proposed targets are actions relating to:

- Habitat and species surveys, coupled with negotiations to secure appropriate land management (Actions RP4, 7 and 22 - 25);
- Ensuring agri-environment and conservation schemes provide adequate financial incentives and appropriate management prescriptions to safeguard, enhance and restore rush pasture, including inventive options for re-wetting and stock control (RP21);
- Awareness-raising and training measures, particularly important in this diverse habitat (RP16 - 18), and
- The development of restoration techniques (RP12 and 13).

	ACTIONS	TIMESCALE	LEAD AGENCY & Partners
DATA COLLATION AND SURVEY			
	Data Collation		
RP1	Collate all existing information on the rush pasture habitat to include: *PDNPA key sites register *the results of the bird surveys *existing basic information *NT survey information *SSSI survey information *invertebrate information (Objective 1)	Winter 2001	**PDNPA/**WTs/ EN/LRCs/LAs/ Voluntary Sector
RP2	Compile a register of the rush pasture habitat, including: type, level of interest, condition, presence of important species and conservation status (including 'Wildlife Site' status). Initiate a programme of regular updating. (Objective 1)	Winter 2001 onwards	**PDNPA**/GBAPG
RP3	Compile a register of the potential areas for restoration and identify priority restoration sites. (Objective 2)	Winter 2002 onwards	**PDNPA**/GBAPG
	Surveys		
RP4	Carry out a co-ordinated survey for all key bird species – lapwing, curlew, snipe, redshank and skylark. Ensure		

	that this survey includes opportunities for habitat assessments and collection of predator information. (Objective 1)	2001	**RSPB**/Bird Study Groups
RP5	Consider the need for further botanical survey work. (Objective 1)	Winter 2001	**PDNPA**/GBAPG
RP6	Consider the need and practicalities of collecting invertebrate information during the survey of rush pastures. (Objective 1)	Winter 2001	**PDNPA**/GBAPG
RP7	Carry out a detailed habitat survey of rush pastures where current information is inadequate. (Objectives 1 and 2)	2002 - 2005	**PDNPA/**GBAPG

EVALUATING THE IMPORTANCE AND CONDITION OF SITES

Evaluating Importance and Identifying Key Sites

RP8	Agree methodology for the evaluation of rush pastures, including definition of key sites (botanical, invertebrate and bird importance), priorities for conservation action and 'Wildlife Sites' status. To include consideration of nationally and locally important species particularly breeding birds. (Objective 1)	Winter 2001	**EN**/GBAPG

Defining Favourable Condition

RP9	Agree definitions of favourable condition for the complete range of sites in the Peak District, including the requirements of important species. (Objectives 1 and 2)	Winter 2001	**EN/**GBAPG
RP10	Agree guidelines for the range of appropriate management needed to achieve favourable condition, conservation, restoration and creation of rush pastures. This will include guidance on conservation priorities and a review of restoration and creation techniques, and it will define priority restoration and creation areas such as sites adjacent to key bird sites or areas which would link key botanical sites. (Objective 1 and 2)	Winter 2001	**GBAPG**

RESOURCES

RP11	Seek resources to carry out survey and negotiation of conservation agreements in collaboration with other grassland and bird action plans. (Objectives 1, 2 and 3)	2001	**RSPB/PDNPA**(joint leads)

RESEARCH

RP12	Continue the re-wetting/slotting machine research projects and expand if results prove positive. (Objectives 2 and 3)	2001 onwards	**RSPB**/MAFF/NWW/EN
RP13	Continue to support research at University of Lancaster into the management of rush pasture and ensure that information on techniques is shared with the GBAPG. (Objectives 1 and 2)	2001 onwards	**RSPB**
RP14	Ensure that the results of research into the effects of Ivermectin on invertebrate communities associated with animal dung are implemented at a local level. (Objectives 1 and 2)	2001 onwards	**WEG**

MONITORING

RP15	Agree methodology for and implement effective monitoring of rush pasture. Ensure that the results of the process are collated and used to update the rush pasture register. (All Objectives)	2001 onwards	PDNPA/MAFF/EN WTs/NT

AWARENESS RAISING

RP16	Share information on the wildlife importance and management needs of key conservation and restoration sites with landowners/managers, including feedback from surveys. (Objectives 1, 2 and 3)	2001	PDNPA/MAFF/RSPB EN/WTs/NT
RP17	Make guidelines available on the techniques for restoring rush pasture, to include re-wetting and adjusting stock type, numbers and grazing period. (Objective 2)	Winter 2001 onwards	**RSPB/**PDNPA/EN GBAPG
RP18	Make guidelines available on the techniques for re-creating rush pasture, to include: reversion to traditional management without inputs; adjusting stock type, numbers and grazing period; the abandonment of field drains and other methods of re-wetting. (Objective 3)	Winter 2001 onwards	**RSPB/PDNPA/EN** (joint leads)/GBAPG

CONSERVATION ACTION AND INCENTIVES

Designations

RP19	Review coverage of rush pastures in SSSIs and notify further sites as appropriate. Consider extending the Dark Peak SSSI and associated South Pennines SPA to include fringing areas of rush pasture in order to recognise the importance of the moorland fringe habitats for upland birds. (Objectives 1 and 2)	2002	**EN**
RP20	Review desirability and opportunities for establishment of further key sites as NNRs and LNRs and establish if appropriate. (Objectives 1 and 2)	2005	**EN/LAs** (joint leads) WTs/NT/PDNPA

Grant Schemes

RP21	Consider recommending a review of all agri-environment and conservation schemes to ensure that: *Targeting at a national, regional and local level gives adequate priority to rush pasture *Management prescriptions are reviewed to include flexible site-specific measures and that restoration prescriptions are effective *Payments are increased to at least income foregone and include small area payments (to encourage the conservation of small areas of species rich wetland within otherwise less interesting management units) *Payments for restoration, for example for re-wetting, are set at an attractive level to increase uptake (Objectives 1, 2 and 3)	2001 onwards	MAFF/EN/PDNPA WEG/GBAPG

Negotiation and Review of Agreements

RP22	Review management of all sites within SSSIs. Where necessary agree revised management regimes with owners/managers, through appropriate mechanisms, to ensure maintenance or restoration of favourable condition. (Objectives 1 and 2)	2002 - 2005	**EN**

RP23	Negotiate appropriate conservation agreements with landowners/managers of all key conservation, restoration and creation sites not in existing agreements, outside of SSSIs, in order to achieve maintenance or restoration of favourable condition. (Objective 1 and 2)	2002 - 2003 (conservation) 2005 - 2010 (restoration)	**PDNPA/RSPB** (joint leads)/MAFF/NT/ WTs/FWAG
RP24	Review management of rush pasture in existing conservation agreements, outside of SSSIs. Where necessary agree revised management regimes with owners/managers to ensure that favourable condition is being maintained or restoration. (Objectives 1 and 2)	2001 onwards	**PDNPA/RSPB** (joint leads)/MAFF/NT/WTs FWAG
RP25	Review whole holding agreements which include unprotected rush pastures. Consider the opportunities for amending the agreement to incorporate their safeguard and enhancement. (Objective 1 and 2)	2002 - 2005	**PDNPA/RSPB** (joint leads) MAFF NT/WTs FWAG
	Land Acquisition		
RP26	Consider negotiating purchase/lease of priority rush pastures where this would be the most effective way of achieving conservation objectives and where a negotiated conservation solution has been unsuccessful. (Objectives 1 and 2)	2001 onwards	PDNPA/EN/WTs/RSPB NT
	Direct Action		
RP27	On land owned by public or conservation bodies, ensure that: *Management maintains and where possible enhances the value of rush pastures *Options for restoration of rush pastures are considered (All Objectives)	2001 onwards	PDNPA/EN/LAs/FC NT/WTs

REGULATION

	Planning		
RP28	Ensure all planning applications and General Development Orders are adequately assessed in relation to their impact on rush pastures; that loss or damage is avoided; and that opportunities are taken for enhancement. (Objectives 1 and 2)	2001 onwards	PDNPA/EN/LAs/WTs
RP29	Consider the opportunities for the creation of rush pastures in relevant planning decisions, including quarry restoration schemes. (Objective 3)	2001 onwards	PDNPA/EN/LAs/WTs
	Pollution Control and Waste Management		
RP30	Review procedures and consultation processes in relation to the spreading of paper pulp. (Objectives 1 and 2)	2001	**EA**/EN/PDNPA/LAs
RP31	Ensure good practice is followed in disposing of sheep-dip, avoiding rush pastures. Implement by continuing with an awareness raising strategy amongst land managers; continuing the programme of licensing; extending consultation procedures for disposal applications to the whole of the Peak District and, where necessary, by enforcement action. (Objectives 1 and 2)	2001	**EA**/LAs/PDNPA

Other Regulatory Mechanisms

RP32	Ensure that all woodland planting proposals consider the adverse effects of planting on rush pastures. (Objective 1)	2001 onwards	**FC/**LAs/PDNPA/EN

RESOURCES

It is envisaged that a significant proportion of the actions proposed will be carried out by the relevant organisations using current resources. These include:

- continuing investment by landowners and managers in managing their land sympathetically for wildlife;
- EN's programme of reviewing SSSI management and designations and its grant and management agreement schemes;
- MAFF's Countryside Stewardship and Environmentally Sensitive Area Schemes;
- the PDNPA's advisory and grants service for landowners/managers and its rolling programme of special conservation projects;
- RSPB, FWAG and the WTs' advisory services;
- the MAFF/NWW/RSPB re-wetting trials;
- RSPB and volunteer surveys;
- continuing management of rush pastures owned by conservation organisations and public bodies (EN, NT, WTs, LAs, PDNPA) and WCs.

Additional resources are likely to be required:

- for species and habitat surveys (2001 - 2002);
- for negotiations (2001 - 2010);
- to provide adequate financial incentives for the conservation and restoration management of rush pastures (2001 onwards);
- to aid in the production of the proposed registers (2001 onwards);
- to implement effective monitoring (2001 onwards).

The PDNPA and EN are currently seeking resources to continue a Pastures Project, aimed at surveying and securing high quality sites within appropriate agreements. The RSPB, PDNPA and EN are currently seeking resources for a Ground-nesting Bird Habitat Project (to run from 2001 - 2004) which would also have implications for rush pasture conservation.

TREND IN PEAK THE DISTRICT:

Estimated 50 % loss this century and continuing decline.

ESTIMATED EXTENT IN THE PEAK DISTRICT:

260 ha (not all of high quality).

NATIONAL BAP HABITATS:

Lowland Meadows, Lowland Acid Grassland and Lowland Calcareous Grassland (all priority habitats). Metallophyte communities (those associated with heavy metal contamination) are covered by the Inland Rock broad habitat type.

ASSOCIATED NATIONAL BAP PRIORITY SPECIES:

Skylark, brown hare.

ASSOCIATED PEAK DISTRICT AUDITS:

Lead Rakes.

INTRODUCTION

Centuries of mining the mineral veins in the White Peak have resulted in a distinctive network of hillocks and hollows, sometimes stretching in lines across the limestone plateau and dalesides. It is these surface remains, referred to here as lead rakes, which are covered by this action plan. These features, some dating back to Roman times, form part of the historic character of the landscape and provide a habitat for varied and unique plant communities. Lead rakes support a complex mosaic of different vegetation types, reflecting their great range in topography and the varied nature of the waste material. Sometimes the hillocks are made up of rock. More often it is a mix of fluorspar, calcite, barytes and soil, all materials which were of no use to the old miner and thus cast aside as waste. As a result of this variation many different species with contrasting environmental requirements grow in close proximity to each other making lead rakes ecologically very exciting. Notably, the toxic nature of the some of the lead rake material results in distinct areas of specialised metallophyte (metal tolerant) vegetation which are considered to be internationally important.

A range of different communities can be found from rich calcareous and neutral swards to acid grasslands with mountain pansy and open sparsely vegetated areas of metallophytes on spoil which is rich in heavy metals. Here large populations of spring sandwort (known locally as leadwort) can occur. Many interesting species are present in the rich grasslands, such as moonwort, frog orchid and fragrant orchid. Nationally, the range and populations of such species has declined dramatically in recent decades. Areas such as lead rakes can provide a true haven for a variety of plants and associated wildlife.

Each rake is unique, a complex reflection of a myriad of historical, management and environmental factors. Fundamentally they are a vivid link with the history of the site. The complexity of lead rakes makes it impossible to re-create the inherent interest of a site. In essence, the holistic value of lead rakes is not re-createable even if the science were available for the re-creation of the constituent plant communities. Once a lead rake is lost, to either agricultural improvement or to re-working for their minerals, this unique complexity is lost forever.

Lead rakes are not only important for plants but for a range of other wildlife associated with flower rich grasslands. The profusion of different species provides a wealth of nectar for insects and seed for birds and small mammals. The sparsely vegetated areas of spoil are important for lichens and provide 'hot spots' for invertebrates. In addition features such as old mine shafts can provide roosts for bats and the stony heaps offer hibernation sites for amphibians.

The majority of lead rakes are confined to the White Peak but this Action Plan covers the whole of the ore-field including the lead rakes on the edge of the Dark Peak Natural Area and around Ashover, in the Derbyshire Peak Fringe Natural Area. Lead rakes which are found in the limestone dales are covered in the Limestone Dales Action Plan.

There are concentrations of ecologically important lead rakes across the ore-field, including the parishes of Bonsall, Castleton, Bradwell, Elton, Winster, Monyash, Cromford, Middleton-by-Wirksworth, Wirksworth and Brassington.

A recent assessment of aerial photographs by the National Park's Archaeology Service has concluded that only about a quarter of hillocks that existed in the 19th century are archaeologically in a reasonable condition. Losses across the ore-field have now reached a critical point; conservation of remaining important lead rakes is essential if vital parts of the lead rake resource are not to be lost forever.

ADVERSE IMPACTS	Historic	Current
Land Management		
Levelling of hillocks and subsequent ploughing and re-seeding.	✓	✓✓
Applications of organic and inorganic fertilisers, herbicide, pesticides and lime.	✓	✓
Application of paper pulp.		✓
Neglect, leading to the development of rank swards and scrub encroachment.		✓
Over-grazing leading to poaching and a reduction in species richness.		✓
The increase in the use of fields as pony paddocks.		✓
Pollution		
Sheep dip disposal.		✓

Use of Ivermectin and its associated effects on invertebrates.		✓
Quarrying and Re-working of Mineral Veins and their Associated Hillocks.		
Removal of hillocks for their fluorspar and other minerals.	✓	✓✓
Open-cast quarrying for vein mineral and limestone.	✓	✓✓
Tipping		
The use of lead rake hollows for disposal of waste from building works etc.	✓	✓
Others		
The toxicity and 'derelict' nature of lead rakes, which historically led to their walling out and planting with trees.	✓	
Tree planting on lead rakes.	✓	✓
Recreational use – e.g. 4x4 trials and motorbike scrambling.		✓
Fragmentation – risk of species extinction and negative effect on restoration.	✓	✓✓

An impact ✓ *Significant impact* ✓✓

CURRENT ACTION

Designated Sites

- There are four lead rake SSSIs - Gang Mine, Bonsall Lees, Oxlow Rake and Tideslow Rake. Several other SSSIs (e.g. Rose End Meadows, Longstone Moor and many of the limestone dales) list lead rakes vegetation as part of the reason for notification and there are significant areas of lead rake within geological SSSIs. The total area of lead rake within SSSIs amounts to 54 ha (including geological SSSIs for which there is often no surface protection).
- Gang Mine (8.2 ha) is designated as a Special Area of Conservation (SAC) for its metallophyte vegetation. Elsewhere within the White Peak the calaminarian grassland of the Derbyshire Dales cSAC is listed as a reason for inclusion within this internationally important designation.
- A number of important lead rakes are identified as 'Wildlife Sites'.

New Initiatives

- The PDNPA has been running a Lead Rakes Project since 1996. To date this has concentrated on the survey and negotiation of agreements in five key areas of the ore-field - Bonsall, Winster, Elton, Castleton and Bradwell. 125 ha of lead rakes have been surveyed in detail, an estimated 48 % of the total resource of lead rakes

Sites Owned and Managed by Conservation Organisations

- The PDNPA owns a small number of lead rakes, near Magpie Mine, High Rake at Windmill and Hard Rake at Sheldon.
- The DWT owns and manages important lead rakes at Gang Mine (SSSI and SAC), Priestcliffe Lees (Wye Valley SSSI) and Rose End Meadows SSSI.
- DCC manages important lead rakes at Black Rocks.
- The NT owns significant areas of lead rakes, for example on Ecton Hill, at Winnats Head Farm, Monyash House Farm and Odin Mine, Castleton (SSSI).

Sites Within Conservation Agreements

- 58 ha of lead rake are being positively managed by farmers within the PDNPA's Farm Conservation Scheme (FCS).
- 23.7 ha are included within land holdings under Countryside Stewardship Schemes (CSS) but not all of this is protected in a land management agreement.
- Important areas of lead rake are managed within EN's Wildlife Enhancement Scheme (WES).

ACTION PLAN OBJECTIVES AND TARGETS

National Targets

Lead rakes are not specifically covered by a National Action Plan but a number of National Action Plans relate to lead rakes, notably lowland meadows, lowland acid grassland and lowland calcareous grassland. All have similar targets.

Lowland Calcareous Grassland, Lowland Dry Acid Grassland and Lowland Meadows:

- Arrest the depletion throughout U.K.
- Agree favourable management on all the resource in unfavourable condition within SSSIs by 2005 and achieve favourable condition wherever feasible by 2010.
- Secure favourable condition over 30 % of resource outside SSSIs by 2005 and as near 100 % as practicable by 2015.
- Re-establish 1000 ha of lowland calcareous grassland and 500 ha of lowland acid grassland and lowland meadow at carefully targeted sites by 2010.

A Vision for the Peak District

The objectives and targets reflect the value of the lead rakes and the alarming losses of this important part of the Peak District cultural heritage, landscape and wildlife. Perhaps more than any other habitat they are a vivid reflection of the rich resources provided by the geology of the Peak District, its use by mankind over the centuries and nature's response to the harsh environment of the abandoned mines. Today, less than 260 ha of lead rakes remain. This is all that remains of not only the complex vegetation communities and their important plants but of the surface representation of the history of mining in the Peak District. A willingness by those responsible for their future to work together is fundamental: the farmers and landowners, the mineral companies and the Biodiversity partnership. With comprehensive knowledge as a basis, solutions can be found. These may at times involve compromise and understanding for all involved but with a shared vision to cherish the special history and wildlife of lead rakes these targets can surely be achieved.

OBJECTIVES AND TARGETS

Objective 1

Bring all important lead rakes in the Peak District into favourable condition.

Targets

Secure favourable management on 100 % of lead rakes within SSSIs by 2005.

Identify all important lead rakes within the Peak District ore-field by the end of 2004.

Secure an appropriate conservation agreement on 50 % of all important lead rakes outside of SSSIs by 2005. Review and set a new target for 2005 - 2010.

For all important lead rakes outside of existing agreements, make all landowners/managers aware of available conservation schemes by the end of 2005.

Objective 2

Restore ecologically poor quality, over grazed or neglected lead rakes to favourable condition.

Targets

Restore 25 ha of ecologically poor quality lead rakes to favourable condition by 2005. Review and set a new target for 2005 - 2010.

Objective 3

Create open metallophyte vegetation and species rich grasslands on lead rakes that are being re-worked for their mineral to reverse the decline in these community types.

Targets

Initiate attempts to create 1.4 ha of open metallophyte vegetation on worked mineral sites by 2010. This target represents 20 % of the resource in the 5 key areas surveyed by the Lead Rakes Project.

Initiate attempts to create 15 ha of species rich grasslands on worked mineral sites by 2010.

Main Factors Likely to Affect Achievement of Targets

Land Management

Implementation of the Rural Development Regulation and reform of the Common Agricultural Policy.

The general problems of negotiating grassland conservation agreements are exacerbated on lead rakes since mineral rights ownership is often separate to that of the surface ownership.

Effectiveness of agri-environment and conservation scheme prescriptions.

Resources and Financial Incentives

Limited rewards from agri-environment and conservation schemes and lack of incentives for favourable management.

Availability of funding for survey, negotiations and agreements.

High land prices – forcing intensive management following purchase of land.

Planning and Regulations

Planning policy.

Lack of planning controls for agricultural operations – Permitted Development Rights (PDR) allow in-filling and levelling of lead rakes within a farm holding. Hillock removal from a site (for mineral processing or in-filling) is allowed under General Development Orders (GDO). The Mineral Authority has the power to request a full planning application for operations covered by GDO but this may result in compensation having to be paid by the Authority.

Others

Value of lead rakes and their underlying veins for vein minerals – exacerbated by the national scarcity and need for fluorspar.

The toxicity of lead rakes – linked to both historical planting of lead rakes and current desire to remove toxic hillocks.

Pereived 'Derelict' appearance of lead rakes.

Lack of safeguard or effective conservation mechanisms outside of SSSIs. It is often at the time of change of ownership that lead rakes, as with other grassland habitats, are most at risk. At present there is no systematic procedure or mechanism for conservation bodies and local authorities to have an opportunity to safeguard such land.

ACTIONS

Key to the achievement of the proposed targets are actions relating to:

- Survey, evaluation and negotiations to secure appropriate land management (LR4 and LR22 - 25);
- Ensuring agri-environment and conservation schemes provide adequate financial incentive and appropriate management prescriptions to safeguard and enhance lead rakes (LR21);
- The assessment of planning applications and GDOs (LR31 and 35);
- The review of GDOs, PDRs and waste tipping regulations (LR33 - 35) and
- Developing a strategy for safeguarding sites of particular wildlife importance where this cannot be achieved through the normal channels of negotiation, as the current systems are still inadequate to secure the future of some of our best remaining lead rake landscapes (LR29).

ACTIONS		TIMESCALE	LEAD AGENCY & Partners
DATA COLLATION AND SURVEY			
	Data Collation		
LR1	Collate existing information on lead rakes across the whole ore-field and identify gaps in the knowledge. (Objective 1)	2001 - 2002	**PDNPA/WTs** (joint leads)/EN/LRCs/LAs Voluntary Sector

LR2	Agree methodology for survey of lead rakes - using the experience of the PDNPA Lead Rakes Project. (Objective 1)	Spring 2002	**PDNPA/WTs** (joint leads)/NT/EN
LR3	Compile a register of lead rakes for the ore-field to include level of importance, 'Wildlife Site' status, condition, important species and conservation status. Ensure that the site register and collated information is easily available for use and that it is regularly updated. (Objective 1)	2001 onwards	**PDNPA**/EN/WTs/NT
	Survey		
LR4	Complete a detailed ecological survey and evaluation of lead rakes in the whole ore-field. (Objective 1)	2001 - 2004	**PDNPA/WTs** (joint leads)/NT/EN
EVALUATING THE IMPORTANCE AND CONDITION OF SITES			
	Evaluating Importance and Identifying Key Sites		
LR5	Agree methodology for evaluation of lead rakes, to include definition of priorities for conservation action and identification of 'Wildlife Sites'. (Objective 1)	Autumn 2001	**PDNPA**/GBAPG
	Defining Favourable Condition		
LR6	Agree definitions of favourable condition for the range of lead rakes in the Peak District. (Objectives 1 and 2)	2001	**EN**/GBAPG
LR7	Agree guidelines for the conservation and restoration of lead rakes to include the range of management needed to achieve favourable condition and guidance on techniques for restoration and targeting of sites (e.g. degraded sites) which link other important lead rakes. (Objectives 1 and 2)	2001	**EN**/WTs/PDNPA/NT
LR8	Agree appropriate techniques for the re-creation of vegetation on mineral restoration sites, to include surface preparation, suitable seed mixes etc. (Objective 3)	2001	**PDNPA**/EN/WTs/NT
RESOURCES			
LR9	Seek resources for a continuation of the Lead Rakes Project and expansion to outside of the National Park. (Objectives 1 and 2)	2001	**PDNPA**/WTs
RESEARCH			
LR10	Encourage research into the techniques for re-creation of lead rake communities and as part of this clarify the relationships between the vegetation and the physical and chemical characteristic of lead rakes. (Objectives 1, 2 and 3)	2001 onwards	**EN**/GBAPG
LR11	Ensure that the results of any research are widely available. (Objectives 1 and 2)	2001 onwards	**PDNPA**/EN/WTs/NT MAFF

LR12	Ensure that the results of research into the effects of Ivermectin on invertebrate communities associated with animal dung are implemented at a local level. (Objectives 1 and 2)	2001 onwards	**WEG**
	MONITORING		
LR13	Agree methodology for and implement effective monitoring of lead rakes. Ensure that the results of the process are collated and used to update the register. (Objectives 1and 2)	2001 onwards	**PDNPA**/MAFF/EN WTs/NT
	AWARENESS RAISING		
LR14	Develop an awareness raising strategy to include the identification of key messages and methods for promoting the importance of lead rakes. This may include leaflets, posters, publications, on-site interpretation, local events and walks, web-site information and media publicity. (Objectives 1 and 2)	2001 - 2002	**PDNPA**/NT/WTs/EN NFU/CLA
LR15	Encourage increased awareness and sharing of best management practice amongst key conservation organisation staff, particularly regarding the holistic value of lead rakes and their management. (Objectives 1 and 2)	2001 - 2002	**PDNPA**/NT/EN/MAFF WTs/FWAG
LR16	Make guidance available for the restoration of lead rake communities to landowners/managers and conservation organisation staff. (Objective 2)	2001 onwards	**PDNPA**/NT/EN/MAFF WTs/FWAG
LR17	Share information on the wildlife importance and management needs of key conservation and restoration sites with the landowners/managers, including feedback from surveys. (Objectives 1 and 2)	2001 onwards	PDNPA/NT/EN/WTs MAFF/FWAG/LAs
	CONSERVATION ACTION AND INCENTIVES		
	Designations		
LR18	Implement obligations under European (Natura 2000) legislation with respect to review of the Peak District Dales cSAC. (Objective 1)	2003 - 2005	**EN**
LR19	Review coverage of lead rake SSSIs and notify further sites as appropriate. (Objective 1)	2003 - 2005	**EN**
LR20	Review desirability and opportunities for establishment of key sites as National Nature Reserves and Local Nature Reserves and establish if appropriate. (Objectives 1 and 2)	2005	**EN/LAs** (joint leads) WTs/NT/PDNPA
	Grant Schemes		
LR21	Consider recommending a review of all agri-environment and conservation schemes to ensure that:		

	*Targeting at a national, regional and local level gives adequate priority to lead rakes *Management prescriptions are reviewed to include flexible site-specific measures *Payments for lead rakes are increased to at least the level of profits foregone and consideration is given to the idea of small area payment (Objectives 1 and 2)	2001 onwards	MAFF/EN/PDNPA WEG/GBAPG
	Negotiation and Review of Agreements		
LR22	Review management of all sites within SSSIs. Where necessary agree revised management regimes with owners/managers, through appropriate mechanisms such as WES, to ensure maintenance or restoration of favourable condition. (Objectives 1 and 2)	2001 - 2005	**EN**
LR23	Negotiate appropriate agreements with landowners and managers of all important lead rakes for conservation or restoration, outside of existing agreements or SSSIs, in order to achieve maintenance or restoration of favourable condition. (Objectives 1 and 2)	2001 -2005 (conservation) 2003 – 2005 (restoration)	PDNPA/MAFF FWAG/WTs/NT
LR24	Review management of lead rakes in existing agreements, outside of SSSIs. Where necessary agree revised management regimes with owners/managers to ensure that favourable condition is being maintained or enhanced. (Objectives 1 and 2)	2002 - 2005	PDNPA/MAFF/FWAG WTs/NT
LR25	Review whole holding agreements which include unprotected lead rakes. Consider the opportunities for amending the agreement to incorporate their safeguard and enhancement. (Objective 1 and 2)	2002 - 2010	MAFF/NT/WTs PDNPA/FWAG
	Alternative Incomes		
LR26	Review available economic incentives for retention of lead rakes and explore options for additional incomes. (Objectives 1 and 2)	2002	**PDNPA**/EN/WTs/NT
	Land Acquisition		
LR27	Consider negotiating purchase/lease of priority lead rakes where this would be the most effective way of achieving conservation objectives and where a negotiated conservation solution has not succeeded. (Objectives 1 and 2)	2001 onwards	PDNPA/EN/WTs RSPB/NT
	Direct Action		
LR28	On land owned by public or conservation bodies, ensure that: *Management maintains and where possible enhances the value of lead rakes *Options for restoration of lead rakes are considered *Opportunities for involvement of local communities in site management are taken where possible (All Objectives)	2001 onwards	PDNPA/EN/LAs/NT WTs

LR29	Agree a strategy for safeguarding sites of particular wildlife importance where this cannot be achieved through the normal channels of negotiation, in liaison with land-owning, farming, and other land management interests. (Objective 1)	2001	**WEG**/NFU/CLA/RLMEG
LR30	Investigate option for collecting building spoil and other inert waste from farms and disposing of at suitable sites. (Objective 1)	2001	**PDNPA**/MAFF/NFU FWAG
REGULATION			
	Planning		
LR31	Ensure all planning applications and General Development Orders are adequately assessed in relation to their impact on lead rakes; that loss or damage is avoided; and that opportunities are taken for enhancement. (Objectives 1 and 2)	2001 onwards	PDNPA/EN/LAs/WTs
LR32	Consider the opportunities for the creation of new areas of lead rake communities in relevant planning decisions, particularly in restoration schemes for mineral workings. (Objective 3)	2001 onwards	PDNPA/EN/LAs/WTs
LR33	Encourage a review by DETR of GDO regulations which currently permit in-filling and levelling of lead rakes within a farm holding, and hillock removal, without the need for full planning permission. (Objective 1)	2001 - 2002	**PDNPA**/LAs/EN
LR34	Encourage a review of PDR that currently allow potentially damaging recreational activities for 14 days per year – such as 4 wheel drive trials. (Objectives 1 and 2)	2001 onwards	**PDNPA**/LAs/EN
LR35	Ensure that the impact of disposal of waste from new buildings is addressed in the planning process. (Objectives 1 and 2)	2001 onwards	**PDNPA**/LAs/EN
	Pollution Control and Waste Management		
LR36	Review procedures and consultation processes in relation to the spreading of paper pulp. (Objectives 1 and 2)	2001	**EA**/LAs/PDNPA/EN WTs
LR37	Ensure good practice is followed in disposing of sheep-dip, avoiding lead rakes. Implement by continuing with an awareness raising strategy amongst land managers; continuing the programme of licensing; extending consultation procedures for disposal applications to the whole of the Peak District and, where necessary, by enforcement action. (Objectives 1 and 2)	2001 onwards	**EA**/LAs/PDNPA
	Other Regulatory Mechanisms		
LR38	Ensure that all woodland planting proposals consider the adverse effects of planting on lead rakes. (Objectives 1 and 2)	2001 onwards	**FC**/LAs/PDNPA/EN

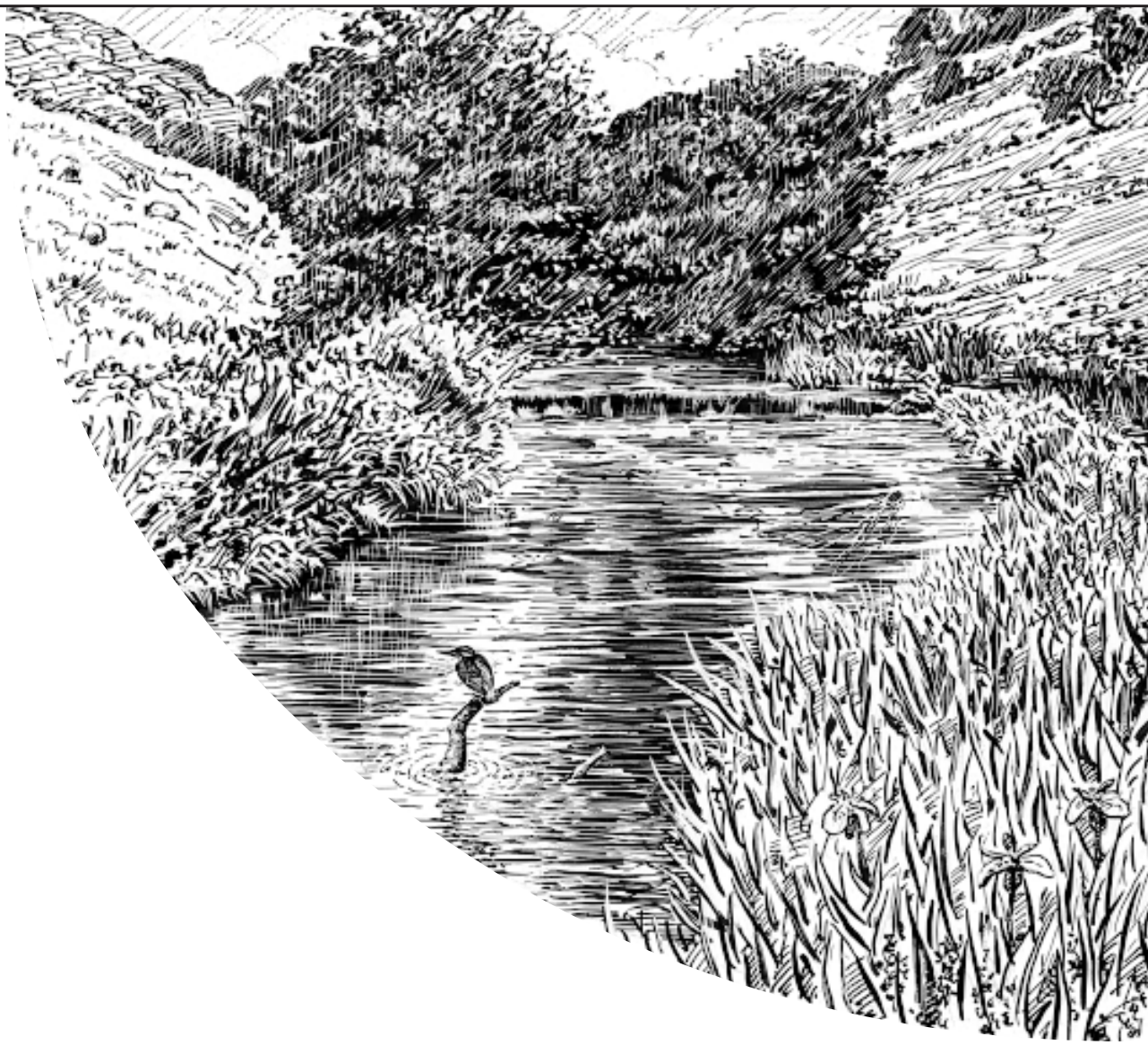
RESOURCES

It is envisaged that the majority of the actions proposed will be carried out by the relevant organisations using current resources. These include:

- continuing investment by landowners and managers managing their land sympathetically for wildlife;
- EN's programme of reviewing SSSI management and designation and its grant and management agreement schemes;
- MAFF's Countryside Stewardship Scheme;
- processing of planning applications and GDOs by Minerals Planning Authorities;
- continuing management of lead rakes owned by conservation organisations and public bodies (EN, NT, WTs, LAs, PDNPA);
- the PDNPA's advisory and grants service for landowners/managers and its rolling programme of special conservation projects;
- FWAG and the WTs' advisory services.

Additional resources are likely to be required:

- for survey of lead rakes (2001 - 2002) and negotiation of agreements (2001 - 2005), particularly outside the National Park;
- to provide adequate financial incentives for the conservation and restoration management of lead rakes (2001 onwards);
- to aid in the production of the proposed registers (2001 onwards);
- to implement effective monitoring (2001 onwards).



TREND IN THE PEAK DISTRICT:

Variable. Water quality is increasing; river flows and groundwater levels are declining; aquatic habitats, river corridor wetlands and riparian habitats have suffered a dramatic decline historically but currently the decline in extent and quality is more limited.

ESTIMATED EXTENT IN THE PEAK DISTRICT:

Unquantified.

NATIONAL BAP HABITATS:

Fens (priority habitat), Rivers and Streams (broad habitat type), Neutral Grassland (broad habitat type).

ASSOCIATED NATIONAL BAP PRIORITY SPECIES:

Otter, water vole, white-clawed crayfish, derbyshire feather-moss (*Thamnobryum angustifolium*).

ASSOCIATED PEAK DISTRICT AUDITS:

Rivers and Streams, Wetlands.

INTRODUCTION

The River Corridors Action Plan covers all rivers and streams throughout the Peak District and also all river corridor wetlands within the whole of the White Peak and within the lower and middle reaches of river valleys in the Dark and South West Peak. Wet woodlands are considered within the Wet Woodland Action Plan and wetlands on the moorland fringes within the Rush Pasture Action Plan.

Rivers and streams within the Peak District are a very varied resource. Small upland streams draining the blanket bog of the South West and Dark Peak moorlands, or starting as springs at the interface between the grits and shales, fall quickly through wooded cloughs to the shale valleys. The lower reaches of the rivers flow more slowly through broad valleys and are commonly tree-lined. Aquatic higher plants are infrequent but lower plants, invertebrates, fish including bullhead and brook lamprey, and birds including goosander and common sandpiper are of importance. Genetically distinct races of wild brown trout exist in the upper reaches of some of the river valleys.

White Peak rivers by contrast commonly support a rich plant life with carpets of watercress and water crowfoot amongst others. Seasonal in their upper reaches, they form an integral part of the White Peak dales. Animal life is similarly diverse and, in the River Dove, includes the native white-clawed crayfish. Fish populations include bullhead, brook lamprey and also distinctive populations of both brown trout and grayling. Amongst the birdlife, dippers and little grebes are characteristic.

All three Natural Areas are considered to be of high importance for their water vole populations which are dependent not only on the aquatic environment but also on a rich and diverse riparian habitat. At its best this includes a mosaic of tall and short vegetation with scattered trees and shrubs.

In the upper reaches of streams and scattered within the lower valleys, wetlands extend either side of the watercourse over the floodplain. These are very variable in character including flood meadows, sedge and rush dominated marshes, and wet grasslands. Wetlands are also present as spring-heads, flushes and as areas of poorly draining ground on valley-sides. Very locally they also exist high on the White Peak plateau.

In the floodplain of rivers and streams where the water table is near the surface and drainage has not occurred, rush pasture rich in a colourful display of wetland flowers such as ragged robin and marsh marigold can be found. This may be accompanied or replaced locally in the White Peak by small areas of fen dominated by pond sedges. The wettest areas support quaking mats of sweet-grass or, particularly in small relic oxbow marshes along parts of the Dove and Manifold, poor-fen with bottle sedge and marsh cinquefoil. These mosaics of flood-plain wetlands support a rich invertebrate fauna and can be of importance locally for breeding birds such as lapwing, snipe, curlew and reed bunting. Tall fen vegetation is very scarce in the Peak District, but where it does occur meadowsweet, common valerian, great willowherb and reed canary-grass tend to dominate. Harvest mice are known from this habitat.

Within the dales, base-rich flushes occur in a handful of locations. Such areas are very small, but are characterised by a number of uncommon species such as butterwort and flat sedge and a rich invertebrate fauna. Monks Dale and the Wye Valley both have good examples of these communities.

Wetlands have declined in extent both nationally and locally as a result of drainage and associated agricultural improvement. Similarly the riparian habitat has declined in quality as a result of agricultural intensification. The rivers themselves have undergone more limited losses but water quality and habitat variability has been affected by industrial discharges, agricultural run-off and by deepening and straightening the water channel. The latter has happened in only a limited manner within the lower reaches of the rivers, particularly where they pass through towns and villages. Smaller streams have, however, been modified as an aid to drainage of the surrounding agricultural land. Historically water courses have been altered in the vicinity of water powered mills and for fisheries management. Groundwater abstraction and loss of water to soughs and mineshafts continue to be problems.

Water quality generally in the Peak District is good although locally it is affected by agricultural run-off, sheep dip and high silt levels. There is also some deterioration in built-up areas particularly where sewage works discharge. The trend, however, is for improvements in these areas. Water quality is also affected by erosion of the moorland areas with peat contributing to problems of water acidity and siltation.

River corridors are of importance in providing habitats for a range of different plants and animals to live, and to move through. They are also crucial in the landscape with a sensitively managed system supporting an intimate mosaic of habitats linked to the watercourse, including marshes, flood meadows, wet grasslands, field boundaries and wet woodland. They are also of importance in providing attractive and diverse landscapes for recreation.

ADVERSE IMPACTS	Historic	Current
Water Abstraction and Loss		
Construction of dams and reservoirs.	✓	
Groundwater and surface water abstraction and water transfer schemes eg. Rivers Noe and Ashop.	✓	✓
Drainage of water to soughs and loss to mineshafts.	✓	✓
Physical Modification of the River Corridor Habitats		
The modification of river channels for flood defence, drainage, fisheries management and, historically, for water power.	✓✓	✓
Drainage of wetlands and associated agricultural improvement.	✓✓	✓
Inappropriate grazing of wetlands with regard to both stocking levels and stock type.	✓	✓✓
Erosion of stream and river banks by stock.	✓	✓✓
Pollution		
Agricultural run-off including silage effluent and slurry.	✓	✓✓
Sewage effluent particularly at times of storm water flow.	✓	✓
Industrial effluent.	✓✓	✓
Atmospheric pollution and climate change.	✓	✓
Run-off from sheep-dip disposal and other pesticides.		✓✓
Run-off from bracken herbicides.	✓	✓
Contamination of water courses from the use of paper pulp in agricultural operations.		✓✓
Excessive inputs of peat and peaty water from eroding moorlands.	✓	✓✓
Iron-rich water from old coal mines.	✓✓	✓
Invasive Species		
The introduction and continued spread of invasive plants and animals including giant hogweed, Japanese knotweed, Himalayan balsam, New Zealand pigmyweed, mink, signal crayfish, rainbow trout and exotic fish.	✓	✓
Recreation		
Recreational pressure along riverbanks including potential disturbance to water voles and breeding birds, modification to river and stream banks to accommodate paths, and trampling and compaction of waterside vegetation and soils.	✓	✓✓

An impact ✓ *Significant impact* ✓✓

CURRENT ACTION

Designated Sites

- The rivers within Abney & Bretton Clough, Cressbrook Dale, Lathkill Dale, Dove Dale and Monks Dale and the base-rich flushes found within several of the limestone dales are included within the relevant SSSI notification. In addition, the floodplain mire at Moss Carr, in the headwaters of the River Manifold, is an SSSI.
- Streams and rivers are also included within many other SSSIs although they do not form part of the notification.
- Alkaline fens (which include base-rich flushes), bullhead, brook lamprey and white-clawed crayfish are part of the reasons for notification of the Peak District Dales cSAC.
- A number of wetlands and rich riparian habitats have been identified as 'Wildlife Sites'.

New Initiatives

Water Quality

- Both the EA and the WCs are working towards solving water quality problems with targets for individual sites set internally within the organisations.
- Under Groundwater Regulations, the EA licence the disposal of pesticides including sheep dip and, within the Lower and Upper Trent Regions, consult the PDNPA on applications that fall within the National Park. The agency has dedicated officers who will visit most landholdings and advise farmers regarding sheep dip disposal.

Water Resources

- The EA is reviewing consents relating to abstractions on watercourses within cSACs and SPAs. New 'Catchment Abstraction Management Strategies' are being developed and new legislation, currently in draft form as a new Water Bill, will give greater control over water resources.

Land and River Management

- The EA carry out an annual programme of maintenance work on main rivers with the nature conservation interest of such sites taken into consideration.
- In 1999, streams were added to the list of habitats which the PDNPA could recognise within a Farm Conservation Scheme (FCS) Agreement.
- The WTs, as part of the 'Rivers and Otters Project' are giving advice to landowners with regard to management of streams and associated wetlands for water voles.
- In 1998, a Bakewell Biodiversity Project was set up, involving a partnership of several organizations, to enhance the river corridor through Bakewell. To date, a pond, small wetland area, a meadow and river-side copses have been created, and several otter holts have been constructed.

Fishery Management

- The EA consents the introduction of fish to rivers under S30 of the Salmon and Freshwater Fisheries Act 1975, to ensure no diseased fish enter the catchment. The opportunity is taken at the time of consent to give advice on the conservation of wild fish stocks.
- The EA is currently developing a Fisheries Action Plan for the Dove catchment, looking at stocking and management and the impact on biodiversity. Similar plans may be developed for other catchments in the future.
- The NT, EA and fishing clubs are currently working under a management accord in the Dove Valley.

Other Policy Documents

- All regions of the EA have produced Local Environment Agency Plans (LEAPs) in which the conservation of biodiversity has been addressed. Many issues are common to both the relevant LEAP and this BAP.

Sites in Conservation Ownership

- Rivers, streams and small areas of river corridor wetland are present within the ownership of the PDNPA, EN, the NT and WTs.

Sites in Conservation Agreements

- Rivers and streams commonly occur as boundary features in Countryside Stewardship (CS), Environmentally Sensitive Area (ESA) and the PDNPA's FCS agreements but are generally incidental to the main reason for inclusion and the management negotiated.
- The option of including wildlife headlands and buffer strips is available within CS and the PDNPA's FCS and can be used for conservation and enhancement of rivers and streams and the headlands adjacent to them. Records are not available for the number of streams and riversides protected in this way but it is thought to be few.
- 20 wetland sites within river corridors are protected within the PDNPA's FCS, and additional but un-quantified wetland sites are also protected within ESA and CS schemes.

Survey and Research

- The PDNPA's Pastures Project concentrated on the Bentley Brook catchment area in 1999, identifying sixty wetland areas and assessing the quality of the stream from the source of the brook to the

boundary of the National Park south of Fenny Bentley. Conservation action to date has concentrated on securing high quality sites into agreement.

- The PDNPA Pastures Project also targeted 30 wetlands of particular importance throughout the National Park in 2000. The survey showed that only one of these sites had been lost since the initial survey in the 1980s. Discussions on favourable management and the inclusion of these sites within conservation agreements are continuing.
- The Derbyshire and Staffordshire WTs have carried out surveys for otters and water voles as part of the 'Otters and Rivers Project' (with sponsorship from STW and the EA), and as part of their ongoing conservation work (with sponsorship from various sources including EN).
- The NT have recently carried out river habitat and river corridor surveys (according to EA guidelines) and an aquatic plant survey of the Dove SSSI.
- In the lower reaches of the River Dove the EA, NT and fishing clubs are working in collaboration to ensure collation of information on aquatic and riparian species of interest.
- River corridor surveys of main rivers, including extensive lengths of the Bentley Brook, Wye and Derwent, were completed in the early 1990s for the NRA (now the EA).

ACTION PLAN OBJECTIVES AND TARGETS

National Targets

Rivers (with the exception of chalk rivers) are not a national priority habitat and there is no national action plan. Some river corridor wetlands are included within the national Fens Action Plan. However within the plan, objectives and targets concentrate on the conservation action relevant to larger areas of wetland than are present within the Peak District and so have little relevance to this River Corridor Action Plan.

A Vision for the Peak District

River corridors traverse the Peak District ranging from limestone dales, broad shale valleys and small moorland edge streams, to gritstone cloughs. Many wetland habitats are of limited extent owing to years of drainage and agricultural improvement. Many river and stream-sides are also ecologically impoverished owing to adjacent non-sympathetic land-uses. The responsibility lies with conservationists, farmers, landowners and relevant agencies alike, to safeguard existing habitats of interest and, where possible, to encourage restoration or re-creation of a rich mosaic of river corridor habitats to provide corridors and sanctuaries for wetland wildlife. In this way we can hope to both safeguard and re-vitalise our river corridors, with a diverse assemblage of wetlands, flood meadows, wet woodlands and rich water's edge communities supporting both rare and more common species and those increasingly under threat in our ever more pressured countryside.

The Peak District objectives and targets for river corridors reflect their importance for:

i) key national and Peak District biodiversity species including Derbyshire feather-moss, white-clawed crayfish, bullhead, brook lamprey, water vole and, potentially, otter;

ii) a range of species and habitats which are uncommon locally including aquatic invertebrates and river corridor wetlands and their constituent species;

iii) their very important contribution to the landscape and to the whole picture of biodiversity within the Peak District.

For a landscape as complex as a river corridor, setting objectives and targets needs to be in the context of the habitats considered to be of the greatest significance. This can only be assessed on a site by site basis and will need to be the first action in any programme of river corridor assessment and conservation management. Priority assessment needs to consider habitats of local or regional importance that contribute to the local distinctiveness of the Peak District, including marshes, wet woodlands and flood meadows. It also needs to consider the localities and conservation needs of both nationally important and locally significant river corridor species including water voles, crayfish and rare or uncommon plants or plant communities. The locations of both important habitats and species also needs to be taken into consideration in the initial assessment of what constitutes a 'key' river corridor. The priority needs to rest with conservation of the habitats of existing importance coupled with restoration and re-creation of habitats in 'key' river corridors.

OBJECTIVES AND TARGETS

Objective 1

Maintain the existing condition of all rivers and streams including the characteristic plants and animals.

Targets

Ensure no deterioration in chemical or biological water quality from that found in 2000.

Develop a picture of biological indicator species on an individual catchment scale for all important rivers by 2005.

Objective 2

Improve the water quality, water resources and habitat diversity of key rivers and streams.

Target

Bring key rivers and streams into favourable condition by 2010, with acceptable flow rates, water quality and habitat diversity.

Objective 3

Maintain the existing extent and condition of ecologically important wetland and riparian habitats within all river corridors.

Target

Initiate management by 2005 to achieve favourable condition on 30 % of all important wetlands and riparian habitats. Review and set a new target for 2005 - 2010.

Objective 4

Restore favourable condition to ecologically poor wetland and riparian habitats along key river and stream corridors, in order to reduce habitat fragmentation and restore continuity along the river corridor.

Target

Assess opportunities for the restoration of wetland and riparian habitats along key river corridors, and initiate restoration for 30 % of identified sites by 2005 and 50 % by 2010.

Objective 5

Enhance the continuity of wetland and riparian habitats along key river and stream corridors by the re-creation of marsh, flood meadows, wet grasslands and species rich riparian strips.

Target

Look at the opportunities for re-creation of ecologically and hydrologically functional flood plains including marshes, traditionally managed flood meadows, wet grasslands and other appropriate habitats, along at least 50 km of river corridor by 2010.

Main Factors Likely to Affect Achievement of Targets

Land and River Management

Implementation of the Rural Development Regulation and reform of the Common Agricultural Policy.

The lack of the option of buffer strips and wildlife headlands within the ESA schemes.

Effectiveness of agri-environment and conservation scheme prescriptions.

The inclusion of riparian strips and small river corridor wetlands as priority habitats in the whole holding approach to negotiation of agri-environment and conservation scheme agreements.

Effectiveness of agri-environment and conservation scheme cross compliance.

Resources and Financial Incentives

Availability of funding for survey, negotiations and agreements.

Limited rewards from agri-environment schemes particularly with reference to the conservation and enhancement of small areas within fields, wildlife headlands and buffer strips.

Planning and Regulations

Planning and licensing policies.

Invasive Species

Illegal introductions of 'pest' species.

Spread of invasive/non-native species.

Conflicts with Other Priorities

The conflict between the competing demands of river corridor species and habitats.

Potential conflicts with archaeological and landscape priorities

Practical Difficulties and Gaps in Knowledge

The practical difficulties of preventing water loss to soughs and mineshafts.

The loss of the hydrological link between the stream or river and its floodplain making re-creation of floodplain wetlands particularly difficult.

Complicated ownership of streams, rivers and the associated corridor.

Pollution and Climate Change

Continued pollution in particular from un-monitored and diffuse sources e.g. agricultural pesticides and run-off.

Climate change.

Others

The national need for groundwater.

Tree diseases, in particular those affecting river-side and floodplain alders and willows.

The critically small size of populations of key species dependent on aquatic, wetland and riparian habitats.

The fragmentation and small size of wetlands and ecologically rich riparian habitats.

Landowner perceptions and preferences.

Sporting interests.

The impacts of wetland creation on neighbouring landowners and on river systems.

Recreational pressure on riparian corridors including the impact of the Countryside and Rights of Way Act 2000.

ACTIONS

Key to the achievement of the proposed targets is a whole landscape approach taking into account the woodland as well as the grassland, wetland, riparian and aquatic elements in a river corridor. Key actions within the plan include those relating to:

- survey and collation of information (Actions RC1 - 4, RC7 and RC8);
- defining objectives on an individual river corridor basis, with an emphasis on strengthening the network of wetland habitats (RC9);
- negotiations to secure appropriate management of existing sites of importance and to extend river corridor habitats (RC37 - 40):
- awareness-raising and training measures (RC26 - 32);
- a consideration of a review of agri-environment, woodland and conservation schemes to ensure they provide adequate financial incentive and appropriate management prescriptions (RC36);
- research into the requirements of key riverine species (RC13), and
- measures to maintain and improve water quality and river flows (RC14, RC44, RC45 - 55, RC59 - 61).

	ACTIONS	TIMESCALE	LEAD AGENCY & Partners
DATA COLLATION AND SURVEY			
	Data Collation		
RC1	Collate existing information on river corridor habitats (in collaboration with the Wet Woodland Action Plan). (Objectives 1 and 3)	2001	**EA**/EN/PDNPA/WTs LAs/LRCs/Voluntary Sector
RC2	Extend the collaborative collection of information on aquatic and riparian species in the Dove river corridor to other key river corridors. (Objectives 1 and 3)	2001 - 2010	**EA**/NT/BACA/NAAC ABAPG
RC3	Take all opportunities to collect additional information on the population and distribution of nationally and locally important river and stream species. (Objective 1)	2001 - 2010	**EA**/NT/BACA/NAAC ABAPG
RC4	Collate existing information on nationally and locally important river and stream species. (Objective 1)	2001	**EN**/**EA**/PDNPA/WTs/LAs LRCs/Voluntary Sector
RC5	Compile a register of key river corridors and key wetland sites, including constituent habitats, important species, 'Wildlife Site' status, Natural Area and conservation status. Initiate a programme for regular updating. (Objectives 1 and 3)	2001	**EN/PDNPA** (joint leads)
	Survey		
RC6	Identify key river corridors for habitat survey with specific reference to the presence of priority national and local biodiversity habitats and species. (Objective 3)	2001	**ABAPG**
RC7	Carry out basic surveys of wetlands, riparian and aquatic habitats in key river corridors, using standard river corridor survey methodology for the latter two habitats. (Objectives 4 and 5)	2002/2003	**ABAPG**
RC8	Carry out detailed surveys of important wetland and riparian habitats throughout the Peak District where existing information is inadequate. (Objective 3)	2002/2003	**ABAPG**
EVALUATING THE IMPORTANCE AND CONDITION OF SITES			
	Evaluating Importance and Identifying Key Sites		
RC9	Agree methodology for the evaluation of river corridors and river corridor habitats and the identification of 'Wildlife Sites'. Include methodology for evaluating sites for conservation, restoration and re-creation, with reference to: *Key habitats *Key sites for important species *The importance of creating linkages and corridors between habitats (Objectives 3, 4 and 5)	2001	**ABAPG**
	Defining Favourable Condition		
RC10	Agree definitions of favourable condition, including acceptable flow rates and water quality for rivers, for the complete range of river corridor habitats in the Peak District. (Objectives 1 and 3)	2001	**ABAPG**
RC11	Develop guidelines for the range of appropriate management needed to achieve conservation, restoration		

	and re-creation of river corridor habitats including guidelines on: *Technical and economic feasibility *The requirements of important species (All Objectives)	2001	**ABAPG**

RESOURCES

RC12	Seek resources for surveys of important sites throughout the Peak District if necessary and for habitats in key river corridors. (Objective 3)	2001	**ABAPG/EN/PDNPA** (joint leads)/MAFF/NT WTs/EA

RESEARCH

RC13	Assess current information and develop guidelines for the conservation of individual species of importance including bullhead, brook lamprey, stone loach, grayling, brown trout and minnow. (Objective 1)	2001 - 2005	**EA**/EN/ABAPG
RC14	Encourage further research into the degree to which water drainage into soughs, and loss to mine shafts, contributes to low or no water flow in important rivers, and into methods for mitigation. (Objective 2)	2001/2002	**EA/EN** (joint leads)
RC15	Review the status of important weirs throughout the BAP area with relation to fish passage and also to the negative and positive effects of weir deterioration. (Objective 1)	2001 - 2005	**EA/**EN
RC16	Encourage further research into disease of riverside alders and willows and develop a mitigation strategy. (Objective 3)	2001 onwards	**EA/FC** (joint leads)
RC17	Consider the need for research into alternative means of bracken control so as to provide an alternative to potentially polluting means of control. (Objective 1)	2001	**MAFF/EN** (joint leads)
RC18	Ensure that the results of research into the effects of bracken herbicides become widely available. (Objective 1)	2001 onwards	**EN**
RC19	Ensure that the results of research into the effects of Ivermectin on invertebrate communities associated with animal dung are implemented at a local level. (Objectives 1 and 2)	2001 onwards	**WEG**

PUBLIC ACCESS

RC20	Agree and implement both general and site specific approaches to the management of access along stream and river banks that enables public enjoyment of the environment but prevents significant damage to bank-sides. (Objective 1)	2001 onwards	**EA/PDLAF** (joint leads)/NT/EN/PDNPA

INVASIVE SPECIES

RC21	Establish a database of locations of invasive plant species including giant hogweed, Japanese knotweed, Himalayan balsam and New Zealand pigmyweed. (Objective 1)	2001	**ABAPG**
RC22	Establish procedures for the control of invasive plant species and implement where necessary. (Objective 1)	2001 onwards	**ABAPG**
RC23	Establish databases of locations of mink and signal crayfish and implement necessary control, in		

	collaboration with the Water Vole and White-clawed Crayfish Action Plans. (Objective 1)	2001 onwards	**ABAPG**

MONITORING

RC24	Agree methodology for, and implement effective monitoring of river corridor habitats. Ensure that the results of the process are collated and used to update relevant registers. (All Objectives)	2001 onwards	**ABAPG**
RC25	Continue monitoring biological water quality to identify: *Pesticides/sheep dip incidents *Deficient or broken storm overflow systems *Other pollution problems/incidents (Objectives 1 and 2)	2001 onwards	**EA/WCs** (joint leads)

AWARENESS RAISING

RC26	Share information on the wildlife importance and management needs of key conservation and restoration sites with the landowners/managers, including feedback from surveys. (Objectives 1 and 2)	2001 onwards	RSPB/EN/PDNPA/NT WTs/FWAG/MAFF
RC27	Encourage increased awareness and sharing of best management practice amongst key conservation organisation staff particularly regarding stream and river habitats and the needs of associated species. (Objective 1)	2001	**EN/EA** (joint leads)
RC28	Make local guidance available for conservation organisation staff on the ecological importance of both semi-natural rivers and those that have been modified extensively by the construction of weirs and fisheries. (Objective 1)	2002	**EN**
RC29	Continue with an awareness raising strategy on sheep dip pollution targeted at sheep markets, local sheep dip suppliers, mobile sheep dip contractors and machinery clubs, and through: *Regular mail shots on EA guidance to farmers *Presentations on pollution prevention to local agricultural colleges and Young Farmers Clubs (Objective 1)	2001 onwards	**EA**/PDNPA/LAs
RC30	Encourage increased awareness amongst fisheries managers of the impacts of stocked fish on native fish populations and on river and stream dynamics, through opportunities available when granting fish stocking licences. (Objective 1)	2001 onwards	**EA**
RC31	Increase public awareness, through local schools and ranger services, of the biodiversity importance of river corridor habitats. (All Objectives)	2001 onwards	**ABAPG**/LAs/PDNPA
RC32	Increase awareness, through appropriate means, of the value of dead wood in streams and rivers amongst riparian landowners and managers and agencies. (Objectives 1 and 4).	2001 onwards	**ABAPG/EA**(joint leads)

CONSERVATION ACTION AND INCENTIVES

Designations

RC33	Implement obligations under European (Natura 2000) legislation, with regard to review of the Peak District Dales cSAC specifically with respect to bullhead, brook lamprey and native crayfish. (Objective 1)	2001 - 2005	**EN**

RC34	Review coverage of stream and river SSSIs and notify further sites as appropriate. (Objective 1)	2001 - 2005	**EN**
RC35	Consider key river corridors in any programme of acquisition/lease/management of nature reserves including NNRs and LNRs. (All Objectives)	2001 onwards	**EN/LAs** (joint leads) PDNPA/WTs/RSPB/NT
	Grant Schemes		
RC36	Consider recommending review of agri-environment, woodland and other conservation schemes with the aim that: *Targeting gives adequate priority to streams and rivers at the local, regional and national level *Management prescriptions for the maintenance, restoration and creation of wetlands, wildlife headlands and buffers are reviewed *Payments for small areas, wetlands, buffers and wildlife headlands are introduced/reviewed (Objectives 1, 3, 4 and 5)	2001 onwards	MAFF/EN/PDNPA/FC WEG/ABAPG
	Negotiation and Review of Agreements		
RC37	Review management of all sites within SSSIs. Where necessary agree revised management regimes with owners/managers, through appropriate mechanisms, to ensure maintenance or restoration of favourable condition. (Objectives 1 and 2)	2001 - 2005	**EN**
RC38	Negotiate appropriate conservation agreements with landowners/managers of sites outside of SSSIs and existing agreements, targeting priority aquatic habitats, wetlands and riparian strips and sites for habitat restoration and creation. (Objectives 1, 3, 4 and 5)	2004/2005 conservation; 2007 - 2010 restoration and creation.	PDNPA/MAFF/WTs FWAG/NT
RC39	Review management of wetlands and riparian strips in existing agreements. Where necessary agree revised management regimes with owners/managers to ensure that favourable condition is being maintained or restored. (Objectives 3 and 4)	2001 onwards	MAFF/PDNPA/NT WTs/FWAG
RC40	Review whole holding agreements which include unprotected wetlands or key riparian strips. Consider the opportunities for upgrading the agreement to incorporate their safeguard and enhancement or restoration/re-creation. (Objectives 3, 4 and 5)	2002 - 2010	MAFF/NT/WTs PDNPA/FWAG
	Land Aquisition		
RC41	Consider negotiating purchase/lease of priority sites where this would be the most effective way of achieving conservation objectives and when a negotiated conservation solution has not succeeded. (Objective 3)	2001 onwards	PDNPA/WTs/NT/EN LAs
	Direct Action		
RC42	On land owned by public or conservation bodies, ensure that: *Management maintains, and where possible, enhances the value of river corridor habitats including aquatic habitats *Restoration of these habitats on such land is considered *Opportunities are taken for habitat creation *Water conservation measures are encouraged *Opportunities for involvement of local communities		

	in site management are taken where possible (Objectives 3, 4 and 5)	2001 onwards	PDNPA/LAs/FC/WTs NT/EN
RC43	Continue to ensure that the nature conservation interest of river corridor habitats is taken into consideration by the EA when carrying out their annual programme of maintenance work on main rivers, and in any proposed flood defence works. (All Objectives)	2001 onwards	**EA**/ABAPG
RC44	Promote the use of the 'bracken bruiser' within the established machinery ring so as to minimize use of potential pollutants. (Objective 1)	2001 onwards	**EN**

REGULATION

Planning

RC45	Ensure all planning applications and General Development Orders are adequately assessed in relation to their impact on river corridor habitats; that loss or damage to these is avoided; and that opportunities for the enhancement or creation of appropriate habitats is considered in relevant planning decisions. (Objective 1, 2, 3 and 4)	2001 onwards	**LAs/PDNPA**/EN/WTs
RC46	Ensure that all planning applications/decisions encourage the use of water conservation measures. (All Objectives)	2001 onwards	**LAs/PDNPA**/EN/WTs

Pollution Control and Waste Management

RC47	Continue to update and implement the local Code of Practice for bracken control in order to safeguard watercourses. (Objective 1)	2001 onwards	**RLMEG**
RC48	Seek to ensure that restriction of fertiliser application close to watercourses is considered in future reviews of the "Code of Good Agricultural Practice for the Protection of Water". (Objective 1)	2001 onwards	**WEG/**MAFF
RC49	Ensure good practice is followed in disposing of sheep-dip, avoiding the vicinity of streams, rivers and wetlands and minimising possible run-off. Implement by a continuing programme of licence processing, extending consultation procedures for disposal applications to the whole of the Peak District and, where necessary, enforcement action. (Objective 1)	2001 onwards	**EA/**LAs/PDNPA
RC50	Review procedures and consultation processes in relation to the spreading of paper pulp. (Objectives 1 and 2)	2001	**EA/**EN/PDNPA/LAs
RC51	Review the current permitted levels of potential pollutants in sewage works discharges with a view to reducing levels where possible. (Objective 2)	2001 - 2005	**EA/WCs** (joint leads)
RC52	Review current storm water procedures to reduce the incidence of untreated sewage entering rivers and streams. (Objective 2)	2001 - 2005	**WCs/EA** (joint leads)
RC53	Review licences for industrial discharges to rivers and streams and improve environmental practices at industrial sites. (Objective 2)	2001	**EA**
RC54	Identify slurry and silage effluent problems and ensure that landowners and relevant organisations are made aware of them and of their responsibilities under the "Code of Good Agricultural Practice for the Protection of Water". (Objective 2)	2001 onwards	**EA**/MAFF/PDNPA FWAG/EN

RC55	Ensure that reduction in peat run-off to watercourses is considered in moorland management and restoration proposals, through liaison with the Moorland BAP Group. (Objectives 1 and 2)	2001 onwards	**ABAPG/MBAPG** (joint leads)
	Other Regulatory Mechanisms		
RC56	Review existing riverside Tree Preservation Orders and consider the desirability of extending the range of riverside TPOs. (Objective 3)	2002	**PDNPA/LAs** (joint leads)
RC57	Ensure consideration of wildlife impacts in EA consents for work on and adjacent to streams and rivers. (All Objectives)	2001 onwards	**EA**
RC58	Ensure that conservation implications are considered when issuing fish stocking licences. (Objective 1)	2001 onwards	**EA**
RC59	Continue with the review of abstraction consents and licences in relation to rivers that fall within cSACs and SPAs. (Objective 2)	2001 onwards	**EA**/EN
RC60	Consider the need for a review of groundwater and surface water abstraction consents in other catchments with particularly sensitive habitats. (Objectives 2 and 3)	2001 - 2007	**EA**/ABAPG
RC61	Review the operating arrangements for abstraction of water from the Rivers Noe and Ashop. (Objective 2)	2001	**EA/STW** (joint leads)

RESOURCES

It is envisaged that many of the actions proposed will be carried out by the relevant organisations using current resources. These include:

- continuing investment by landowners and managers managing their land sympathetically for wildlife;
- the EA's programme of water quality monitoring, coupled with their commitment to the reduction in water quality problems in conjunction with the water companies;
- the EA's review of water quantity with respect to the SPA and cSAC;
- the EA's annual programme of maintenance work on main rivers and commitment to the consideration of conservation issues when issuing licences and permissions;
- EN's programme of reviewing SSSI management and designation and its grant and management agreement schemes ;
- MAFF's Countryside Stewardship and Environmentally Sensitive Area Schemes;
- the FC's Woodland Grant Scheme;
- MAFF's Farm Woodland Premium Scheme;
- the PDNPA's advisory and grants service for landowners/managers and its rolling programme of special conservation projects;
- the 'Otters and Rivers' projects currently being carried out by the WTs, with financial support from STW and the EA;
- water vole conservation work currently being implemented by DWT with funding from various sources including EN;
- FWAG and the WTs' advisory services;
- continuing management of river corridor habitats owned by conservation organisations, public bodies (LAs, PDNPA, FC, EN, NT, WTs, WdT), WCs and BW.

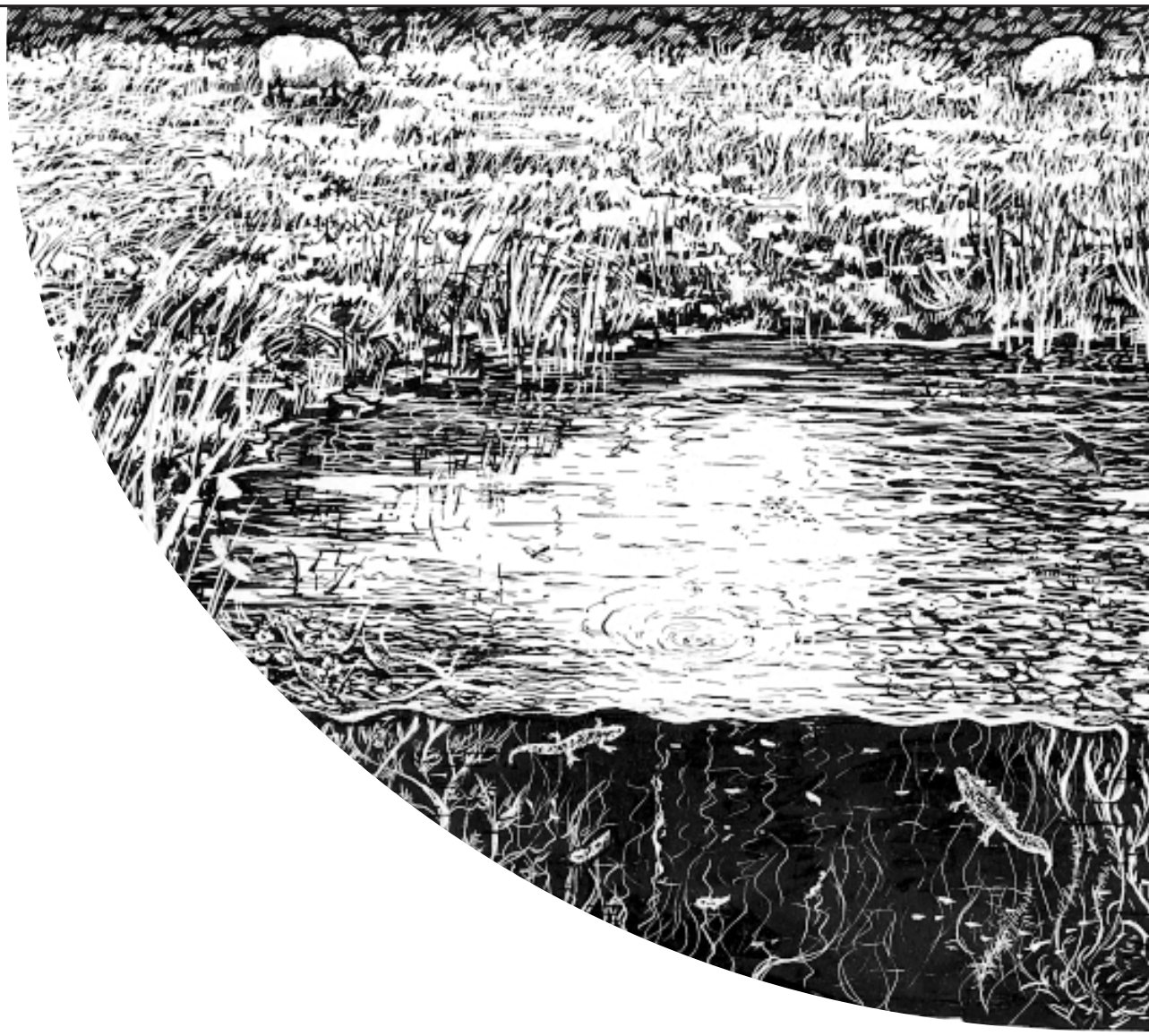
Additional resources are likely to be required:

- for survey of wetlands, riparian and aquatic habitats (2002 - 2003), and negotiation of agreements (2004 - 2010);
- to provide adequate financial incentives for the conservation and restoration management of river corridor habitats (2001 onwards);
- to aid in the production of the proposed registers (2001 onwards);

- to implement effective monitoring (2001 onwards).

The PDNPA and EN are currently seeking resources to continue a Pastures Project, aimed at surveying and securing high quality sites within appropriate agreements. The RSPB, PDNPA and EN are currently seeking resources for a Ground-nesting Bird Habitat Project (to run from 2001 - 2004). Both would have implications for river corridor conservation.

PONDS



TREND IN THE PEAK DISTRICT:

Significant and continuing decline thought to be in the order of 33 - 50% since the 1960s.

ESTIMATED EXTENT IN THE PEAK DISTRICT:

2000 – 2700 extant ponds.

NATIONAL BAP HABITATS:

Standing Open Water (broad habitat type).

ASSOCIATED NATIONAL BAP PRIORITY SPECIES:

Water vole, great crested newt, otter.

ASSOCIATED PEAK DISTRICT AUDITS:

Ponds.

INTRODUCTION

Of the 2000 - 2700 ponds in the Peak District (excluding garden ponds) approximately 75 % are to be found in the White Peak where the vast majority are dewponds dating from the 19th century, principally occuring on the limestone plateau but with smaller numbers in the dales. Village ponds, fish ponds, millponds and ponds associated with old mineral workings (e.g. silica sand pits, limestone quarries) are also found locally. In the Dark Peak and South West Peak ponds are far fewer and occur in a variety of situations including millponds, coal bell pits, ornamental parkland ponds and farm ponds excavated in natural low-lying wet areas. Garden ponds add significantly to the overall resource and are of importance to individual species including frogs and newts, though they seldom support relatively natural communities.

Surveys in sample areas of the White Peak suggest that there were significant losses of dewponds in the 1970s and early 1980s, with perhaps as much as a 50 % loss of ponds over a 15 year period. More recent surveys suggest that losses have continued since then but perhaps at a slower rate. The dewponds of the White Peak have been particularly vulnerable not just to in-filling but also to neglect, leading to cracking of the clay (or more recent concrete) linings and consequent loss of the pond. More intensive management of surrounding farmland has also lead to puncturing of clay linings by heavy livestock, eutrophication and contamination of ponds through fertiliser, slurry and herbicide application, and loss of surrounding habitat on which some of the important pondlife (such as newts) may depend. In the Dark Peak and South West Peak the number and condition of ponds has probably remained more stable, and may even have increased slightly due to pond creation through conservation schemes.

Perhaps the single most important feature of ponds in the Peak District is the great crested newt, a protected species for which Britain may hold up to 50 % of the world population. Although few individual ponds support particularly large numbers, the total population across the network of White Peak dewponds is considered to be of high national importance. As a protected species, licences are needed for anything which might result in their disturbance. In addition dewponds collectively represent a substantial habitat resource for aquatic invertebrates (particularly beetles and bugs, including a few nationally scarce water beetles), commoner amphibians such as frogs, toads and other newt species, and locally scarce aquatic plants such as common water-crowfoot and pond water-crowfoot. Water voles also utilise a few ponds.

Evidence suggests that the wildlife interest of dewponds tends to be very dependent on the management of the pond at the time (e.g. when it was last de-silted). There are therefore probably relatively few ponds which are of particular importance compared to others. It is the maintenance of a network of ponds relatively close together, allowing movement of plants and animals between ponds, which is probably of the greatest conservation importance.

In addition to their wildlife interest, dewponds are a characteristic landscape feature of the White Peak plateau, associated with the historical enclosure of this area during the 18th and 19th centuries.

ADVERSE IMPACTS	Historic	Current
Agricultural Management		
Neglect of dewponds as a result of increased availability of mains water.	✓	✓✓
Increase in livestock numbers and size, leading to puncturing of dewpond lining, eutrophication, loss of emergent vegetation cover and structure.		✓✓
Intensive use of surrounding land leading to loss of associated habitat such as hedges, walls and semi-natural vegetation.	✓	✓✓
Pollution		
Agricultural improvement of surrounding grasslands, resulting in eutrophication and herbicide pollution.	✓	✓✓
Run-off from sheep-dip disposal, causing damage to invertebrate communities.		✓
Pollution through slurry/silage run-off.		✓
Direct Damage		
Drying-out and consequent cracking of dewpond linings due to drought which may increase with climate change.	✓	✓✓

Cracking of dewpond linings by quarry blasting in the vicinity.	✓	✓
In-filling.	✓	✓✓
Excessive clearance of pond vegetation.	✓	✓
Dumping of waste.		✓
Invasive Species		
Invasive non-native species, notably New Zealand pigmyweed and Canadian pondweed.		✓
Stocking with fish.		✓
Others		
'Ornamentalisation' of ponds.		✓
Natural succession (in-filling/siltation).	✓	✓✓

An impact ✓ *Significant impact* ✓✓

CURRENT ACTION

Designated Sites

- A number of ponds exist within SSSIs, including several of the dales SSSIs which fall within the Peak District Dales cSAC. However they do not form part of the reason for designation.
- A number of ponds have been identified as 'Wildlife Sites'.

Sites Owned and Managed by Conservation Organisations

- A number of ponds are safeguarded through ownership by conservation bodies including EN, WTs, NT and PDNPA.

Sites Within Conservation Agreements

- 64 ponds have been safeguarded or created under the PDNPA's Farm Conservation Scheme (FCS) since 1988.
- Landowners and managers in the Bonsall Moor and Tissington areas are currently entering some 60 ponds into conservation scheme agreements, encouraged through the PDNPA's Pond Project. 40 of these have had de-silting work done.
- A number of ponds have been restored or created within the Countryside Stewardship Scheme (CSS). A larger number are protected by the cross compliance element of this scheme but although this should ensure they are not destroyed it is unlikely to result in positive management.
- The PDNPA's Landscape Service has been involved in the creation and management of various ponds and gives advice and grant aid for pond creation, restoration and management.

Research and Survey

- The county amphibian recorder for Derbyshire has surveyed some 1200 ponds in the White Peak for amphibians since 1985. Results of his work suggest a 50 % loss of ponds in some areas.
- In 1990 EN commissioned a report on the status of great crested newts in the Peak District and Derbyshire, highlighting important sites and pond clusters.
- Pond surveys were carried out by the DWT throughout the Derbyshire White Peak, and by the PDNPA Ranger Service in 1994 - 95.
- 242 ponds in the Bonsall Moor and Tissington areas were surveyed through the PDNPA's Pond Project from 1998 - 2000. Of these, 67 % still held water, 33 % were dry.
- Four different dewpond re-creation techniques are being trialed by EN in the NNR (2 ponds), through the PDNPA's Pond Project (5 clay and stone sett, 3 'Rawmat', 2 concrete re-lining and 2 mastic lining repairs) and on land owned by the PDNPA. Previous restoration work has been trialed by the DWT.
- A pond database has been established by the PDNPA.

ACTION PLAN OBJECTIVES AND TARGETS

National Targets

Ponds are not a national key habitat and so no targets have been set. However within Derbyshire the National Action Plan for great crested newts aims at 15 great crested newt re-colonisations by 2003 – as a net gain. This will necessitate both the creation and restoration of ponds in the Peak District.

A Vision for the Peak District

To be a credible nature conservation target and to safeguard the integrity of the pond network, the aim must be to maintain a substantial proportion of the existing pond resource with an emphasis on the maintenance of networks of linked pond clusters, and in an ideal world to create new ponds. In this way ponds will continue to contribute to a rich and diverse wetland flora and fauna in all three Natural Areas of the Peak District. Objectives and targets have therefore been set at a level which is considered very ambitious but, with concerted effort, may be achievable.

OBJECTIVES AND TARGETS

Objective 1

Maintain a coherent pond network, particularly in the White Peak, by ensuring pond clusters and links between them are maintained.

Target

Ensure 20 % of all existing ponds are under a management regime to safeguard their existing interest by 2005, and that 50 % are under such a management regime by 2010. At least 75 % of such ponds should be important in safeguarding, reinforcing or linking pond clusters.

Objective 2

Maintain, as a priority, ponds considered to be of the highest importance in their own right.

Target

Ensure 50 % of ponds of the highest importance are under a management regime to safeguard their existing interest by 2005, and that 100 % are under such a management regime by 2010.

Objective 3

Maintain or enhance the quality of the terrestrial habitat surrounding ponds.

Target

Ensure at least 25 % of ponds under conservation management regimes, and at least 75% of such ponds of the highest quality, include management to maintain or enhance the surrounding terrestrial habitat, by 2010.

Objective 4

Restore ponds currently in poor condition to favourable condition.

Target

Ensure 20 % of all ponds in poor condition are under a management regime, by 2005, to restore them to favourable condition, and that 50 % are under such a management regime by 2010. At least 75 % of such ponds should be important in safeguarding, reinforcing or linking pond clusters.

Objective 5

Enhance the pond network by repairing defunct dewponds and creating new ponds, concentrating particularly on sites with surrounding high quality habitat and/or locations which safeguard, reinforce or link existing pond clusters.

Target

Re-create 20 ponds by 2003 and 100 ponds by 2010, of which at least 50 % should reinforce or link important pond clusters (this should help meet the national action plan target for great crested newt re-colonisation sites).

Main Factors Likely to Affect the Achievement of Targets

Land Management

Implementation of the Rural Development Regulation and reform of the Common Agricultural Policy.

Effectiveness of agri-environment and conservation scheme prescriptions.

The perception of ponds as a priority habitat and their inclusion as such in the whole holding approach to negotiation of agri-environment and conservation scheme agreements.

Effectiveness of agri-environment and conservation scheme cross compliance.

Planning and Regulation

Planning and licensing policies.

Planning permission requirements.

Lack of planning controls for agricultural operations – Permitted Development Rights (PDR) allow in-filling of ponds within a farm holding.

Resources and Financial Incentives

Lack of availability of adequate financial incentives for dewpond management and restoration.

Pollution and Climate Change

Climate change (particularly the loss of dewponds in drought years).

Practical Difficulties and Gaps in Knowledge

A clear definition of favourable condition.

Others

Opportunities for pond creation through quarry restoration.

Desires and interests of landowners in wanting to create/restore ponds.

ACTIONS

Key to the achievement of the proposed targets are the actions relating to:

- negotiations to secure appropriate pond management (Actions P24 - 27);
- a consideration of a review of agri-environment schemes in relation to the options and payments for pond safeguard, restoration and creation (P23);
- research and monitoring of restoration techniques (P8, P9, P15 and P16), and
- direct management of village, community and garden ponds (P28 - 30).

Only if consideration of the conservation management of this habitat becomes an integral part of the management of every holding can we hope to retain ponds as a vital part of our heritage.

	ACTIONS	TIMESCALE	LEAD AGENCY & Partners
DATA COLLATION AND SURVEY			
	Data Collation		
P1	Compile a register of ponds including level of importance (including 'Wildlife Site' status), Natural Area, condition, important species, cluster links and conservation status, and initiate a programme for regular updating. (All objectives)	2001	**PDNPA**
P2	Ensure that the pond register is easily available for use and updating by relevant organisations. (All objectives)	2001 onwards	**PDNPA**
	Survey		
P3	Encourage local schools to carry out a survey of garden ponds including key species and basic habitat information where possible. (Objectives 1, 2 and 3)	2001 onwards	**WTs/PDNPA** (joint leads)

EVALUATING THE IMPORTANCE AND CONDITION OF SITES

Evaluating Importance and Identifying Key Sites

P4	Agree a methodology for the evaluation of ponds, including definition of key sites (incorporating the importance of linkages and pond clusters, and the requirements of key species), priorities for conservation action and identification of 'Wildlife Sites'. (Objectives 1, 2, 3 and 4)	2001	**ABAPG**

Defining favourable condition

P5	Agree definition of favourable condition for the complete range of ponds in the Peak District including consideration of early, mid and late vegetation successions and with consideration of the guidance available from 'Pondlife'. (Objectives 1, 2, 3 and 4)	2001	**ABAPG**
P6	Agree guidelines for the range of appropriate management needed to achieve favourable condition. (Objectives 1, 2, 3 and 4)	2001	**ABAPG**

RESOURCES

P7	Seek resources for pond restoration. (Objectives 3 and 4)	2001 onwards	**ABAPG**

RESEARCH

P8	Research restoration of cracked concrete ponds using cheap and quick techniques such as mastic repair. (Objective 4)	2001 onwards	**EN/PDNPA** (joint leads)
P9	Trial mastic repairs on ponds in the Derbyshire Dales NNR. (Objective 4)	2001	**EN**
P10	Investigate the perceived and actual health risks of ponds to farm stock, by collation of research results and by landowner survey. (All Objectives)	2002	**ABAPG**

INVASIVE SPECIES

P11	Establish a database of locations of invasive plant species including Canadian pond-weed and New Zealand pigmyweed. (All Objectives)	2001	**PDNPA**/EA
P12	Develop a strategy for the control of invasive plant species and implement where necessary. (All Objectives)	2001 onwards	**ABAPG**
P13	Discourage transfer of garden pond species to those in the wider countryside. (All Objectives)	2001 onwards	**ABAPG**

MONITORING

P14	Agree methodology for, and implement effective monitoring of ponds. Ensure that the results of the process are collated and used to update the pond register. (All Objectives)	2001 onwards	PDNPA/MAFF/EN WTs/NT
P15	Monitor the physical success of different dewpond restoration/re-creation techniques. (Objectives 4 and 5)	2001 onwards	**PDNPA**/EN/WTs
P16	Set up a programme to monitor the fauna and flora of differently created/restored dewponds. (Objectives 4 and 5)	2003	**ABAPG**

AWARENESS RAISING

P17	Share information on the importance and management needs of key conservation, restoration and re-creation sites with landowners/managers, including feed-back from surveys. (All Objectives)	2001 onwards	EN/PDNPA/NT/WTs FWAG/MAFF
P18	Following dewpond restoration/creation trials make guidelines available on the technical and economic feasibility of the different techniques. (Objectives 4 and 5)	2003	**PDNPA/EN** (joint leads)
P19	Organise a demonstration day for landowners and managers on pond maintenance and creation. (All Objectives)	2002	**PDNPA/EN** (joint leads)
P20	Make guidelines available to landowners on pond management, including grants and sources of advice. (All Objectives)	2002	**ABAPG**
P21	Make guidance on pond creation in existing wetland areas available to conservation organisation staff and landowners/managers, in order to ensure pond conservation measures are balanced against existing wetland interest. (Objective 5)	2002	**WEG**

CONSERVATION ACTION AND INCENTIVES

Designations

P22	Consider pond key sites in any programme of acquisition/lease/management of nature reserves including NNRs and LNRs. (Objective 4)	2001 onwards	**EN/LAs** (joint leads) PDNPA/WTs/RSPB/ NT

Grant Schemes

P23	Consider recommending review of all grant schemes to ensure that: *Targeting gives adequate priority to dewponds in the White Peak *Payments are introduced for annual maintenance and are increased for clearance and re-lining *Payments for buffers and wildlife headlands are introduced/reviewed (All Objectives)	2001 onwards	MAFF/EN/PDNPA WEG/ABAPG

Negotiation and Review of Agreements

P24	Review management of all sites within SSSIs. Where necessary agree revised management regimes with owners/managers using appropriate mechanisms, to ensure maintenance or restoration of favourable condition. (Objectives 1, 2, 3 and 4)	2005	**EN**
P25	Ensure that negotiations on holdings outside of SSSIs and existing agreements consider the pond resource on the whole holding, including: *The potential for pond repair/creation in key locations *The safeguard of all existing ponds on the holding *The establishment of management to bring all existing ponds into favourable condition *Bringing land surrounding ponds under favourable management where possible (All Objectives)	2001 onwards	PDNPA/WTs/FWAG MAFF
P26	Review management of ponds in existing agreements, outside of SSSIs. Where necessary agree revised management regimes with owners/managers to ensure that favourable condition is being maintained or restored. (All Objectives)	2001 onwards	MAFF/PDNPA/NT WTs/FWAG

P27	Review whole holding agreements which include unprotected ponds or sites for restoration. Consider the opportunities for amending the agreement to incorporate their safeguard and enhancement or restoration. (Objectives 1, 2, 3 and 4)	2001-2005	MAFF/NT/WTs/PDNPA FWAG
	Direct Action		
P28	On land owned by public or conservation bodies, ensure that: *Management maintains and where possible enhances the value of ponds *Options for the restoration of ponds are reviewed *Opportunities for pond creation are taken *The importance of pond linkages, clusters and the management of the surrounding land is taken into consideration (All Objectives)	2001 onwards	PDNPA/EN/LAs/NT WTs/Parish Councils
P29	Encourage the creation of ponds in built-up areas such as gardens and school grounds, and their appropriate design and management to benefit wildlife, taking due regard for health and safety issues. (Objective 4)	2001 onwards	**WTs/PDNPA** (joint leads)
P30	Encourage maintenance and, where appropriate, the creation of village and community ponds. (Objective 4)	2001 onwards	**WTs/PDNPA** (joint leads)
REGULATION			
	Planning		
P31	Ensure all planning applications and General Development Orders are adequately assessed in relation to their impact on ponds, that loss or damage to them is avoided and opportunities for enhancement are taken. (Objectives 1, 2, 3 and 4)	2001 onwards	**LAs/PDNPA**/WTs/EN
P32	Consider the opportunities for appropriate pond creation in relevant planning decisions including quarry restoration schemes. (Objective 5)	2001 onwards	**LAs/PDNPA** (joint leads)/Minerals Companies
P33	Clarify the planning permission needs for pond creation and seek to ensure that the planning regulations are simple. (Objective 5)	2001	**ABAPG**/PDNPA/LAs
P34	Ensure that the impact of quarry blast vibrations on nearby dewponds is addressed in the planning process. (All Objectives)	2001 onwards	**LAs/PDNPA** (joint leads)/Minerals Companies
	Pollution Control and Waste Management		
P35	Ensure good practice is followed in disposing of sheep dip, avoiding the vicinity of ponds. Implement by continuing with an awareness raising strategy amongst land managers; continuing the programme of licensing; extending consultation procedures for disposal applications to the whole of the Peak District and, where necessary, by enforcement action. (Objectives 1, 2, 3 and 4)	2001	**EA**/LAs/PDNPA/NFU
	Other Regulatory Mechanisms		
P36	Explore the possibility of a notification system for in-filling of existing ponds. (Objective 4)	2002	**PDNPA**

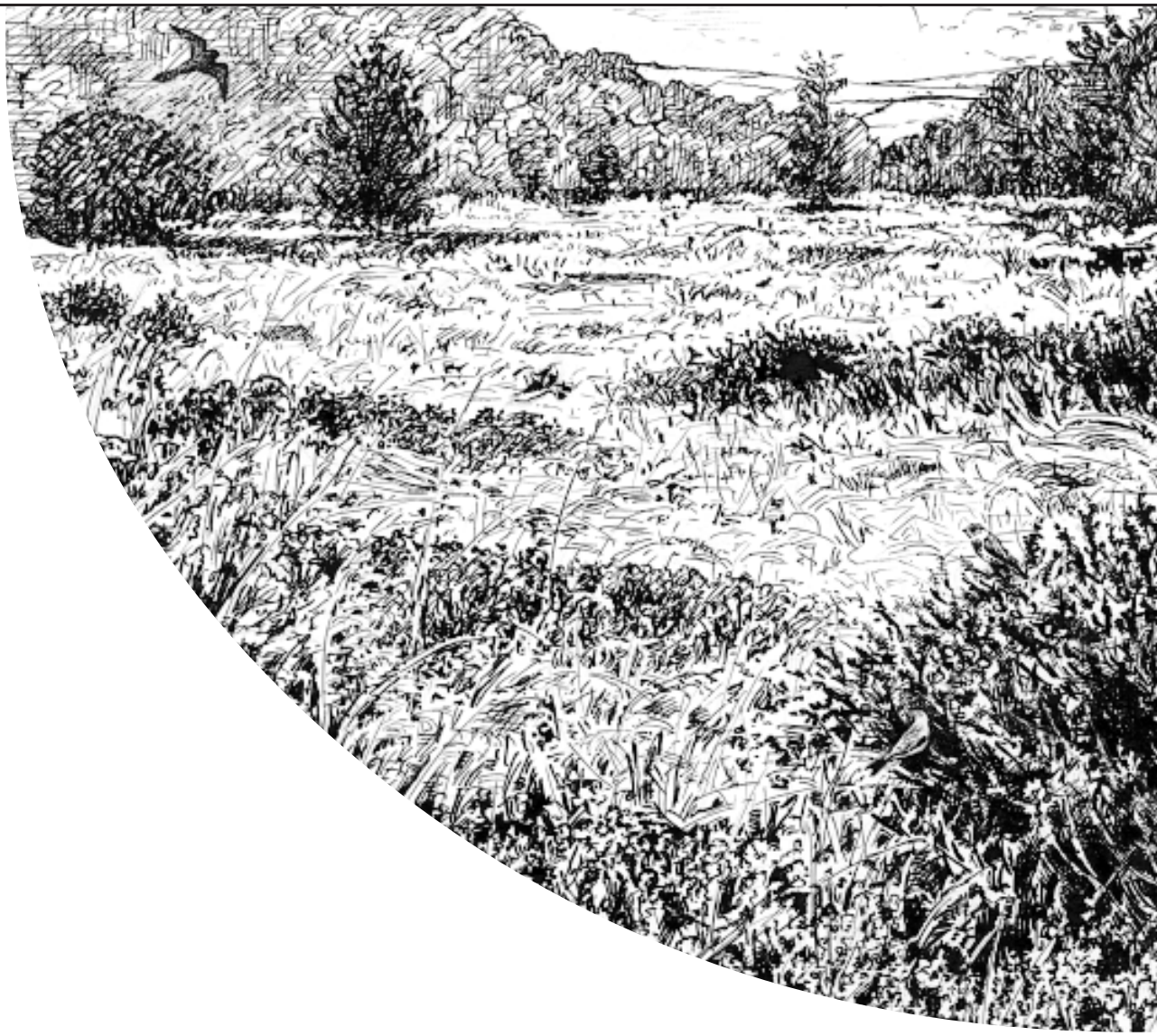
RESOURCES

It is envisaged that the majority of actions proposed will be carried out by the relevant organisations using current resources. However, this will necessitate careful targeting and re-prioritisation. These include:

- continuing investment by landowners and managers managing their land sympathetically for wildlife;
- EN's programme of reviewing SSSI management and its grant and management agreement schemes;
- MAFF's Countryside Stewardship and Environmentally Sensitive Area Schemes;
- the PDNPA's advisory and grants service for landowners/managers;
- FWAG and the WTs' advisory services;
- County Recorder surveys;
- continuing management of ponds owned by conservation organisations and public bodies (NT, PDNPA, EN, WTs, LAs), WCs and BW.

Additional resources are likely to be required:

- to aid in the production of the proposed registers (2001 onwards);
- to provide advice on pond management (2001 onwards);
- to implement effective monitoring (2001 onwards);
- to provide financial incentives for the conservation and restoration management of existing ponds, and for pond creation (2001 onwards).



TREND IN THE PEAK DISTRICT:

Declined by 75% 1913 - 1984.

ESTIMATED EXTENT IN THE PEAK DISTRICT:

100 ha in total.

NATIONAL BAP HABITATS:

Upland Heathland (priority habitat).

ASSOCIATED NATIONAL BAP PRIORITY SPECIES:

Linnet, nightjar, brown hare, skylark.

ASSOCIATED PEAK DISTRICT AUDITS:

Limestone Heath.

INTRODUCTION

Limestone heaths are defined as any area of dwarf shrub dominated vegetation within the White Peak Natural Area. They are characterised by a dominance of heather with occasionally bilberry and rarely crowberry and cross-leaved heath. The dwarf shrubs grow in association with grasses and herbs typical of acidic soils.

Areas within the White Peak dales which support dwarf shrub dominated vegetation are being considered within the Limestone Dales Action Plan. This Action Plan covers the very varied heathland of the White Peak plateau. This is an incredibly rare resource with a total area of 100 ha confined to 28 sites, most of which are very small. Only four sites are bigger than 5 ha with the heath on Longstone Moor contributing 76 % of the resource.

The limestone heaths of the Peak District are very varied in terms of their size, vegetation and character. Some sites can be dominated by swathes of heather whilst at others the dwarf shrub forms a complex mosaic with acid, neutral and calcareous grassland and scrub. Ecologically each site is unique, a complex reflection of geology and land-use history.

The limestone heaths occur in a variety of situations. There are three extensive sites, which occur on some of the highest land within the White Peak, the largest of which is Longstone Moor. The other two sites are on Castleton and Bradwell Moors. Parwich Moor is a smaller plateau site. Two sites are found in association with woodlands, notably Wisels Wood near Pikehall and Alsop Moor Plantation. All other sites are present as relic areas of heathland along quarry brows and adjacent to other mineral workings, and on road verges. Secondary heath, where the dwarf shrubs have colonised newly exposed soils, is also present at mineral sites and on the sides of railway lines.

Heathland dominated the landscape of the White Peak plateau for hundreds of years, developing on the acid loess derived soils following the extensive woodland clearances in Neolithic times. In Medieval times the heathland around the villages was reclaimed for agriculture. As pressure increased for productive pasture the wastes and commons were enclosed and reclaimed, particularly during the parliamentary enclosure period from 1760 to 1820. Those remnants remaining into the twentieth century have declined by an estimated 75 % since 1915.

Limestone heaths are not only important ecologically but also in their distinct and valuable impact on the landscape. Each site provides a window into the past enabling us to visualise the White Peak prior to the 18th century. They exist as an important link in the historical story of the limestone plateau.

ADVERSE IMPACTS	Historic	Current
Land Management		
Heathland reclamation including ploughing, re-seeding, drainage, liming and artificial fertilisers.	✓✓	
Application of paper pulp.		✓
Inappropriate grazing levels including both over-grazing and neglect leading to scrub encroachment.	✓	✓✓
Pollution		
Sheep dip disposal.		✓
The adverse effects of Ivermectin on invertebrates.		✓
Quarrying and Re-working of Mineral Veins		
Mineral working and quarrying.	✓	✓
Others		
Landfill - in relation to the quarry and sandpit sites.		✓
Fragmentation – risk of species extinctions and negative effect on limestone heath restoration.	✓	✓✓
The use of hollows and small quarries for disposal of waste from building works etc.		✓
Tree planting.	✓	✓

Inappropriate management of roadside verges and green lanes.	✓	✓
Motorbike scrambling and 4x4 trials.		✓

An impact ✓ *Significant impact* ✓✓

CURRENT ACTION

Designated Sites

- There are two SSSI sites, Longstone Moor and Parwich Moor, covering more than 75 % of the resource area.

New Initiatives

- The PDNPA, as part of its Pastures Project, targeted limestone heaths for survey and conservation action in 1998.
- Methods for heathland restoration have been established within the Dark Peak. This method is now being trialed at four acid grassland sites within the White Peak as a project run by the PDNPA in conjunction with EN and the NT and financed with money from Objective 5b. The project was set up in 1999 and it is still in its early stages.

Sites Owned and Managed by Conservation Organisations

- The PDNPA owns and manages small areas of limestone heath on the disused railway trails and at Green Lane Pits, Middleton.
- The NT owns and manages the limestone heath at Alsop Moor Plantation.

Sites Within Conservation Agreements

- Two limestone heaths, one plateau site and one sand pit site, are being managed within the PDNPA's Farm Conservation Scheme (FCS).
- Two limestone heaths on abandoned mineral sites are being managed under voluntary agreements with the PDNPA.
- One limestone heath site is being managed under a voluntary agreement within MAFF's Countryside Stewardship Scheme (CSS).

ACTION PLAN OBJECTIVES AND TARGETS

National Targets

Limestone heaths most closely relate to the National BAP for Upland Heaths:

- Maintain current resource in favourable condition.
- Increase the total extent of resource by 5 %.
- Achieve favourable condition on all resource within SSSIs by 2010.
- Improve the condition of at least 50 % of resource outside SSSIs by 2010.
- Restoration of 50000 - 100000 ha by 2010.
- Re-creation of 5000 ha by 2005.

A Vision for the Peak District

The proposed targets for securing favourable management and condition are higher than regional and national targets since limestone heaths are a very rare and special resource. Essentially they are all that remain of a landscape that once characterised the White Peak, and now exist as a window into the past. Targets for restoration and creation are also higher than national targets because of the small area of limestone heath remaining in the Peak District. A total increase in resource in the region of 40 – 50 % is proposed. Every effort needs to be made to secure the conservation of every site. Furthermore, energy and resources need to be directed at opportunities for restoration and creation where this will contribute to a rich resource of limestone heath for the future.

OBJECTIVES AND TARGETS

Objective 1

Secure favourable condition on limestone heaths.

Targets

Secure favourable management within an appropriate conservation agreement on 100 % of limestone heaths by 2005. The difficulties of negotiating conservation agreements and favourable management need to be recognised when reviewing the achievement of this target.

Objective 2

Restore heathland on acid grassland sites to reverse the trend of heathland loss and address the problems of habitat fragmentation and isolation, whilst ensuring that ecologically important acid grassland sites are not threatened.

Targets

Survey all areas of acid grassland on the White Peak plateau by 2005 so as to identify appropriate areas for heathland restoration.

Restore a minimum of 40 ha of species-poor acid grassland to limestone heath by 2010, targeting species-poor acid grassland areas adjacent to existing heathland.

Objective 3

Explore the feasibility of creating heathland on arable land or improved grassland. If appropriate create heathland on priority sites to include areas adjacent to existing heathland.

Targets

If appropriate, trial heathland creation on a range of sites in priority areas by 2010.

Identify the opportunities for creation of new limestone heath sites in appropriate locations by 2010.

Main Factors Likely to Affect Achievement of Targets

Land Management

Implementation of the Rural Development Regulation and reform of the Common Agricultural Policy.

Effectiveness of agri-environment and conservation scheme prescriptions.

Resources and Financial Incentives

Limited rewards from agri-environment and conservation schemes and lack of incentives for favourable management.

Lack of funding from national schemes for non-agricultural sites.

Availability of funding for survey, negotiations and agreements.

High land prices – forcing intensive management following purchase of land.

Planning and Regulations

Planning policy.

Lack of planning controls for agricultural operations – Permitted Development Rights (PDRs) allow infilling and levelling of hollows within a farm holding.

Conflicts with Other Priorities

Conflict with other conservation interests, particularly on restoration sites.

Practical Difficulties

Effectiveness of techniques for restoration and creation.

Others

Lack of safeguard or effective conservation mechanisms outside of SSSIs. It is often at the time of change of ownership that limestone heaths, as with other habitats, are most at risk. At present there is no systematic procedure or mechanism for conservation bodies and local authorities to have an opportunity to safeguard such land.

ACTIONS

Limestone heaths are part of the historical mosaic of habitats in the White Peak. Key to their retention as part of the current and future landscape are actions relating to:

- Negotiations to secure appropriate land management (Actions LH22 - 24);
- Ensuring agri-environment and conservation schemes provide adequate financial incentive and appropriate management prescriptions to safeguard, enhance and restore limestone heaths (LH21);
- The survey of White Peak acid grasslands with the aim of identifying suitable sites for expansion of the limestone heath resource (LH4);
- The development and implementation of appropriate restoration and possibly also creation techniques (LH13 - 15), and
- The development of a strategy for safeguarding sites of particular wildlife importance where this cannot be achieved through the normal channels of negotiation, as the current systems are still inadequate to secure the future of some of our best remaining limestone heaths (LH27).

	ACTIONS	TIMESCALE	LEAD AGENCY & Partners
DATA COLLATION AND SURVEY			
	Data Collation		
LH1	Ensure that the existing PDNPA register of limestone heaths is updated and includes 'Wildlife Site' status. (Objective 1)	2001 onwards	**PDNPA**/EN/NT
LH2	Collate existing information on acid grasslands in the White Peak. (Objective 2)	Spring 2002	**PDNPA**/EN/NT/WTs LAs/LRCs
LH3	Compile a register of acid grasslands in the White Peak and update following survey and assessment – to include type and quality of acid grassland, existing conservation value, proximity to existing or historical heathland sites and potential for restoration. (Objective 2)	Spring 2002 onwards	**PDNPA**/EN/NT
	Survey		
LH4	Carry out a basic habitat survey of acid grasslands with the aim of finding appropriate sites for heathland restoration. (Objective 2)	2002 - 2005	**PDNPA**
EVALUATING THE IMPORTANCE AND CONDITION OF SITES.			
	Evaluating Importance and Identifying Key Sites		
LH5	Agree methodology for the evaluation of acid grassland sites in relation to the survey of potential heathland restoration sites. (Objective 2)	Spring 2002	**PDNPA**/GBAPG
	Defining Favourable Condition		
LH6	Agree definition of favourable condition for the complete range of sites. (Objective 1)	2001	**EN**/NT/PDNPA/WTs
LH7	Agree guidelines for the range of appropriate management needed to achieve favourable condition. (Objective 1)	2001	**EN**/NT/PDNPA/WTs
LH8	Agree guidelines on the restoration of limestone heaths. (Objective 2)	Autumn 2002	**PDNPA/EN** (joint leads)/GBAPG
LH9	Agree guidelines for the creation of heathland following completion of trials, aimed at landowners/managers and conservation organisation staff. (Objective 3)	2010	**PDNPA**/GBAPG

RESOURCES

LH10	Seek resources in collaboration with other grassland action plans for a basic survey of acid grasslands on the White Peak plateau. (Objective 2)	2001	**PDNPA**
LH11	Seek resources for the extension of the existing limestone heath restoration project – for field trials and wider implementation. (Objective 2)	2002	**PDNPA**
LH12	If trials for restoration are successful and creation becomes a feasible option, seek resources for heathland creation trials. (Objective 3)	2003	**PDNPA**

RESEARCH

LH13	Continue with heathland restoration project and develop guidelines for the restoration of limestone heath, with the primary aim of extending and linking existing sites. (Objective 2)	2001 – 2002	**PDNPA**/NT/EN
LH14	Assess the feasibility of heathland creation on arable and improved grassland. (Objective 3)	2003	**PDNPA**
LH15	Trial heathland creation on a number of sites and with a range of techniques and develop guidelines for the creation of limestone heath aimed at increasing the resource, particularly targeting historical sites. (Objective 3)	2003 - 2010	**PDNPA**
LH16	Ensure that the results of research into the effects of Ivermectin on invertebrate communities associated with animal dung are implemented at a local level. (Objectives 1 and 2)	2001 onwards	**WEG**

MONITORING

LH17	Agree methodology for and implement effective monitoring of limestone heaths. Ensure that the results of the process are collated and used to update the register. (Objectives 1 and 2)	2001 onwards	**PDNPA**/MAFF/EN/WTs NT

AWARENESS-RAISING

LH18	Share information on the wildlife importance and management needs of key conservation and restoration sites with landowners/managers, including feedback from surveys. (Objectives 1 and 2)	2001 onwards	EN/PDNPA/WTs/NT FWAG/MAFF
LH19	Make guidance available for heathland restoration based on the results of the Limestone Heath Restoration Project, aimed at landowners/managers and conservation organisation staff. (Objective 2)	Autumn 2002	**PDNPA**/GBAPG

CONSERVATION ACTION AND INCENTIVES

Designations

LH20	Review coverage of limestone heath SSSIs and notify further sites as appropriate. (Objectives 1 and 2)	2001 - 2003	**EN**/PDNPA

Grant Schemes

LH21	Consider recommending a review of all conservation schemes to ensure that: *Targeting at national, regional and local level gives adequate priority to limestone heaths *Management prescriptions are reviewed to include		

	specific reference to limestone heath and to accommodate flexible site-specific measures *Payments are reviewed and increased to at least the level of profits foregone, taking into account that the plateau sites are on potentially productive, accessible soils *Consideration is given to the option of small area and ungrazed site payments *Payments for restoration schemes are set at an appropriate level (Objectives 1 and 2)	2001 onwards	MAFF/EN/PDNPA WEG/GBAPG
	Negotiation and Review of Agreements		
LH22	Review management of all sites within SSSIs. Where necessary agree revised management regimes with owners/managers, through appropriate mechanisms, to ensure maintenance or restoration of favourable condition. (Objectives 1 and 2)	2002 - 2005	**EN**
LH23	Negotiate appropriate agreements with landowners and managers of all key limestone heath for conservation, restoration and creation, outside of existing agreements or SSSIs, in order to achieve maintenance or restoration of favourable condition or limestone heath creation. (Objectives 1and 2)	2001 – 2005 (conservation) 2003 - 2010 (restoration) 2010 (creation)	PDNPA/MAFF (joint leads)/FWAG/WTs/NT
LH24	Review management of limestone heaths in existing agreements, outside of SSSIs. Where necessary agree revised management regimes with owners/managers to ensure that favourable condition is being maintained or enhanced. (Objectives 1 and 2)	Spring 2002 - 2005	PDNPA/MAFF FWAG WTs/NT
	Land Acquisition		
LH25	Consider negotiating purchase/lease of priority sites where this would be the most effective way of achieving conservation objectives and when a negotiated conservation solution has not succeeded. (Objectives 1 and 2)	2001 onwards	PDNPA/EN/WTs RSPB/NT
	Direct Action		
LH26	On land owned by public or conservation bodies, ensure that: *Management maintains and where possible enhances the value of limestone heath *Options for the restoration of limestone heath are considered *Opportunities for involvement of local communities in site management are taken where possible (Objectives 1 and 2)	2001 onwards	PDNPA/WTs/NT/LAs EN/FC
LH27	Agree a strategy for safeguarding sites of particular wildlife importance where this cannot be achieved through the normal channels of negotiation, in liaison with land-owning, farming, and other land management interests. (Objective 1)	2001	**WEG**/NFU/CLA RLMEG

REGULATION

Planning

LH28 Ensure all planning applications and General Development Orders are adequately assessed in relation to their impact on limestone heaths, that loss or damage is avoided and

	that opportunities are taken for enhancement. (Objectives 1 and 2)	2001 onwards	PDNPA/EN/LAs/WTs
LH29	Consider the opportunities for the creation of limestone heaths in relevant planning decisions, including quarry restoration schemes. (Objective 3)	2001 onwards	PDNPA/EN/LAs/WTs
LH30	Ensure that the impact of disposal of waste from new buildings is addressed in the planning process. (Objectives 1 and 2)	2001 onwards	PDNPA/EN/LAs/WTs
	Pollution Control and Waste Management		
LH31	Review procedures and consultation processes in relation to the spreading of paper pulp. (Objectives 1 and 2)	2001	**EA**/LAs/PDNPA/EN WTs
LH32	Ensure good practice is followed in disposing of sheep dip, avoiding limestone heaths. Implement by continuing with an awareness raising strategy amongst land managers; continuing the programme of licensing; extending consultation procedures for disposal applications to the whole of the Peak District and, where necessary, by enforcement action. (Objectives 1 and 2)	2001 onwards	**EA/**LAs/PDNPA
	Other Regulatory Mechanisms		
LH33	Ensure that all woodland planting proposals consider the adverse effects of planting on limestone heaths. (Objective 1)	2001 onwards	**FC**/LAs/PDNPA/EN

RESOURCES

It is envisaged that a significant proportion of the actions proposed will be carried out by the relevant organisations using current resources. These include:

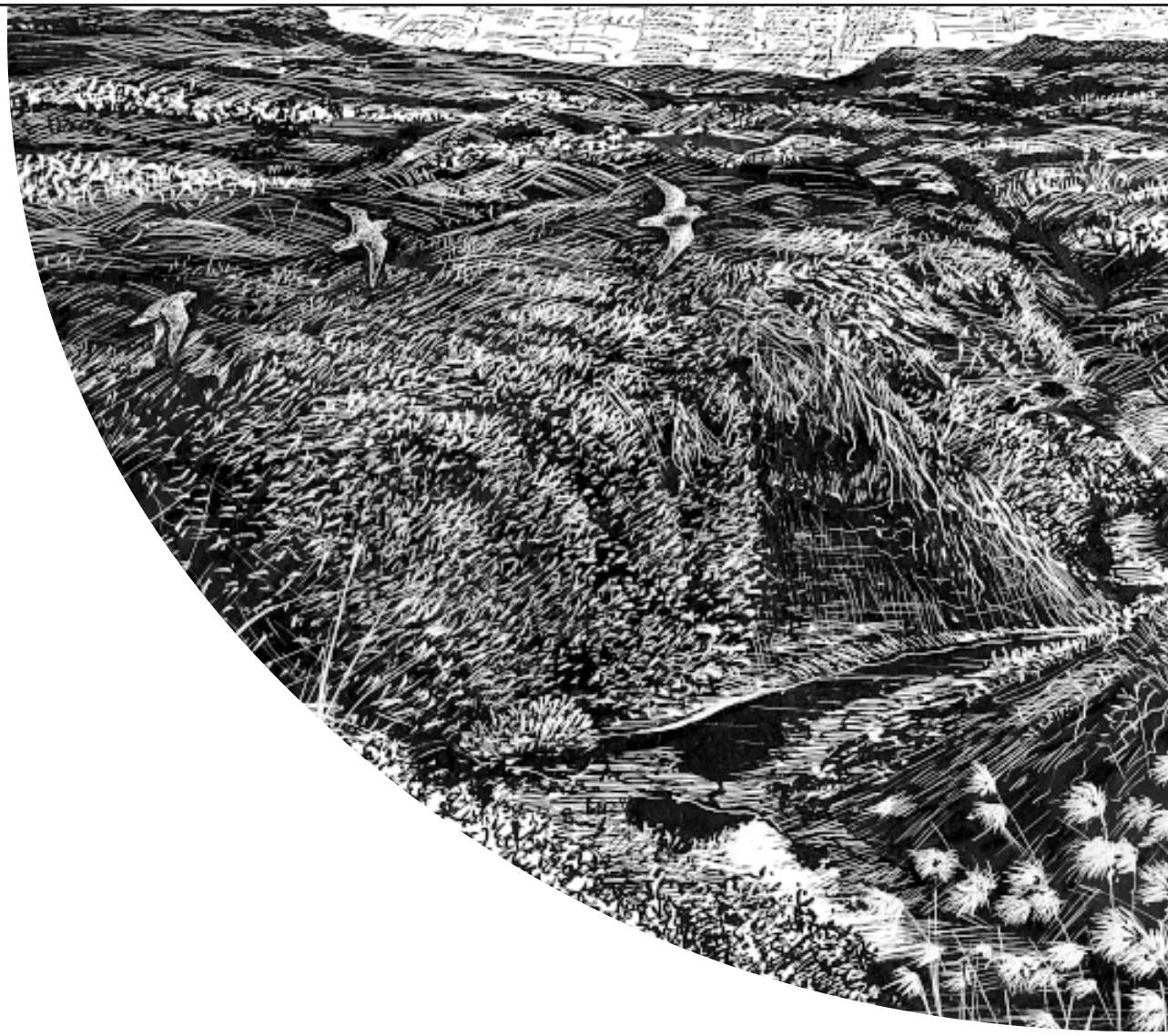
- continuing investment by landowners and managers managing their land sympathetically for wildlife;
- EN's programme of reviewing SSSI management and its grant and management agreement schemes;
- MAFF's Countryside Stewardship Scheme;
- the PDNPA's advisory and grants service for landowners/managers and its rolling programme of special conservation projects;
- Derbyshire Dales District Council roadside verge and green lane management;
- the Limestone Heath Restoration Project run by the PDNPA in conjunction with EN and the NT, with funding from Objective 5b;
- continuing management of limestone heaths owned by conservation organisations and public bodies (LAs, NT, PDNPA).

Additional resources are likely to be required:

- for survey of acid grasslands with a view to limestone heath restoration (2002);
- for the negotiation of restoration management (2003 - 2010);
- to provide adequate financial incentives for the conservation and restoration management of limestone heaths (2001 onwards);
- to aid in the production of the proposed registers (2001 onwards);
- to implement effective monitoring (2001 onwards).

The PDNPA and EN are currently seeking resources for a continuation of the Pastures Project, within which some acid grassland may be surveyed.

BLANKET BOG



TREND IN THE PEAK DISTRICT:

Extent overall stable. Condition has been compromised by long-term historical impacts resulting in continuing local erosion.

ESTIMATED EXTENT IN THE PEAK DISTRICT:

15890 ha Blanket Bog (including up to 650 ha bare ground) and 700ha Wet Heath.

NATIONAL BAP HABITATS:

Blanket Bog (priority habitat).

ASSOCIATED NATIONAL BAP PRIORITY SPECIES:

Water vole, skylark, reed bunting, black grouse (extinct) and marsh clubmoss (extinct).

ASSOCIATED PEAK DISTRICT AUDITS:

Blanket Bog and Wet Heath.

INTRODUCTION

Blanket bog is a special habitat that has developed where cool, wet climatic conditions have favoured water-logging of the ground and accumulation of plant remains as deep peat. Strictly speaking the term blanket bog applies only to that part of the blanket mire which is rain-fed. However the definition here encompasses some wet heath, raised bogs, bog pools and basin bogs as well as various flush and fen vegetation types occurring within the expanses of blanket bog.

The blanket bogs or mires of the Peak District are part of a U.K. resource which is globally restricted and hence of international importance for nature conservation. It is one of the most extensive semi-natural habitats in the U.K. which supports around 10 – 15 % of the global resource. A large part of the blanket bog and associated moorland vegetation communities are found on the higher ground in the northern part of the Dark Peak Natural Area and parts of the South West Peak Natural Area. The balance between grazing and grouse moor management, as the two major land uses, has been an important influence on blanket bogs in the Peak District. Amongst the examples of good sites are Howden Moor, the Eastern Moors Estate (raised bog), Warslow Moors Estate, Alport Castles (basin bog) and Saddleworth Moor South.

There is no comprehensive national data set on trends in the extent of blanket bog across the U.K.. However serious declines, perhaps 27 % between the 1940s and 1980s, have occurred in Scotland principally due to afforestation. This has not been such an issue in the Peak District. Instead it is the quality of the habitat that has suffered significantly (mainly historically) with a decline in species diversity as a result of air pollution, overgrazing, inappropriate or accidental burning, peat extraction and past drainage. Wildfires and air pollution in particular have contributed to the poor condition. Harestail cottongrass is often overwhelmingly dominant but the bog building *Sphagnum* mosses are scarce. At their worst these impacts have led to substantial areas of eroding moor especially in the Dark Peak Natural Area where up to 33 km^2 may be degraded or bare of vegetation. It is worth noting however that in part some erosion may be a natural process reflecting the great age (9000 years) of the Peak District peats.

Although in the Peak District the characteristic plants of the bogs like cloudberry are few, there are a number of rare species such as Labrador tea and bog rosemary. The flushes on the margins of the bog are botanically richer including bog asphodel, sundew and a variety of sedges. Invertebrate interest is less well understood but includes a large population of craneflies, at least locally, which are an important food source for moorland birds. Together with the lower and intimately linked heather moorland the vast blanket bogs of the Peak District support a breeding bird community of international importance. About 2 % of the British population of golden plover breed here mainly on the bog, whilst merlin and short-eared owl hunt over the moor. Other characteristic birds include the red grouse, curlew, snipe and dunlin, with the latter breeding around the bog pools.

The moorland streams associated with the fringes of the blanket bogs can be important for water voles. Mountain hares, the only English population, also frequent blanket bog vegetation.

The blanket bogs are part of a moorland landscape that has been formed primarily by extensive stock (especially sheep) grazing and grouse moor management. In addition to their nature conservation interest they have a variety of socio-economic values. They are, for example, important for water supply, being a natural slow-release water storage body. The blanket peats are also of great archaeological interest, including mesolithic remains such as flint tools at the base of the peat; important pollen and fossil evidence of the past vegetation within the peat; and surface remains such as peat cuttings. Blanket bogs are a distinctive part of the landscape in the Peak District and an important part of the recreational resource, providing wide open spaces for upland walking.

ADVERSE IMPACTS	Historic	Current
Land Management		
Inappropriate grazing management locally, eg. overgrazing and a decline in hefting as a result of off-wintering.	✓	✓
Locally inappropriate burning regimes.	✓	✓
Drainage leading to drying out of blanket bog.	✓	✓
Afforestation.	✓	
Peat cutting (possibly beneficial on a small scale).	✓✓	✓

Pollution		
Atmospheric pollution depleting the lower plant flora (sulphur dioxide levels have decreased but nitrous oxides increased).	✓✓	✓
Climate change.	✓	✓✓
Use of Ivermectin and its associated effects on invertebrates.		✓
Others		
Fragmentation of sites leading to risk of species extinctions and a negative effect on moorland restoration feasibility.	✓	✓
Wildfire resulting accidentally or from arson, exhausts and aircraft.	✓✓	✓✓
'Natural' erosion.	✓	✓
Developments e.g. road, rail, services, installation of masts.	✓	✓
Recreational disturbance leading to localised vegetation damage and possible disturbance to breeding birds.	✓	✓✓
Predation of ground-nesting birds and their eggs.	✓	✓✓

An impact ✓ *Significant impact* ✓✓

CURRENT ACTION

Designated Sites

- All of the blanket bog in the Peak District is protected within four SSSIs - Dark Peak, Eastern Peak District Moors, Leek Moors and Goyt Valley.
- The four SSSIs also form the South Pennine Moors SPA, designated in recognition of its populations of upland breeding birds - golden plover, merlin and short-eared owl.
- All the areas of blanket bog and transition mire within the four SSSIs are included within the South Pennine Moors candidate SAC.

New Initiatives

- EN has embarked on a comprehensive monitoring programme. This is tied into agreeing management with owners and occupiers and partner organisations aimed at maintaining and where possible restoring the sites to favourable condition.
- Over recent years there have been various initiatives by land managers to restore heather moorland on degraded acid grassland. These are beginning to show the way to landscape scale restoration of heathland and may be used in the future to inform blanket bog restoration.
- A partnership of conservation and land-owning organisations has submitted a bid to the Heritage Lottery Fund (HLF) for a major 'Moors for the Future Project'. If successful, this project will lead to: the restoration of 3 km^2 of the worst eroded areas of moorland, including blanket bog, and 19 km^2 of badly eroded paths; the enhancement of people's awareness and enjoyment of the moors through appropriate interpretation and a 'moor care' initiative; and the establishment of a moorland centre to draw together experience of moorland management and make it widely available.
- In response to the Countryside and Rights of Way Act a Local Access Forum has been established for the Peak District. This will seek to encourage opportunities for responsible enjoyment of the countryside (including open country) whilst reducing conflict.

Sites Owned and Managed by Conservation Organisations

- The PDNPA owns areas of blanket bog including White Path Moss on the North Lees Estate, Lucas Moss on the Eastern Moors Estate and several areas on the Warslow Moors Estate.
- The NT owns significant areas of blanket bog including substantial areas in the Upper Derwent, on the Kinder Plateau and the Marsden moors.

Sites Within Conservation Agreements

- By 1994, 78 % of cotton grass moor and 69 % of eroding moor in the North Peak Environmentally Sensitive Area (ESA) was under agreement.
- By 1996, 88 % of moorland including blanket bog in the South West Peak ESA was within an agreement.

Research

- Since the early 1980s there has been extensive work carried out on the Peak District moorlands aimed at understanding the reasons for degraded moorland and finding ways of repairing the damage. This has largely occurred under the umbrella of the Peak District Moorland Management Project, a partnership of key bodies with an interest in the subject. The Project's Phase III report, 'Restoring Moorland', was published in 1997.

ACTION PLAN OBJECTIVES AND TARGETS

National Targets

The National Plan recognises four broad types of condition of blanket bog- favourable; degraded but readily restored; degraded but less readily restored; and degraded and probably beyond restoration. Nationally it is provisionally estimated that around 25 % may be too degraded to merit restoration due, for example to severe erosion.

There are four provisional national targets:

- Maintain the extent and overall distribution of blanket mire currently in favourable condition.
- Improve the condition of those areas degraded but readily restored so that the total area in, or approaching, favourable condition by 2005 is 340000 ha (i.e. around 30 % of the total blanket bog resource).
- Introduce management regimes to improve to, and subsequently maintain in, favourable condition a further 280000 ha of degraded blanket mire by 2010.
- Introduce management regimes to improve the condition of a further 225000 ha of degraded blanket mire by 2015 resulting in a total of 845000 ha (i.e. around 75 % of the total extent of restorable blanket bog) in, or approaching, favourable condition.

A Vision for the Peak District

The following objectives and targets for blanket bog aim to retain and enhance this very important habitat, for which the Peak District supports approximately 1 % of the U.K. total. They recognise that the quality of blanket bog in the Peak District is often poor as a result of historical over-grazing, accidental burns and high levels of atmospheric pollution. This has resulted in low species diversity and often extensive areas of bare peat, some of which may be beyond restoration. Such degraded areas may however be important for birds such as the golden plover. The targets below are in line with the Peak District's pro-rata contribution towards the national targets for blanket bog, but will require careful judgements about what degree of favourable condition can feasibly be achieved in the Peak District given the historic legacy of degradation. Though very much influenced and shaped by man, blanket bogs retain their primeval and 'wild' nature. The fragile ecology of blanket bogs, their condition and potential for enhancement is complex. It is hoped that this plan will initiate action which will find solutions and answers to the conservation problems of this unique habitat.

OBJECTIVES AND TARGETS

Objective 1

Maintain current extent and overall distribution of blanket bog, and maintain favourable condition where areas are already in such condition.

Target

Maintain the current extent of the resource. Define favourable condition, locate any examples and ensure all are in a management regime by 2003 that will maintain favourable status.

Objective 2

Restore areas of degraded blanket bog which can be readily restored.

Target

For 3600 ha (23 % of the total area of blanket bog) introduce/maintain management regimes by 2005 to improve condition to ensure it is in or approaching favourable condition.

Objective 3

Improve the condition of remaining degraded blanket bog in a manner that is compatible with maintenance or enhancement of internationally important bird populations.

Target

Maintain/introduce management regimes to improve, and if possible subsequently maintain in favourable condition, 3000 ha of degraded blanket bog (19 % of the total area of blanket bog) by 2010 and a further 2500 ha (15 %) by 2015.

Overall objectives should ensure 75 % of the resource is in improving and if possible favourable condition by 2015.

Main Factors Likely to Affect the Achievement of Targets

Land Management

Implementation of the Rural Development Regulations and reform of the Common Agricultural Policy.

The effectiveness of agri-environment scheme prescriptions.

Resources and Financial Incentives

Future viability and pressures on grouse moor management and farming.

The prohibitively large costs of re-wetting on a large scale.

The cost effectiveness of restoration methods.

The adequacy of financial incentives within agri-environment and conservation schemes.

The availability of resources for agri-environment schemes.

The success of the 'Moors for the Future' HLF bid.

Planning and Regulations

Planning policy.

Conflicts with Other Priorities

The conflict between grouse moor management and the optimisation of wider wildlife and vegetation benefits.

Reconciling the requirements of the vegetation with those of the birds.

Practical Difficulties and Gaps in Knowledge

Accessibility to carry out management or restoration work - some areas are remote and difficult to access with materials etc.

The potential for degraded blanket bog to be restored and the availability/cost-effectiveness of restoration methods. Some areas may have irreversibly declined whilst the future widespread re-establishment of *Sphagnum* mosses is very uncertain.

Timescales – restoration may only be possible in the long term using time as a healer.

Pollution and Climate Change

Future air quality and its effects on moorland vegetation.

Climate change - with effects on peat formation, run-off erosion, water regimes and fire risk.

Others

The impact of access, including the Countryside and Rights of Way Act 2000, which gives right of access on foot across open country, which would include blanket bog.

The effectiveness of predator control.

ACTIONS

Key to the achievement of the proposed targets are the actions relating to:

- research and development of guidelines with regard to blanket bog conservation and restoration (Action BB8 and 10 – 15);
- considering review of agri-environment schemes or other sources of financial aid to ensure they provide adequate financial incentive and appropriate management prescriptions for blanket bog safeguard and restoration (BB27);
- the review and implementation of management on all sites aimed at initiating progress towards the achievement of favourable condition (BB28);
- monitoring the success of different restorative techniques to allow key amendments to be made (BB18 and 19), and
- a collaborative approach to the solution of both access and conservation problems (BB17).

	ACTIONS	TIMESCALE	LEAD AGENCY & Partners
DATA COLLATION AND SURVEY			
	Data Collation		
BB1	Collate existing information on the blanket bog resource. (Objectives 1, 2 and 3)	2002	**EN**/PDNPA/MAFF WTs/MBAPG/LRCs Voluntary Sector/LAs
BB2	Map the extent of the resource on GIS including ecological variation, condition and the locations of bare ground and areas of blanket bog that can readily be restored to favourable condition. (Objectives 1, 2 and 3)	2002	**EN**/PDNPA/MAFF MBAPG
BB3	Compile a register of blanket bog sites including classification into types, level of importance (including 'Wildlife Site' status), condition, constituent habitats, important species and conservation status, and initiate a programme for regular updating. Integrate with the proposed national inventory. (Objectives 1, 2 and 3)	2002 – 2004	**EN**/PDNPA/MAFF MBAPG
BB4	Collate existing information on species groups especially invertebrates and bryophytes. (Objectives 1, 2 and 3)	2002	**PDNPA**/Voluntary Sector/WTs/EN
EVALUATING THE IMPORTANCE AND CONDITION OF SITES			
	Evaluating Importance and Identifying Key Sites		
BB5	Agree a methodology for the evaluation of blanket bog and identification of 'Wildlife Sites'. (All Objectives)	2002	**EN**/PDNPA/MBAPG
	Defining Favourable Condition		
BB6	Agree definition of favourable condition for blanket bog including the complete range of sites in the Peak District and the requirements of key bird species such as golden plover. (Objectives 1, 2 and 3)	2001	**EN**/PDNPA/MBAPG
BB7	Clarify objectives for sites where it is not possible to achieve favourable condition owing to historical factors and current factors outside management control. (Objective 3)	2002	**EN**/PDNPA/RSPB
BB8	Agree guidelines for the range of appropriate management needed to achieve favourable condition. Ensure that experience of recent trials		

	is considered and include: *When to restore and when to leave alone *Appropriate techniques for re-vegetation and restoration of blanket bog (e.g. use of herbicides, lime, seed mixes) (Objectives 1, 2 and 3)	2001 - 2003	**EN/**PDNPA/PPMOTA MBAPG

RESOURCES

BB9	Consider opportunities for seeking resources, such as an EU Life bid for a blanket bog restoration project, in conjunction with the Heather Moorland Action Plan. (Objectives 2 and 3)	2003	PDNPA/EN/NT/MBAPG

RESEARCH

BB10	Encourage research into vegetation (including restoring characteristic blanket bog species cover), hydrology (especially restoring the water table), vertebrate and invertebrate populations, and the peat archive. (Objectives 1, 2 and 3)	2001 onwards	**EN/**PDNPA/NT/RSPB Voluntary Sector/EA WCs/MBAPG/WTs Universities
BB11	Evaluate to what extent erosion of blanket bog is a natural process of intrinsic value which should be allowed to continue. (Objective 3)	2002	**EN**/PDNPA/MBAPG
BB12	Explore validity and potential application of concept of wilderness and other novel approaches to management. (Objectives 1, 2 and 3)	2002	**EN**/PDNPA/MBAPG
BB13	Evaluate the usefulness of grip blocking for grouse and other wildlife/ vegetation and prioritise sites for action. (Objective 3)	2002	**EN/**PDNPA/PPMOTA
BB14	Assess current loadings of atmospheric pollutants (e.g. sulphur dioxide and nitrous oxides) on blanket mire. Investigate ways of promoting reductions if levels are damaging. (Objectives 1, 2 and 3)	2001 - 2002	**EA**/EN/LAs
BB15	Assess current information and develop guidelines for the conservation and enhancement of the habitats of rare plants e.g. Labrador tea, bearberry and bog rosemary. (Objectives 1, 2 and 3)	2001 onwards	**MBAPG** Voluntary Sector
BB16	Ensure that the results of research into the effects of Ivermectin on invertebrate communities associated with animal dung are implemented at a local level. (Objectives 1, 2 and 3)	2001 onwards	**WEG**

PUBLIC ACCESS

BB17	Agree and implement approaches to management of access on moorland that enables public enjoyment but prevents/ removes significant damage to wildlife, especially from wildfires e.g. through: *Access Management *Actions proposed in the 'Moors for the Future' HLF bid *Implementation of access provisions in the Countryside and Rights of Way Act *Implementation of Habitats Regulations 1994 (All Objectives)	2001 onwards	**PDNPA/PDLAF**(joint leads)/DETR/EN MBAPG

MONITORING

BB18	Implement EN's standard monitoring regime for blanket bog in SSSIs to assess condition of all sites. Ensure the		

	results of the process are collated and used to update the inventory. (All Objectives)	2003	**EN/**PDNPA/NT/MAFF
BB19	Ensure that all restoration sites are adequately monitored and the information is used to inform future blanket bog restoration and re-creation. (Objectives 2 and 3)	2001 onwards	**EN/**PDNPA/NT/MAFF

AWARENESS RAISING

BB20	Share information on the wildlife importance and management needs of key conservation and restoration sites with the landowners/managers, including feedback from surveys. (Objectives 1, 2 and 3)	2001 onwards	PDNPA/NT/EN/WTs MAFF/FWAG/LAs/RSPB
BB21	Promote local guidance on appropriate techniques for grip blocking and restoration of wet moor and pools across a whole drainage system. (Objectives 2 and 3)	2004	**EN**/PDNPA/PPMOTA HT
BB22	Promote widespread adoption of burning regimes that ensure improvement in vegetation condition (including any revision to national muirburn legislation). (Objectives 1, 2 and 3)	2001 onwards	**PPMOTA**/MGA/PDNPA EN/MAFF/HT
BB23	Consider and implement if appropriate a demonstration site(s) for best practice management advice to contribute to a national series. (Objectives 1, 2 and 3)	2002	**PDNPA**/NT/PPMOTA EN/MAFF/HT
BB24	Set up training days for land owners, managers and advisors in the conservation, restoration and vegetation condition assessment of blanket bog. (Objectives 1, 2 and 3)	2001 onwards	**EN/MBAPG** (joint leads)/NT/PDNPA MAFF/PPMOTA/HT

CONSERVATION ACTION AND INCENTIVES

Designations

BB25	Implement obligations under European (Natura 2000) legislation with respect to the South Pennine Moors SPA and cSAC. (Objectives 1, 2 and 3)	2001 (SPA) 2004 (SAC)	**EN/**DETR
BB26	Review the desirability and opportunities for establishment of a NNR or LNR on a moorland holding and establish if appropriate. (All Objectives)	2002	**EN/LAs** (joint leads) PDNPA/NT/WTs PPMOTA

Grant Schemes

BB27	Consider recommending a review of all agri-environment and conservation schemes to ensure that: *Management prescriptions are adequate to maintain and/or improve blanket bog condition *Payments and management prescriptions consider the possibilities for encouraging improved utilisation of moorland vegetation by sheep, for example by shepherding and hefting (Objectives 1, 2 and 3)	2001 onwards	MAFF/EN/PDNPA WEG/MBAPG

Negotiation and Review of Agreements

BB28	Review management of all sites. Where necessary agree revised management regimes with owners/managers through appropriate mechanisms, such as ESAs, to ensure maintenance or restoration of favourable condition. (Objectives 1, 2 and 3)	2001 - 2003	**EN**/PDNPA/MAFF PPMOTA

Direct Action

BB29	On land owned by public or conservation bodies, ensure that:		

	*Management maintains and where possible enhances the value of blanket bog *Options for the restoration of blanket bogs are considered *Opportunities for involvement of local communities in site management are taken (Objectives 1, 2 and 3)	2001 onwards	PDNPA/WTs/NT/EN LAs/FC
BB30	Seek development of improved firefighting services, including helicopter availability. (Objectives 1, 2 and 3)	2001 onwards	**MBAPG**/LAs/PDNPA
	Land Acquisition		
BB31	Consider negotiating purchase/lease of priority sites where this would be the most effective way of achieving conservation objectives and when a negotiated conservation solution has not succeeded. (Objectives 1, 2 and 3)	2001 onwards	PDNPA/EN/RSPB WTs/NT
	REGULATION		
	Planning		
BB32	Ensure all Planning Applications and General Development Orders are adequately assessed in relation to their impact on blanket bog; that loss or damage is avoided; and that opportunities for the enhancement of the blanket bog habitat is considered in relevant planning decisions. (Objectives 1, 2 and 3)	2001 onwards	PDNPA/LAs/EN/WTs
	Pollution Control and Waste Management		
BB33	Ensure point source emissions are controlled as necessary through the Review of Consents procedure under the Habitat Regulations 1994 for the SPA and cSAC. (All objectives)	2001 - 2004	**EA**/LAs/EN

RESOURCES

It is envisaged that a significant proportion of work as a result of the actions proposed will be carried out by the relevant organisations using current resources. These include:

- continuing investment by landowners and managers in managing their land sympathetically for wildlife;
- EN's programme of reviewing SSSI management;
- EN's grant and management agreement schemes;
- MAFF's Environmentally Sensitive Area Schemes;
- continuing management of blanket bog owned by conservation organisations and public bodies (LAs, PDNPA, EN, NT, WTs) and WCs.

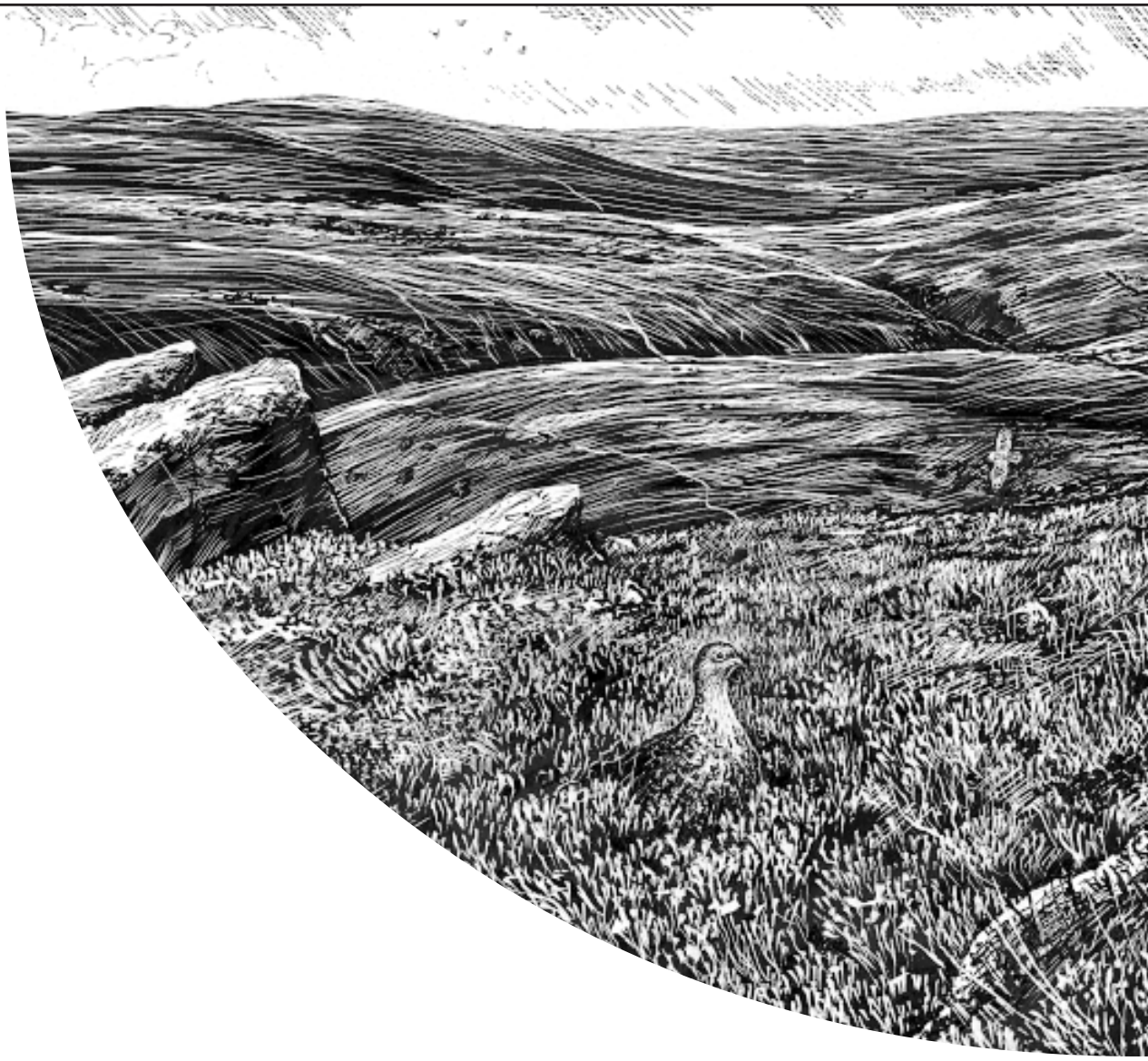
Additional substantial resources will prove necessary for:

- the proposed programme of blanket bog restoration (2003 onwards).

and may also be significant in carrying out actions relating to:

- awareness raising (2001 onwards);
- the management of appropriate access (2001 onwards).

A partnership of conservation and land-owning organisations has submitted a bid to HLF for a major 'Moors for the Future' project which, if successful, will lead to the restoration of 3 km^2 of badly eroded moorland including areas of upland heathland and blanket bog. It will also lead to initiatives relating to access, interpretation and the sharing of management experience.



TREND IN THE PEAK DISTRICT:

Decrease in the order of 6500 ha 1913 –1979. In recent decades the extent appears stable overall and the condition is improving with the exception of local declines.

ESTIMATED EXTENT IN THE PEAK DISTRICT:

Dry heather moor 13890 ha, dry mixed moor 2700 ha, wet heath 700 ha, moorland flushes 390 ha, and an unquantified area of moorland scrub, rock habitats, grass moor and bracken.

NATIONAL BAP HABITATS:

Upland Heathland (priority habitat).

ASSOCIATED NATIONAL BAP PRIORITY SPECIES:

Water vole, black grouse (extinct), nightjar, skylark, high brown fritillary (extinct), argent & sable moth, marsh clubmoss (extinct) and slender green feather-moss (extinct).

ASSOCIATED PEAK DISTRICT AUDITS:

Dry Heather Moor, Bracken, Moorland Flushes, Grass Moor, Gritstone/Shale Rock Habitats, Dry Mixed Moor, Moorland Scrub and Wet Heath.

INTRODUCTION

This action plan covers all the moorland habitats of the Peak District moorland with the exception of blanket bog, which is considered separately within the Blanket Bog Action Plan. Moorlands are one of the most distinctive landscapes of the Peak District, composed of a variety of different habitats and their associated communities. They are a rich portrait of ecological processes, with the myriad of habitats and communities reflecting subtle changes in environmental conditions.

Extensive areas support swathes of heather dominated moor, managed as grouse moors and/or sheep grazing. This is a habitat of international importance with the U.K. supporting a large proportion of the global resource. These heather dominated moors provide habitat for a range of different moorland birds, including short eared owl, golden plover, curlew and merlin. Small numbers of nightjar are found where dwarf shrubs form mosaics with bracken and moorland scrub. A small but regionally important population of adder survive on a few sites, and the dramatic northern eggar and emperor moths are characteristic of this habitat. High quality moorlands are generally structurally diverse with heather and other dwarf shrubs at different stages of growth including mature and degenerate stands of heather. Where stands of heather have been left un-burnt and have developed into gnarled old leggy plants, lichens can be important and the cover is essential for the moorland birds of prey. Locally, on steeper banks and clough sides, mixed moor is found where heather grows with other dwarf shrubs including bilberry, cowberry, crowberry and hybrid bilberry. Such areas of mixed moor are often associated with a diverse moss and lichen flora and are important for invertebrates such as green hairstreak butterflies, for which the Peak District is an important stronghold.

In poorly drained areas, wet heath is found locally. Here a rich mix of cross leaved heath, cotton grass, deer sedge and sphagnum mosses can flourish. Other wet areas occur throughout the moors, at for example, spring heads and seepage zones. These moorland flushes vary widely in their composition and often support an abundance of unusual species including sphagnum mosses, bog asphodel, sundew, cranberry and a host of sedge species. These wet areas are a vital source of insects for moorland breeding birds such as grouse chicks.

Bracken beds can be important for moorland and moorland fringe birds such as whinchat and twite and in moorland cloughs are sometimes used by ring ouzel. However, the spread of bracken, particularly into areas of other moorland vegetation, is unwelcome. Bracken beds where there is an overwhelming dominance of bracken are generally of little botanical interest.

Scattered across the moors, particularly on the upper edges of the cloughs, moorland scrub may have developed, with rowan, birch, hawthorn and, in wetter areas, willow and sometimes alder. Such areas of scrub are often important for lichens, invertebrates and moorland edge birds.

Significant tracts of the moors support areas of acid grasslands ranging from 'white moor' dominated by purple moor grass to areas of mixed acid grasslands on well drained soils. The grass moor provides habitat for small mammals and feeding areas for moorland birds. However, locally the large extent of acid grassland and bracken, much of which will have been derived from wet and dry heath, is testament to historical loss of important heathland habitats.

The striking gritstone edges and boulder slopes of the moors provide not only a distinct and awesome sight but are an important habitat. The cliffs of the edges can support a range of plant communities including those rich in ferns, lichens and mosses. The inaccessible crevices and ledges are also used as nesting sites by for example, peregrines and ravens. The boulder slopes and other rocky outcrops add diversity to the moorlands and are sometimes important for lichens, as well as being a favoured habitat for ring ouzel and the sole English population of mountain hares.

The moorland streams provide yet more interest and can be very important for water voles. They are also associated with a rich variety of invertebrates and lower plants (mosses and lichens). The streamside rock outcrops may support a diverse flora including the rare oak and beech ferns.

Investment in grouse moor management throughout the last 150 years has been a strong influence in maintaining the extent of heather cover on many moors. The future viability of grouse moor management in the face of financial and recreational pressures and predation could reduce financial investment and lead to a reduction in heather cover on outlying moors. There have been considerable losses of moorland over recent times, for example, 27% is estimated to have been lost in England and Wales between 1947 and 1980. There are also extensive areas nationally where dwarf shrub cover is suppressed. More recently as a result of positive incentives within agri-environment schemes such as the North Peak and South West Peak Environmentally Sensitive Areas (ESA) there have been gains eg. from bracken control and experimental re-creation of heather dominated moor on acid grassland.

Amongst the many good examples of heather moorlands are the moors of Chatsworth Estate, the Upper

Derwent Valley, Broomhead and Bradfield Moors. Mixed heath is well represented in sites such as the Black Cloughs and Chunal Moor in the west.

The moorlands are of outstanding landscape importance. The dramatic gritstone edges and expanses of purple heather in late summer are complemented by the changing hues of bracken and bilberry, cloughside flushes, springheads and patches of moorland scrub. For decades the moorlands have been enjoyed by visitors both for climbing on the famous edges and for walking across the vast moorland landscapes. The moorlands of the Peak District are important for their Bronze Age landscapes and remains and significant areas have been designated as Scheduled Ancient Monuments.

ADVERSE IMPACTS	Historic	Current
Land Management		
Conversion to grassland by ploughing and reseeding.	✓✓	✓
Inappropriate grazing management locally, e.g. overgrazing, reduction in cattle grazing, decline in hefting as a result of off-wintering, decline in shepherding, increase in supplementary feeding.	✓✓	✓
Large scale burns locally, leading to sub-optimal stand structure and species composition.	✓✓	✓
Local drainage, leading to drying out of wet heath.	✓	
Under-grazing, leading to natural succession to scrub and woodland in inappropriate locations.	✓	✓
Application of paper pulp.		✓
Pollution		
Atmospheric pollution depleting lower plant flora (sulphur dioxide levels have decreased but nitrous oxides increased).	✓✓	✓
Climate change.	✓	✓✓
Use of Ivermectin and its associated effects on invertebrates.		✓
Disposal of sheep dip.		✓
Invasive Species		
Spread of bracken.	✓	✓
Rhododendron invasion.	✓	✓
Others		
Fragmentation of sites leading to risk of species extinctions and a negative effect on moorland restoration feasibility.	✓	✓
Wildfire resulting accidentally or from arson, exhausts and aircraft.	✓✓	✓✓
Spread of heather beetle.	✓	✓✓
Developments e.g. road, rail, services, installation of masts.	✓	✓
Recreational disturbance leading to localised vegetation damage and possible disturbance to breeding birds.	✓	✓✓
Predation of ground-nesting birds and their eggs.	✓	✓✓
Afforestation.	✓	

An impact ✓ *Significant impact* ✓✓

CURRENT ACTION

Designated Sites

- Most of the moorland of the Peak District is protected within four SSSIs - Dark Peak, Eastern Peak District Moors, Leek Moors and Goyt Valley. Together these cover around 45000 ha of land.
- The four SSSIs also form the South Pennine Moors SPA, designated in recognition of its populations of upland breeding birds - golden plover, merlin and short-eared owl.
- All the areas of upland heath, wet heath and transition mire within the four SSSIs are included within the South Pennine Moors candidate SAC.
- A number of heather moorlands are identified as 'Wildlife Sites'.

New Initiatives

- EN has embarked on a comprehensive monitoring programme. This is tied into agreeing management with owners and occupiers and partner organisations, aimed at maintaining and where possible restoring the sites to favourable condition.
- Over recent years there have been various initiatives by land managers to restore heather moorland on degraded moor/acid grassland. These are beginning to show the way to landscape scale restoration of heather moorland.
- A partnership of conservation and land-owning organisations has submitted a bid to the Heritage Lottery Fund (HLF) for a major 'Moors for the Future' Project. If successful, this project will lead to: the restoration of 3 km^2 of the worst eroded areas of moorland and 19 km^2 of badly eroded paths; the enhancement of peoples awareness and enjoyment of the moors through appropriate interpretation and a 'Moor Care' initiative; and the establishment of a moorland centre to draw together experience of moorland and make it widely available.
- In response to the Countryside and Rights of Way Act, a Local Access Forum has been established for the Peak District. This will seek to encourage opportunities for responsible enjoyment of the countryside (including open country) whilst reducing conflict with conservation priorities.

Sites Owned and Managed by Conservation Organisations

- The PDNPA owns significant areas of moorland, including North Lees Estate, Warslow Moors Estate, Eastern Moors Estate and the Roaches.
- The WTs own and manage small areas of moorland.
- The NT owns significant areas of moorland, including substantial areas in the Upper Derwent and around Kinder.

Sites within Conservation Agreements

- In 1994 90% of heather moorland in the North Peak Environmentally Sensitive Area (ESA) was within an agreement.
- In 1996 64% of heather moorland in the South West Peak ESA area was within an agreement.
- 310 ha of moorland are protected within the PDNPA's Farm Conservation Scheme (FCS).
- 845 ha moorland are managed within a Countryside Stewardship Scheme (CSS).

Research

- Since the early 1980s there has been extensive work carried out on the Peak District moorlands aimed at understanding the reasons for degraded moorland and finding ways of repairing the damage. This has largely occurred under the umbrella of the Peak District Moorland Management Project, a partnership of key bodies with an interest in the subject. The Project's Phase III report 'Restoring Moorland' was published in 1997.

ACTION PLAN OBJECTIVES AND TARGETS

National Targets

The only targets relate to Upland Heathland which incorporates dry heather moor and dry mixed moor. Other moorland habitats are not covered by national action plans.

- Maintain the current extent (2 - 3 million ha) and overall distribution of the upland heathland which is currently in favourable condition.
- Achieve favourable condition on all upland heathland SSSIs by 2010, and achieve demonstrable improvements in the condition of at least 50% of semi-natural upland heath outside SSSIs by 2010 (compared with their condition in 2000).
- Seek to increase dwarf shrubs to at least 25% cover where they have been reduced or eliminated due to inappropriate management. A target for such restoration of between 50000 to 100000 ha by 2010 is proposed.
- Initiate management to re-create 5000 ha of upland heath by 2005 where heathland has been lost due to agricultural improvement or afforestation, with particular emphasis on reducing fragmentation of existing heathland.

A Vision for the Peak District

With the realisation of the following ambitious targets the majority of the Peak District moors will be in or developing towards a healthy state by 2010. Here a wealth of diverse habitats will flourish providing for a host of wildlife from the internationally important birds to the specialist plants of the moorland flushes. In a favourable state, the moorlands will hopefully be able to withstand other major changes, such as the adverse effects of climate change and pollution. Where moorlands are currently in a poor state, years of positive management may be needed to achieve the objectives since there are rarely quick-fix solutions. This is recognised by the realistic time-scales for achieving the favourable condition targets.

The proposed Peak District target for restoration is ambitious, almost double that of the pro-rata contribution towards the national target for upland heath (1800ha, based on the fact that the Peak District supports approximately 0.5 – 0.8% of the U.K.'s upland heathland). This ambitious figure reflects the enormous potential for restoration in the Peak District in that there are extensive areas of suitable habitat for restoration and that expertise for effective techniques is available both locally and nationally. The target of 3500 ha also equates to over 50% of the estimated loss of moorland in the Peak District between 1913 and 1979 (6500 ha). The mapping work carried out by Moss in 1913 in the Peak District provides a fairly unique historical perspective on moorland change and can hopefully be used as a tool for targeting suitable areas and as inspiration for achieving those targets. The options for achieving re-creation (Objective 5) are more limited in the Peak District since suitable areas are limited. The target here is in line with the Peak District's pro-rata contribution towards the national targets for upland heath.

It is hoped that organisations and land mangers can work together to manage the moorlands positively, enhancing existing habitats, restoring areas of former heath and allowing natural moorland processes to continue to shape the Peak District moors for the future. With a committed approach and targeting of energy and resources, the future of the moors can be secured, continuing to provide an essential part of the upland economy in the Peak District and enabling a continuation of the enjoyment and pleasure that people derive from these inspiring wild places.

OBJECTIVES AND TARGETS

Objective 1

Safeguard the distinctive mosaic of habitats on Peak District moors with management objectives targeting priority habitats and with the aim being achievement of favourable condition.

Target

Safeguard 100% of all moorlands within SSSIs, and 50% outside of SSSIs, within an appropriate voluntary, CSS, ESA or other conservation agreement, by 2010.

Objective 2

Maintain the current extent and overall distribution of upland heathland, and maintain areas which are currently in favourable condition.

Target

Maintain the current extent of the resource (c.16590 ha). During 2001, identify those areas which are in favourable condition, and by 2005 ensure all such sites are in management regimes to maintain or enhance their condition.

Objective 3

Enhance areas of upland heathland in unfavourable condition with the aim of achieving favourable condition.

Target

Ensure that all unfavourable upland heath within SSSIs, and at least 50 % outside SSSIs, is in a management regime that will achieve or be moving towards favourable condition by 2010.

Objective 4

Restore areas of former upland heathland on degraded moorland.

Target

Seek to increase dwarf shrubs to at least 25% cover where they have been reduced or eliminated. Initiate positive management that will achieve this on 3500 ha of acid grassland/bracken moor by 2010.

Objective 5

Take opportunities to create moorland with its mosaic of constituent habitats, particularly the re-creation of upland heath on former sites.

Target

By 2010, create or re-create 100 ha of upland heathland, with particular emphasis on reducing fragmentation of existing heathland.

Main Factors Likely to Affect Achievement of Targets

Land Management

Implementation of the Rural Development Regulation and reform of the Common Agricultural Policy.

The effectiveness of agri-environment and conservation scheme prescriptions.

Future viability of, and pressures on, grouse moor management and upland farming.

The success of re-wetting schemes.

The effectiveness of bracken management including the development of methods appropriate for use on land adjacent to water courses.

Resources

Availability of resources for agri-environment and conservation schemes.

The adequacy of financial incentives within agri-environment and conservation schemes.

The success of the 'Moors for the Future' HLF bid.

The potential costs of restoration schemes.

Planning and Regulations

Planning policy.

Conflicts with Other Priorities

The conflict between grouse moor management and the optimisation of wider wildlife and vegetation benefits.

Reconciling the requirements of the vegetation with those of the birds.

Practical Difficulties and Gaps in Knowledge

Difficulties of managing moorlands, with a complex range of habitats and communities, e.g. agreeing the balance between woodland and dwarf shrub communities in moorland cloughs.

The potential for degraded upland heathland to be restored and the availability and effectiveness of restoration methods.

Pollution and Climate Change

Future air quality and its effects on moorland vegetation. .

Climate change – with effects on fire risk, bracken encroachment and heather beetle populations.

Others

The impact of access, including the Countryside and Rights of Way Act 2000, which gives right of access on foot across open country. This would include heather moorland.

The effectiveness of methods to minimise recreational impact.

Predator control.

Wildfires.

ACTIONS

Key to the achievement of the proposed targets is a whole landscape approach taking into account the rich mosaic of moorland habitats and their inter-relationships and the development of clear objectives for each site. Key actions within the plan include:

- research and development of guidelines with regard to upland heathland conservation and restoration (Actions HM9, 10, 12, 22 and 24);
- the review and implementation of management on all sites aimed at initiating progress towards the achievement of favourable condition of upland heathland (HM32 - 34);
- the consideration of a review of agri-environment schemes or other sources of financial aid in order to provide adequate financial incentive and appropriate management prescriptions for moorland conservation and upland heathland restoration (HM31);
- monitoring the success of different restorative techniques to allow key amendments to be made (HM22);
- awareness raising and training measures (HM23 - 27), and
- a collaborative approach to the solution of both access and conservation problems (HM20).

	ACTIONS	**TIMESCALE**	**LEAD AGENCY &** Partners
DATA COLLATION AND SURVEY			
	Data Collation		
HM1	Collate/share existing information on the heather moorland resource. (Objective 1)	2002 - 2004	**EN**/PDNPA/MAFF/WTs MBAPG/LAs/LRCs Voluntary Sector
HM2	Map the extent of the resource on GIS, including ecological variation, condition, and potential restoration and re-creation sites. (All Objectives)	2002 - 2004	**EN**/MAFF/MBAPG
HM3	Collate/share existing information on nationally and locally important species (particularly invertebrates and bryophytes). (Objectives 1, 2 and 3)	2002	**PDNPA**/Voluntary Sector/EN

HM4	Compile a moorland register of sites including classification into types, level of importance (including 'Wildlife Site' status), condition, constituent habitats, important species and conservation status, and initiate a programme for regular updating. Integrate with the proposed national inventory. (Objectives 1, 2 and 3)	2002 - 2004	**EN**/PDNPA/MAFF MBAPG

EVALUATING THE IMPORTANCE AND CONDITION OF SITES

Evaluating Importance and Identifying Key Sites

HM5	Agree a methodology for the evaluation of moorlands and identification of 'Wildlife Site' Status. (Objectives 1, 2 and 3)	2002	**MBAPG**
	Defining Favourable Condition		
HM6	Define favourable condition for the complete range of moorland sites in the Peak District, including the full range of associated habitats and requirements of important species. (Objectives 1, 2 and 3)	2001	**EN**/PDNPA/PPMOTA MBAPG
HM7	Agree guidelines for the range of appropriate management needed to achieve favourable condition. (Objectives 1, 2, 3 and 4)	2001	**EN**/PDNPA/PPMOTA MBAPG

RESOURCES

HM8	Consider opportunities for seeking resources, such as an EU 'LIFE' bid, for a heather moorland restoration project in conjunction with the Blanket Bog Action Plan. (Objective 4)	2003	**PDNPA**/EN/NTMBAPG

RESEARCH

HM9	Produce a review of the trials of alternative techniques of upland heath restoration and re-creation. Include guidance on the targeting and suitability of sites for restoration and re-creation. (Objectives 4 and 5)	2001	**MBAPG**/NT
HM10	Assess current information and develop guidelines for the conservation and enhancement of habitats for important species such as bearberry, adder, petty whin, rare invertebrates, nightjar and other special moorland birds. (Objectives 1, 2 and 3)	2001 onwards	**MBAPG**/Voluntary Sector
HM11	Assess current loadings of atmospheric pollutants, e.g. sulphur dioxide and nitrous oxides, on heather moorland and carry out appropriate research and investigate ways of promoting reductions if levels are damaging. (Objectives 1, 2 and 3)	2001	**EA**/EN/LAs
HM12	Encourage research into vegetation, including dwarf shrub dynamics, hydrology, vertebrate and invertebrate populations. (Objective 4)	2001 onwards	**MBAPG**/Universities Voluntary Sector
HM13	Encourage research into access management. (Objectives 1, 2, 3 and 4)	2001 onwards	**PDNPA/PDLAF** MBAPG
HM14	Investigate causes of heather beetle and explore sustainable ways of tackling outbreaks. (All Objectives)	2001 onwards	**PPMOTA**/PDNPA EN/ MAFF/GC/HT
HM15	Evaluate with other relevant BAP groups the potential for achieving suitable habitat conditions for black grouse and their subsequent re-introduction. (Objectives 1, 2 and 3)	2003	**EN**/RSPB/PDNPA/NT PPMOTA

HM16	Explore validity and potential application of concept of wilderness and other innovative approaches to management. (Objectives 1, 2, 3 and 4)	2002	**EN**/PDNPA/MBAPG
HM17	Consider the need for research into alternative means of bracken control and ensure that the results are made widely available. (Objectives 1,2,3 and 4)	2001	**MBAPG**/MAFF/EN
HM18	Continue support for research into the effects of Asulox on bryophytes. (All Objectives)	2001 onwards	**MBAPG**/EN Universities
HM19	Ensure that the results of research into the effects of Ivermectin on invertebrate communities associated with animal dung are implemented at a local level. (All Objectives)	2001 onwards	**WEG**

PUBLIC ACCESS

HM20	Agree and implement approaches to management of access on moorland that enables public enjoyment but prevents/ removes significant damage to wildlife especially from wildfires e.g. through: *Access Management *Actions proposed in the Moors for the Future HLF bid *Implementation of access provisions in the Countryside and Rights of Way Act *Implementation of Habitats Regulations 1994 (All Objectives)	2001 onwards	**PDNPA/PDLAF**(joint leads)/EN/MBAPG DETR

MONITORING

HM21	Ensure that all heather moorland sites are effectively monitored using EN standard monitoring techniques and that the results of the process are collated and used to update the heather moorland register. (All Objectives)	2001 onwards	**EN**/PDNPA/MAFF/NT
HM22	Ensure that all restoration sites are adequately monitored and the information is used to inform future heathland restoration and re-creation. (Objectives 4 and 5)	2001 onwards	**EN**/PDNPA/MAFF/NT

AWARENESS RAISING

HM23	Share information on the wildlife importance and management needs of key conservation and restoration sites with the landowners/managers, including feedback from surveys. (Objectives 1, 2, 3 and 4)	2001 onwards	PDNPA/NT/EN/WTs MAFF/FWAG/LAs /RSPB
HM24	Produce a best practice guide to moorland restoration and re-creation in the Peak District in consultation with national specialists and practitioners. Produce a handbook on restoration and re-creation techniques. (Objectives 4 and 5)	2002	**NT**/EN/PDNPA/MAFF PPMOTA/MBAPG/HT
HM25	Consider and implement if appropriate a demonstration site(s) for best practice management advice. (All Objectives)	2002	**PDNPA**/NT/PPMOTA EN/MAFF/HT
HM26	Set up training days for land owners, managers and advisers, in the conservation, restoration and vegetation condition assessment of upland heathland. (Objectives 1 and 2)	2001 onwards	**MBAPG/EN** (joint leads)/PDNPA/NT PPMOTA/MAFF/HT
HM27	Promote widespread adoption of best practice burning regimes that ensure improvement in vegetation condition		

	(including in light of any revision to national muirburn legislation). (Objectives 1, 2 and 3)	2001 onwards	**PPMOTA**/MGA/PDNPA EN/MAFF

CONSERVATION ACTION AND INCENTIVES

Designations

HM28	Implement obligations under European (Natura 2000) legislation with respect to the South Pennine Moors SPA and cSAC. (Objectives 1, 2 and 3)	2001 (SPA); 2004 (cSAC).	**EN**/DETR
HM29	Review coverage of moorland SSSIs and notify further sites as appropriate. (Objective 1)	2001 - 2005	**EN**
HM30	Review desirability and opportunities for establishment of further key sites as NNRs and LNRs, and establish if appropriate. (Objectives 1, 2 and 3)	2002	**EN/LAs**(joint leads) PDNPA/NT/PPMOTA

Grant Schemes

HM31	Consider recommending review of all agri-environment and conservation schemes to ensure that: *Targeting at a national, regional and local level continues to give adequate priority to heather moorland *Management prescriptions are reviewed to include flexible site-specific measures and to include consideration of hefting and shepherding *Payments for heather moorland consider options for site specific needs such as shepherding and hefting (All Objectives)	2001 onwards	MAFF/EN/PDNPA WEG/MBAPG

Negotiation and Review of Agreements

HM32	Review management of all sites within SSSIs. Where necessary agree revised management regimes with owners/managers, through appropriate mechanisms such as ESAs and CSS, to ensure maintenance or restoration of favourable condition. (Objectives 1, 2 and 3)	2001 - 2005	**EN**
HM33	Negotiate appropriate agreements with landowners and managers of all heather moorland conservation and restoration sites not in existing agreements or SSSIs in order to maintain and/or restore favourable condition. (Objectives 1, 2, 3 and 4)	2001 - 2010	MAFF/PDNPA PPMOTA/NT
HM34	Review management of heather moorland in existing conservation agreements, outside of SSSIs. Where necessary agree revised management regimes with owners/managers to ensure that favourable condition is being maintained or restored. (Objectives 1, 2, 3 and 4)	2001 - 2005	MAFF/PDNPA PPMOTA/NT
HM35	Negotiate appropriate agreements with landowners and managers of key sites for heather moorland creation. (Objective 5)	2010	EN/MAFF/PDNPA PPMOTA/NT

Land Aquisition

HM36	Consider negotiating purchase/lease of priority sites where this would be the most effective way of achieving conservation objectives and where a negotiated conservation solution has not succeeded. (Objectives 1, 2 and 3)	2001 onwards	PDNPA/EN/RSPB WTs/NT

Direct Action

HM37	Seek development of improved fire fighting services, including helicopter availability. (All Objectives)	2001 onwards	**MBAPG**/LAs/ PDNPA
HM38	On land owned by public or conservation bodies, ensure that: *Management maintains and where possible enhances the value of moorlands *Options for the restoration of moorlands are considered *Opportunities for involvement of local communities in site management are taken (Objectives 1 and 2)	2001 onwards	PDNPA/WTs/NT/EN LAs/FC
HM39	Ensure availability of machinery for carrying out heathland restoration and re-creation work e.g. through supporting contractors/ expansion of Derbyshire and any other Conservation Machinery Rings. (Objectives 3 and 4)	2005	**PPMOTA**/PDNPA/LAs MAFF/EN

REGULATION

Planning

HM40	Ensure all planning applications and General Development Orders are adequately assessed in relation to their impact on heather moorland and that loss or damage is avoided; and that opportunities for the enhancement of heather moorland is considered in relevant planning decisions. (Objectives 1, 2 and 3)	2001 onwards	**PDNPA/LAs**/EN/WTs
HM41	Consider the opportunities for creation of moorland habitats in relevant planning decisions, including quarry restoration schemes. (Objectives 4 and 5)	2001 onwards	PDNPA/LAs/EN/WT
	Pollution Control and Waste Management		
HM42	Review procedures and consultation processes in relation to the spreading of paper pulp. (All Objectives)	2001	**EA**/EN/PDNPA/NT/WTs
HM43	Ensure point source pollutant emissions are controlled as necessary through the Review of Consents procedure under the Habitat Regulations 1994 for the SPA and cSAC. (All Objectives)	2001 - 2004	**EA**/LAs/EN
HM44	Ensure good practice is followed in disposing of sheep-dip, avoiding heather moorland. Implement by continuing with an awareness raising strategy amongst land managers; continuing the programme of licensing; extending consultation procedures for disposal applications to the whole of the Peak District and, where necessary, by enforcement action. (Objectives 1, 2 and 3)	2001	**EA**/LA/PDNPA
	Other Regulatory Mechanisms		
HM45	Ensure that all woodland planting proposals consider the adverse effects of planting on heather moorland. (Objectives 1, 2, 3 and 4)	2001 onwards	**FC**/LAs/EN/WTs

RESOURCES

It is envisaged that a significant proportion of work as a result of the actions proposed will be carried out by the relevant organisations using current resources. These include:

- the continuing investment by landowners and managers in managing their land sympathetically for wildlife;

- EN's programme of reviewing SSSI management;
- EN's grant and management agreement schemes;
- MAFF's Countryside Stewardship and Environmentally Sensitive Area Schemes;
- the PDNPA's advisory and grants service for landowners/managers;
- continuing management of upland heath owned by conservation organisations and public bodies (LAs, EN, NT, WTs, PDNPA) and WCs.

Additional substantial resources will prove necessary for:

- the proposed programme of upland heathland restoration (2001 - 2005) and re-creation (2010);

and may also be significant in carrying out actions relating to:

- awareness raising (2001 onwards);
- the management of appropriate access (2001 onwards).

A partnership of conservation and land-owning organisations has submitted a bid to the Heritage Lottery Fund for a major 'Moors for the Future' project which, if successful, will lead to the restoration of 3 km^2 of badly eroded moorland including areas of upland heathland and blanket bog. It will also lead to initiatives relating to access, interpretation and the sharing of management experience.

WATER VOLE

TREND IN THE PEAK DISTRICT:

Nationally the water vole is the fastest declining mammal in Britain. Evidence suggests that the species is also declining in the Peak District, although losses appear to be very variable and some areas support thriving populations.

ESTIMATED POPULATION IN THE PEAK DISTRICT:

Not quantified, but significant populations are known from the Etherow-Derwent-Bleaklow Moors, the Eastern Peak District Moors, the River Wye from Topley Pike to the Derwent confluence and locally within the Dove catchment.

NATIONAL BAP STATUS:

Priority Species

ASSOCIATED PEAK DISTRICT ACTION PLANS:

Habitats: River Corridor Habitats, Heather Moorland, Blanket Bog, Rush Pasture.

Species: White-clawed crayfish.

INTRODUCTION

The water vole is an agile swimmer living in a complex system of waterside burrows. Favoured habitats include well-vegetated banks of ditches, streams, rivers and ponds, with recent work showing them to be more numerous in upland moorland and moorland fringe habitats than formerly thought. They are herbivores, primarily feeding on lush waterside vegetation, which they also use as cover from their many predators. Water voles live in colonies and are territorial during a breeding season which lasts from March to October. A female may produce two to five litters each of five to eight young. As food supplies diminish during wintertime, they are less active, spending the majority of time underground.

Once common and widespread across Britain, the water vole has suffered a long-term decline in both numbers and distribution since the Industrial Revolution. The decline has accelerated dramatically in the last two decades. The most recent survey by the Vincent Wildlife Trust reports an 89% loss of occupied sites in Britain (predicted to reach 94 % by 2000). Within the Peak District severe declines in the status and distribution of the species have been reported from parts of the White Peak area, in the Dove Catchment and also from the lower reaches of the Etherow and Goyt catchments in the Dark and South West Peak. However, survey work has identified parts of the Peak District as a stronghold. There are viable populations on the Dark Peak moorlands in the head-streams of the Derwent and Etherow, on the Eastern Peak District Moors, along the Wye and its tributaries and on sections of the middle course of the Derwent.

The water vole has limited legal protection through its inclusion on Section 5 of the Wildlife and Countryside Act 1981 (as amended, April 1998) in respect of Schedule 9(4) only. This protects the water vole's places of shelter or protection, but does not protect the water voles themselves.

ADVERSE IMPACTS	Historic	Current
Loss of Habitat		
Direct loss of habitat through drainage.	✓✓	✓
Alteration of stream profiles by in-filling and straightening of channels.	✓✓	✓
Groundwater abstraction and surface water abstraction and water transfer schemes (e.g. Rivers Noe and Ashop).	✓	✓✓
Loss of water to soughs and mineshafts causing low water levels.	✓	✓
Construction of dams and reservoirs flooding traditional water vole habitats, and subsequent draw down making banks unsuitable as habitat.	✓	
Modification of Habitat		
Degredation of bank-side habitat due to inappropriate management including re-profiling, bank support work and vegetation control.	✓	✓✓
Heavy grazing reducing bank-side vegetation which provides food and cover, and causing damage to bank structure.	✓	✓✓
Damage to burrow systems by agricultural machinery.	✓	✓✓
Pollution		
Pollution of watercourses (heavy metals, organic farm and sewage slurry and polychlorinated biphenyls).	✓✓	✓
Predation and Competition		
Increase in predation, especially by American mink and domestic cats.		✓✓
Possible competition with brown rats.		✓✓
Recreation		
Recreational disturbance both directly from dogs etc. and also indirectly by destruction of the bank-side habitat.	✓	✓
Others		
Poisoning from rodenticides.		✓
Fragmentation and isolation of water vole populations.		✓

An impact ✓ *Significant impact ✓✓*

CURRENT ACTION

Designated Sites

- Water voles are known to occur in at least 8 SSSIs and also within the Derbyshire Dales NNR.

Sites Owned and Managed by Conservation Organisations

- A number of key water vole sites lie within the ownership of EN, the NT, WTs and the PDNPA.

New Initiatives

- Water UK and The WTs' 'Otters & Rivers Project' has four Project Officers covering Yorkshire, the North West, the Upper Trent and the Central Trent catchments. Their remit includes water vole conservation, but for funding reasons within the Central Trent area, water vole work is not undertaken within the project.
- DWT has, since 1997, committed considerable resources to water vole conservation work. In 2000, funding was received for this work from various sources including EN.
- Monitoring at selected sites began in 1998, in the Derwent and Etherow catchments (by DWT) and the Upper Dove catchment (by SWT as part of the Upper Trent 'Otters and Rivers' Project).
- The WTs have started providing advice to land owners and managers at a number of key sites for water voles so as to target appropriate conservation action.
- In conjunction with the EA the WTs provide advice on mitigation measures relating to developments.

Research and Survey

- National distribution surveys have been undertaken by the VWT (1989 - 1990, 1996 - 1998).
- DWT carried out a survey of all the Derbyshire catchments in 1997 - 1999 with the exception of the Dove.
- SWT (as part of the Upper Trent 'Otters and Rivers' Project) carried out a baseline water vole, mink and otter survey of the Dove River catchment in 1997.

Awareness Raising

- Both nationally and locally there has been widespread media coverage of both the plight of water voles and of relevant surveys. Volunteer recorders have been used and casual records from the public have been incorporated into surveys.
- DWT has produced a number of leaflets for landowners, conservation organisation staff and the public.
- DWT has promoted water vole conservation during a training day for PDNPA staff.

ACTION PLAN OBJECTIVES AND TARGETS

National Targets

- Maintain the current distribution and abundance of the species in the UK.
- Ensure that water voles are present throughout their 1970s range by the year 2010.

A Vision for the Peak District

Threatened by habitat destruction and modification, by competition and predation, water voles show a very divergent picture of success across the Peak District with some streams and rivers supporting apparently thriving populations whilst extinction stalks many others. Survey and monitoring work must be used to target and prioritise the habitat management, advisory and policy work which will prove essential if we are to reverse the local declines and conserve the existing populations. This will only be possible through co-ordinated action involving the public, landowners and conservation agencies and by using every opportunity available. Local objectives need to be set based on an assessment of existing survey and monitoring results, coupled with the experiences of a number of recognised naturalists. The hope is that we can once more see our childhood favourite – 'Ratty' of the 'Wind in the Willows' – in its riverbank home throughout the Peak District.

OBJECTIVES AND TARGETS

Objective 1

Maintain the current distribution and status of the water vole in the Peak District.

Targets

Ensure appropriate management of 50 % of known important sites by the end of 2005. Review and set a new target for 2005 - 2010.

Recruit and maintain a minimum of 40 volunteers to carry out surveys and monitoring from the end of 2003 onwards.

Carry out a minimum of 40 spot check surveys annually at additional, previously un-recorded sites.

Objective 2

Take active measures to expand the current distribution.

Target

Assess the potential for restoration of suitable water vole habitat in the proximity of all important sites and implement for at least 25 % of suitable sites by 2005. Review and set a new target for 2005 - 2010.

Main Factors Likely to Affect Achievement of Targets

Land Management

Reform of Common Agricultural Policy and implementation of the Rural Development Regulation.

Effectiveness of agri-environment and conservation scheme prescriptions.

The inclusion of riparian strips and small river corridor wetlands as priority habitats in the whole holding approach to negotiation of agri-environment and conservation scheme agreements.

Effectiveness of agri-environment and conservation scheme cross compliance.

Planning and Regulations

Planning and licensing policies.

Resources and Financial Incentives

Availability of funding for survey, awareness raising programme and negotiation of conservation agreements.

Adequacy of financial incentives within conservation agreements.

Availability of funding for agri-environment and conservation scheme agreements.

Conflicts with Other Conservation Priorities

Conflicts between the habitat requirements of water voles and other ecological conservation priorities e.g. woodland restoration alongside streams and in cloughs.

Potential conflicts with archaeological and landscape issues particularly in relation to the fencing of intensively managed stream-sides.

Gaps in Knowledge

Lack of knowledge about interactions with brown rats, particularly in relation to the spread of disease, the impact of rodenticides and the possibility of competition.

Limited knowledge with regard to the ecology of water voles, particularly the dispersal of juveniles and non-territorial adults.

Invasive Species

The spread of mink.

Pollution and Climate Change

Climate change.

ACTIONS

Key to the achievement of the proposed targets are actions relating to:

- increasing our knowledge about the distribution and status of water voles so that conservation initiatives can be targeted and prioritised (Actions WV1 and 3 - 6);
- negotiations to secure appropriate land management (WV33 - 37);
- awareness-raising and training measures (WV21 - 29);
- considering reviews of agri-environment and conservation schemes to ensure adequate financial incentive and appropriate management prescriptions to safeguard water vole habitat (WV32);
- direct action by conservation organisations, public bodies and utilities alongside canal and river banks (WV38, WV39 and WV41), and
- control of the expanding mink population (WV14 -16).

	ACTIONS	TIMESCALE	LEAD AGENCY & Partners
DATA COLLATION AND SURVEY			
	Data Collation		
WV1	Collate existing information on water voles. (Objective 1)	2001	**WTs**/EA/EN PDNPA LAs/LRCs Voluntary Sector
WV2	Compile a register of water vole sites based on a GIS system, including level of importance (including 'Wildlife Site' status), condition, constituent habitats, Natural Area and conservation status, and initiate a programme for regular updating. (Objective 1)	2001 onwards	**WTs**/EA/EN/PDNPA
	Survey		
WV3	Carry out water vole and water vole habitat surveys for catchments where existing information is inadequate. (Objective 1)	2001/2002	**WTs**/EA
WV4	Complete surveys of historical sites within all Peak District catchments. (Objective 1)	2001/2002	**WTs/**EA
WV5	Continue to elicit records from members of the public and angling clubs. Carry out surveys of all newly identified sites for water voles incorporating habitat assessments. (Objective 1)	2001 onwards	**WTs**/PDNPA/EA
WV6	Carry out annual spot check surveys at additional sites with the aim of identifying 'new' unrecorded evidence of water vole populations. (Objective 1)	2001 onwards	**WTs**/NT/EA
WV7	Recruit, train and co-ordinate voluntary surveyors to undertake surveys and monitoring of important sites. (Objective 1)	2001 onwards	**WTs**/EA
EVALUATING THE IMPORTANCE AND CONDITION OF SITES			
	Evaluating Importance and Identifying Key Sites		
WV8	Agree methodology for the evaluation of water vole sites, including: *Definition of 'important' with regard to water vole sites *Identification of 'Wildlife Sites' *The identification of suitable sites for expansion of existing populations *The identification of suitable sites for re-introduction taking into account the importance of populations		

	capable of expansion, sites which are of strategic importance to each catchment, and the need to link isolated populations. (Objectives 1and 2)	2001	**ABAPG**
	Defining Favourable Condition		
WV9	Agree definitions of favourable condition for the complete range of water vole sites in the Peak District. (Objectives 1 and 2)	2001	**ABAPG**
WV10	Agree guidelines for the range of appropriate management needed to achieve favourable condition on conservation, restoration and re-creation sites including a consideration of landscape and archaeological impacts. (Objectives 1 and 2)	2001	**ABAPG**
	RESEARCH		
WV11	Initiate, support and encourage research projects on relevant topics of water vole ecology in the Peak District area. In particular, prioritise research into potential limiting factors for water voles in a local, regional and national context. (Objectives 1 and 2)	2001 onwards	**EA**/WTs/EN
WV12	Incorporate the results of research into conservation action where appropriate. (Objectives 1 and 2)	2001 onwards	**ABAPG**
	PUBLIC ACCESS		
WV13	Agree and implement both general and site specific approaches to the management of access to important water vole sites that enables public enjoyment of the environment but prevents significant damage to banksides and disturbance to water vole populations. (Objective 1)	2001 onwards	**EA/PDLAF** (joint leads)/NT/EN/PDNPA
	INVASIVE SPECIES		
WV14	Continue to monitor the distribution of mink in the Peak District and identify where mink could be having an impact on water vole populations. (Objective 1)	2001 onwards	**WTs**/EA/EN/NT ABAPG
WV15	In collaboration with landowners and fisheries managers set up a mink trapping programme in these areas where this is considered to be a practical option. (Objective 1)	2001 onwards	**ABAPG/MAFF**(joint leads)
WV16	Ensure, in collaboration with landowners and fisheries managers, that data on mink distribution is forwarded to local record centres. (Objective 1)	2001 onwards	**EA**/EN/LRC
WV17	Discuss appropriate methods of rat control with the environmental health authority. (Objective 1)	2001	**EA/EHA** (joint leads)
WV18	Consider the need for rat control at key water vole sites. (Objective 1)	2001	**ABAPG**
	MONITORING		
WV19	Agree methodology for and implement effective monitoring of water vole sites. Ensure that the results of the process are collated and used to update relevant registers. (Objective 1)	2001 onwards	**WTs**/NT/EA/EN PDNPA
WV20	Integrate both positive and negative sites from the VWT national survey into the monitoring programme. (Objective 1)	2001	**WTs**/EA/EN

AWARENESS RAISING

WV21	Share information on the importance and management needs of important conservation and restoration sites with landowners/managers, including feedback from surveys. (Objectives 1 and 2)	2001 onwards	**WTs**/PDNPA/NT/EA EN
WV22	Make local guidance widely available for landowners and managers and conservation organisation staff on appropriate riparian and watercourse management. (Objectives 1 and 2)	2001	**EA**/WTs/EN/PDNPA FWAG
WV23	Raise awareness of legislation covering water vole habitat amongst relevant agencies, organisations and the general public through appropriate means. (Objective 1)	2001 onwards	**EA**/EN/PDNPA/WTs
WV24	Raise awareness of the need for water vole protection amongst agencies that are exempted from the current legislation. (Objective 1)	2001 onwards	**EA**/EN/PDNPA/WTs
WV25	Ensure Peak District wide awareness of water voles amongst landowners/managers and the general public by: *Distribution of a leaflet with a return slip for people to record current and historical records *Using local media to raise the profile of the species (Objective 1 and 2)	2001	**ABAPG**
WV26	Raise awareness through appropriate means amongst Environmental Health & Pest Control Officers about water vole conservation, rat poison and its harmful effects on water voles. (Objective 1 and 2)	2001	**EA**
WV27	Facilitate a meeting with all involved volunteers throughout the Peak District to ensure a co-ordinated approach to survey and monitoring and to encourage sharing of information and techniques. (Objective 1)	2003	**ABAPG**
WV28	Include opportunities for disseminating information and advice on water voles within the proposed Peak District Biodiversity web-site. (Objectives 1 and 2)	2002	**ABAPG**
WV29	Arrange training days to increase awareness with regard to water vole ecology and management needs, amongst conservation organisation staff, volunteers and land managers, and to promote proactive targeting of important sites for conservation action. (Objectives 1 and 2)	2001 onwards	**WTs**/MAFF/FWAG/NT EA/EN/PDNPA Volunteers/River bailiffs

CONSERVATION ACTION AND INCENTIVES

Designations

WV30	Consider water vole key sites in any programme of acquisition/lease/management of nature reserves including NNRs and LNRs. (Objectives 1 and 2)	2001 onwards	**EN/LAs** (joint leads) PDNPA/WTs/ RSPB/NT
WV31	Support efforts to give full protection to water voles under the Wildlife & Countryside Act. (Objective 1)	2001 onwards	**EA**/EN/WTs

Grant Schemes

WV32	Consider recommending a review of agri-environment and conservation schemes to ensure that: *Targeting at local, regional and national levels gives adequate priority to the water vole habitat *Management prescriptions for the maintenance, restoration and creation of wetlands (including ponds, ditches and back channels), wildlife headlands and		

	buffers are reviewed in the light of water vole conservation needs *Payments for small areas, wetlands, buffers and wildlife headlands are introduced/reviewed in the light of water vole conservation needs. (Objectives 1 and 2)	2001 onwards	**MAFF**/PDNPA/EN ABAPG/WEG
	Negotiation and Review of Agreements		
WV33	Include water vole conservation measures in management plans and/or negotiated agreements within relevant NNRs and SSSIs. (Objectives 1 and 2)	2001 onwards	**EN**
WV34	Negotiate appropriate agreements with landowners and managers of important water vole sites outside SSSIs and existing agreements, targeting their management and sites for possible expansion. (Objective 1and 2)	2001 onwards	MAFF/PDNPA/FWAG
WV35	Review management of important water vole sites in existing conservation agreements, outside of SSSIs. Where necessary agree revised management regimes with owners/managers to ensure that favourable condition is being maintained or restored. (Objectives 1 and 2)	2002 - 2005	MAFF/NT/WTs/PDNPA FWAG
WV36	Review whole holding agreements which include unprotected important water vole sites. Consider the opportunities for amending the agreement to incorporate their safeguard and enhancement. (Objective 1 and 2)	2002-2010	MAFF/NT/WTs/PDNPA FWAG
WV37	Ensure all agreement negotiations consider the existing water vole population and the potential for water vole conservation and expansion on the whole holding, including: *safeguard of all existing water vole sites *restoration of degraded riparian habitat *the potential for re-creation of valuable riparian habitat, bringing surrounding land into appropriate management where possible. (Objectives 1 and 2)	2001 onwards	**MAFF**/PDNPA/FWAG
	Direct Action		
WV38	On land owned by public or conservation bodies, ensure that: *Management maintains, and where possible, enhances the water vole habitat *Consideration is given to the restoration and creation of water vole habitats. (Objectives 1 and 2)	2001 onwards	PDNPA/LAs/FC/WTs /NT EN
WV39	Ensure that water vole conservation measures are put in place in river valley initiatives, e.g. Bakewell Biodiversity Project. (Objective 1 and 2)	2001 onwards	**EA**/WTs/EN/PDNPA
WV40	Ensure that LEAPs include appropriate reference to the safeguard and enhancement of water vole populations. (Objectives 1 and 2)	2001 onwards	**EA**
WV41	Continue/initiate water vole conservation and enhancement measures along river and canal corridors where appropriate. (Objectives 1 and 2)	2001 onwards	**EA/BW**(joint leads)/EN PDNPA/WCs/NT/WTs

REGULATION

	Planning		
WV42	Ensure all planning applications are adequately assessed in relation to their impact on water vole sites, that loss or damage to these is avoided and that opportunities for the enhancement or creation of appropriate water vole habitats is considered in relevant planning decisions. (Objective 1, 2, 3 and 4)	2001 onwards	**LAs**/**EA**(joint leads) WTs/PDNPA/EN
	Licensing		
WV43	Ensure that legislation covering water vole habitat is enforced. (Objective 1)	2001 onwards	**EA**/WTs/EN/PDNPA LAs
WV44	Ensure all works which affect rivers, streams and canals, in areas important for water voles, are assessed beforehand and licensed if appropriate. (Objective 1)	2001 onwards	**EA**/EN/DETR
WV45	Ensure populations of water voles are monitored before and after all works which affect sites with important populations. (Objective 1)	2001 onwards	**EA**/EN

RESOURCES

It is envisaged that the majority of the actions proposed will be carried out by the relevant organisations using current resources, although this may well necessitate careful targeting and prioritisation. These include:

- continuing investment by landowners and managers in managing their land sympathetically for wildlife;
- the 'Otters and Rivers' projects currently being implemented by the WTs with sponsorship from STW and the EA;
- water vole conservation work currently being implemented by DWT with funding from various sources including EN;
- the EA's review of water quantity with respect to the cSAC;
- the EA's annual programme of maintenance work on main rivers and commitment to the consideration of conservation issues;
- EN's programme of reviewing SSSI management and its grant and management agreement schemes;
- MAFF's Countryside Stewardship and Environmentally Sensitive Area schemes;
- the PDNPA's advisory and grants service for landowners/managers and its rolling programme of special conservation projects;
- FWAG and the WTs' advisory services;
- surveys and monitoring carried out by volunteers;
- continuing management of water vole habitat in the ownership of conservation organisations, public bodies (EN, NT, WTs, LAs, PDNPA, FC), WCs and BW.

Focused species work within the WTs' 'Otters and Rivers Project', or its successor, and continued funding for DWT's water vole work, will be essential.

Additional resources are likely to be required to:

- provide adequate financial incentives for the conservation and restoration management of water vole habitats (2001 onwards);
- aid in the production of the proposed registers (2001 onwards).

CURLEW

TREND IN THE PEAK DISTRICT :
Large declines on in-bye land, for example a decrease from 421 pairs to 179 pairs on the North Staffordshire Moors between 1985 and 1996; stable moorland population.

ESTIMATED POPULATION IN THE PEAK DISTRICT :
Probably in excess of 1000 pairs (455 pairs on moorland in 1990).

NATIONAL BAP STATUS:
Species of Conservation Concern

ASSOCIATED PEAK DISTRICT ACTION PLANS:
Habitats: Heather Moorland, Blanket Bog, Rush Pasture, Hay Meadow, Rough Grazing, Unimproved Pasture, Limestone Heath, River Corridor Habitats.
Species: Lapwing, Twite.

INTRODUCTION

The return of the curlew heralds the start of the spring in the Peak District. They breed in most open habitats throughout the Peak District and adults are able to feed on a range of invertebrates, in both tall and short vegetation. Widely distributed across all moorland areas, both 'white' moor and heather moor, population densities of 53 pairs on 59 km^2 of moorland are typical. Lower densities are found on blanket bog. Curlew are found on all types of upland pasture, however no population estimate is available for the White Peak. In the South West Peak, numbers on farmland have declined by over 50 %, although 179 pairs were still present on the North Staffordshire Moors area in 1996.

Curlew do not seem to have disappeared from any particular area of the Peak District. However on in-bye pastures breeding densities are significantly lower than in the past. Assuming a breeding population of 1000 pairs, this represents 2 - 3% of the British breeding population.

ADVERSE FACTORS	Historic	Current
Land Management – Stocking and Cropping		
Continued agricultural intensification of in-bye and rush pasture, including high stocking rates, leading to nest trampling in the breeding season.	✓	✓✓
Conversion from hay to silage resulting in an increasing number of nests being destroyed by machinery operations.	✓	✓✓
Reduction in soil moisture content (and consequent decline in availability of invertebrates) due to soil compaction through heavy grazing pressure.		✓✓
Replacement of cattle with sheep (creating more uniform swards, with fewer secure nest sites) on many upland hill farms, as the price of beef and milk continues to decline.		✓
Overgrazing of moorland, though this problem now affects fewer sites since the introduction of Environmentally Sensitive Area (ESA) schemes.	✓✓	✓
Land Management – Drainage		
Field drainage leading to reduction in soil moisture content in moorland fringe and river corridor areas.	✓✓	✓
Increased efficiency of stream/river drainage on river valleys leading to a reduction in river corridor wetland habitats.	✓✓	✓
Others		
Increased rates of egg and chick predation as predator numbers such as crows increase.		✓✓
Recent run of wet springs in the 1990s, leading to reduced chick survival.		✓
Tree planting proposals have threatened a number of important curlew breeding areas where the importance of these sites has not been recognized.	✓	✓

An impact ✓ *Significant impact* ✓✓

CURRENT ACTION

Designated Sites

- The Dark Peak, Leek Moors, Eastern Peak District Moors and Goyt Valley SSSIs are all recognized as being important for their assemblages of upland breeding birds including curlew.
- Curlew are considered as being a species of interest within the South Pennines Moors SPA (incorporating all of the above SSSIs) although they are not a qualifying species in terms of the designation. Implementation of the EU Birds Directive in the SPA should impart increased protection for the curlew's Peak District habitat.
- Owners of SSSI land on the Leek Moors are re-negotiating management agreements with EN to benefit curlew.

Sites Owned and Managed by Conservation Organisations

- Tenants on NT farms are re-creating upland hay meadows in the Edale Valley and restoring dwarf shrub moorland with the aim of benefiting moorland fringe birds including curlew.

Sites Within Conservation Agreements

- Landowners have brought several key curlew nesting areas under ESA management, for example Hazel Barrow, Moscar House and Midhopestones.

Research and Survey

- A joint MAFF/NWW/RSPB project is looking at re-wetting compacted land by mechanical slotting at Padfield in the North Peak.

Awareness Raising

- The RSPB has produced a curlew management sheet for landowners and conservation organisations and has provided PDNPA advisory staff with training about the habitat requirements of curlew.

ACTION PLAN OBJECTIVES AND TARGETS

National Targets

There is no national action plan for curlew in the UK. The RSPB, however, has published an internal Species Action Plan for curlew. Its objectives are:

- To maintain the UK breeding population of curlew at or above current levels.
- In the long term, to halt and reverse regional declines in breeding population numbers and range.

A Vision for the Peak District

The curlew's haunting, melancholy call and distinctive outline are an integral part of the Peak District moorland, moorland fringe, White Peak plateau and river corridor landscapes. Working together with farmers and other land managers we hope to secure the future of this 'herald of the spring' by both safeguarding existing breeding sites and by increasing the area of suitable breeding and feeding habitat.

OBJECTIVES AND TARGETS

Objective 1

Maintain the existing breeding population and range, as estimated by the 1999 Moorland Survey and the proposed 2001 In-Bye Survey.

Target

Bring 50 % of key curlew breeding sites into favourable management by 2005 and 100% by 2010.

Objective 2

Achieve a measurable and sustained increase in both the numbers and range of breeding curlew by 2010.

Target

Increase breeding numbers on 50 % of targeted sites, and increase the number of new breeding sites by 10% by 2010.

Main Factors Likely to Affect Achievement of Targets

Land Management

Implementation of the Rural Development Regulation and reform of the Common Agricultural Policy.

Effectiveness of agri-environment and conservation scheme prescriptions.

High land prices – forcing intensive management following purchase of land.

Resources and Financial Incentives

Availability of funding for survey, awareness raising programme and negotiation of conservation agreements.

Availability of funding for agri-environment and conservation scheme agreements.

Adequacy of financial incentives for agri-environment and conservation agreements.

Planning and Regulation

Planning policy.

Conflicts with Other Priorities

Conflicts between the habitat requirements of curlew and other ecological conservation priorities eg. when considering woodland creation proposals in moorland fringe areas.

Potential conflicts with archaeology.

Others

Lack of a strategy for safeguarding sites of particular wildlife importance where this cannot be achieved through the normal channels of negotiation.

Threats to curlew in its wintering habitat.

Predation of chicks and eggs.

ACTIONS

Key to the achievement of the proposed targets are the actions relating to:

- survey and compilation of a comprehensive list of curlew breeding sites coupled with negotiations to secure appropriate land management (Actions CW1 – 4 and 23 - 27);
- awareness-raising and training measures (CW14 - 20);
- ensuring agri-environment and conservation schemes provide adequate financial incentive and appropriate management prescriptions to safeguard curlew habitat (CW22);
- a continuation of the re-wetting/slotting trials and their expansion if appropriate (CW11), and
- appropriate predator control measures (CW 10 and 20).

	ACTIONS	TIMESCALE	LEAD AGENCY & Partners
DATA COLLATION AND SURVEY			
	Data Collation		
CW1	Collate existing information on curlew. (Objectives 1 and 2)	November 2001	**RSPB**/BBAPG/LAs LRCs/Voluntary Sector
CW2	Compile an 'inventory' of curlew breeding and feeding sites (including 'Wildlife Site' status), and initiate a system for regular up-dating. (Objective 1)	November 2001	**RSPB/**BBAPG
	Survey		
CW3	Identify priority sites for survey. (Objective 1)	November 2001	**RSPB**/Bird Study Groups
CW4	Carry out a co-ordinated survey of all breeding curlew sites within the entire BAP area. (Objective 1)	April 2002	**RSPB**/Bird Study Groups
CW5	Repeat the 2000 Moorland Breeding Bird Survey in 2010. (Objectives 1 and 2)	Summer 2010	**RSPB**/EN
EVALUATING THE IMPORTANCE AND CONDITION OF SITES			
	Evaluating Importance and Identifying Key Sites		
CW6	Agree methodology for the evaluation of Wildlife Site status. (Objectives 1 and 2)	April 2002	**BBAPG**
	Defining Favourable Condition		
CW7	Agree definitions of favourable condition for the range of curlew breeding sites in the Peak District. (Objectives 1 and 2)	April 2002	**BBAPG**

CW8	Agree guidelines for the appropriate management needed to achieve favourable condition and enhancement of curlew breeding sites. (Objectives 1 and 2).	April 2002	**BBAPG**

RESOURCES

CW9	Seek resources to carry out surveys, awareness raising and negotiation of agreements in collaboration with other bird and grassland action plans. (Objectives 1 and 2)	Autumn 2001	**RSPB**/EN/PDNPA
CW10	Seek funding to employ a full time gamekeeper on the Leek Moors. (Objectives 1 and 2)	2002	**RSPB**/EN/PDNPA

RESEARCH

CW11	Continue the re-wetting/slotting machine research project at Padfield and expand if results are positive. (Objectives 1 and 2)	2002 - 2004	**RSPB**/MAFF/NWW
CW12	Ensure that the results of research into the effects of Ivermectin on invertebrate communities associated with animal dung are implemented at a local level. (Objectives 1 and 2)	2001 onwards	**WEG**

MONITORING

CW13	Repeat co-ordinated curlew breeding surveys in 2005 and 2010. Ensure that the information is used to update the curlew 'inventory'. (Objectives 1 and 2)	2001 - 2010	**RSPB**/Bird Study Groups

AWARENESS RAISING

CW14	Share information on the wildlife importance and management needs of key conservation and restoration sites with landowners/managers, including feedback from surveys. (Objectives 1 and 2)	2001 onwards	**RSPB**/EN/PDNPA/NT WTs/FWAG/MAFF
CW15	Include information on curlew work in the Lapwing Recovery Project leaflet and posters. (Objectives 1 and 2)	January 2002	**BBAPG**
CW16	Arrange bi-annual training days for all farm conservation advisers to update on curlew habitat requirements and promote key management prescriptions. (Objectives 1 and 2)	February 2001-2010	**RSPB/**EN/PDNPA MAFF/FWAG
CW17	Produce a slide pack and talk, and use to promote curlew conservation to farmer/landowner clubs, group branches and organisations eg. NFU branch talk circuits. (Objectives 1 and 2)	January 2002-2005	**BBAPG**
CW18	Promote moorland management for curlew including small scale re-wetting and heather burning. (Objective 1 and 2)	2002 - 2010	**RSPB**/PDNPA/EN/NT MAFF
CW19	Organise a series of annual farm demonstration days to promote successful curlew management agreements. (Objectives 1 and 2)	2002 - 2005	**RSPB**/PDNPA/EN NFU MAFF
CW20	Run a series of training days for landowners, promoting legal and effective predator control. (Objectives 1 and 2)	2002-2005	**RSPB**/PDNPA/EN NFU/ MAFF

CONSERVATION ACTION AND INCENTIVES

Designation

CW21	Consider curlew key sites in any programme of acquisition/lease/management of nature reserves including NNRs and LNRs. (Objectives 1 and 2)	2001 onwards	**EN/LAs** (joint leads) PDNPA/WTs/RSPB/NT

Grant Schemes

CW22	Consider recommending a review of all agri-environment and conservation schemes to ensure that: *Management prescriptions include specific benefits to curlew and include flexible site-specific measures *Payments consider inclusion of financial measures to encourage a shift from sheep to cattle (Objectives 1 and 2)	2002 - 2010	MAFF/EN/PDNPA WEG/BBAPG

Negotiation and Review of Agreements

CW23	Review management of all curlew breeding sites within SSSIs. Where necessary agree revised management regimes with owners/managers, through appropriate mechanisms, to ensure maintenance/ restoration of favourable condition and site extension. (Objectives 1and 2)	2001 - 2005	**EN**/RSPB
CW24	Negotiate appropriate agreements with landowners and managers of all key curlew sites outside SSSIs and existing agreements in order to achieve favourable condition of the site. (Objectives 1 and 2)	2002 – 2005	RSPB/PDNPA/MAFF FWAG
CW25	Review management of curlew breeding sites in existing agreements, outside SSSIs. Where necessary agree revised management regimes with owners/managers to ensure that favourable condition is being achieved. (Objectives 1 and 2)	2002 – 2005	RSPB/PDNPA/MAFF
CW26	Negotiate appropriate agreements on sites adjacent to curlew breeding areas or on sites with potentially suitable habitat, to facilitate favourable management. (Objective 2)	2003 – 2005	RSPB/PDNPA/MAFF FWAG
CW27	Review whole holding agreements which include unprotected curlew breeding sites. Consider the opportunities for amending the agreement to incorporate their safeguard, enhancement and extension. (Objective 1 and 2)	2002-2005	RSPB/PDNPA/MAFF

Direct Action

CW28	Consider the opportunities for increased safeguard of wader migratory sites. (Objective 1 and 2)	2001 onwards	**RSPB**/PDNPA/EN WTs/NT/Bird Study Groups

Land Acquisition

CW29	Consider negotiating purchase/lease of priority curlew feeding sites where this would be the most effective way of achieving conservation and when a negotiated conservation solution has not succeeded. (Objectives 1 and 2)	2001 onwards	PDNPA/EN/WTs/RSPB NT

REGULATION

Planning

CW30	Ensure all planning applications and General Development Orders are adequately assessed in relation to their impact on curlew breeding and		

	feeding sites; that loss or damage is avoided; and that opportunities for the enhancement and creation of key habitats are considered in relevant planning decisions. (Objectives 1 and 2)	2001 onwards	PDNPA/EN/LAs/WTs
	Pollution Control & Waste Management		
CW31	Review procedures and consultation processes in relation to the spreading of paper pulp. (Objectives 1 and 2)	2001	**EA**/LAs/PDNPA/EN WTs
CW32	Ensure good practice is followed in disposing of sheep dip, avoiding curlew breeding sites. Implement by continuing with an awareness raising strategy amongst land managers; continuing the programme of licensing; extending consultation procedures for disposal applications to the whole of the Peak District and, where necessary, by enforcement action. (Objectives 1 and 2)	2001	**EA/**LAs/PDNPA
	Other Regulatory Mechanisms		
CW33	Ensure that all woodland planting proposals avoid the adverse effects of planting on curlew breeding and feeding sites. (Objectives 1 and 2)	2001 onwards	**FC**/LAs/EN/PDNPA MAFF
CW34	Ensure that bracken control does not take place in the vicinity of curlew breeding sites. (Objective 1)	2001 onwards	**EA**/EN/PDNPA/MAFF

RESOURCES

It is envisaged that many of the actions proposed will be carried out by the relevant organisations using current resources. These include:

- continuing investment by landowners and managers in managing their land sympathetically for wildlife;
- EN's programme of review of SSSI management and designation and its grant and management agreement schemes;
- MAFF's Environmentally Sensitive Area and Countryside Stewardship schemes;
- the RSPB's surveys and advisory work;
- volunteer surveys;
- the PDNPA's advisory and grants service for landowners/managers, and its rolling programme of special conservation projects;
- FWAG and the WTs' advisory services;
- continuing management of curlew habitat in the ownership of conservation organisations (EN, NT, WTs), public bodies (LAs, PDNPA), and WCs.

Additional resources are likely to be required:

- for survey work (2001) and negotiations (2002 - 2005);
- to provide adequate financial incentives for the conservation and restoration management of curlew habitat (2001 onwards);
- for a programme of awareness raising (2001 onwards);
- to aid in the production of the proposed registers (2001 onwards).

The RSPB, PDNPA and EN are currently seeking resources for a Ground-nesting Bird Habitat Project (to run from 2001 - 2004) which would specifically target curlew conservation and the safeguarding and restoration of curlew breeding and feeding habitats. The PDNPA and EN are currently seeking resources for a continuation of the Pastures Project, to run during 2001/2002, aimed at surveying and securing high quality sites within appropriate agreements. This may also have implications for curlew conservation.

LAPWING

TREND IN THE PEAK DISTRICT:
Severe decline over the last 30 years, for example 72 % on the North Staffordshire Moors between 1985 and 1996.

ESTIMATED POPULATION IN THE PEAK DISTRICT:
Extrapolation from a partial census in 2000 suggests a population of only 700 - 800 pairs.

NATIONAL BAP STATUS:
Species of Conservation Concern

ASSOCIATED PEAK DISTRICT ACTION PLANS:
Habitats: Rush Pasture, Hay Meadows, Heather Moorland, Rough Grazing, Unimproved Pasture.
Species: Curlew, Twite.

INTRODUCTION

The lapwing, or 'pee-wit' as it is locally known, is a wading bird, which returns to the Peak District each summer to nest. In good habitat, lapwings nest in loose colonies where the birds act collectively to drive off predators such as crows. The eggs are laid in a shallow scrape on the ground, in an area of short vegetation. Up to 3 re-lay clutches can be laid but only one brood of chicks is raised. Lapwings nest on a variety of habitats from arable to areas of burnt heather or traditional hay meadows. The bulk of the population, however, nests on in-bye pasture fields. Colonies are largest and most widespread in the northern section of the North Peak, but have become increasingly localised in the South West Peak and Eastern Moors. The lapwing is now virtually absent in the Edale area and is very rare in the White Peak. The largest known remaining colonies occur around the Flouch, Strines, Digley Reservoir, Padfield, Lantern Pike, Ford and Swallow Moss areas.

Over the last 30 years, lowland breeding populations have collapsed. In just 11 years between 1987 and 1998 the breeding lapwing population in England and Wales declined by 47 %. The bulk of England's breeding population is now restricted to the uplands. Once a widespread breeding bird in all areas of the Peak District, colonies are now isolated and often restricted to just a handful of fields.

The lapwing is perhaps the bird most associated with upland hill farming in the Peak District. Its future is intricately linked with the success of agri-environment and other conservation schemes in supporting sympathetic farming systems, as both the loss of upland farms or the further intensification of upland pasture management will accelerate its decline in the Peak District.

ADVERSE IMPACTS	Historic	Current
Land Management		
Continued intensification of in-bye and rush pasture, including high stocking rates in the breeding season, re-seeding and conversion to silage.	✓	✓✓
Reduction in soil moisture content (and consequent decline in availability of invertebrates) due to soil compaction through heavy grazing pressure.		✓✓
Field drainage leading to reduction in soil moisture content.	✓✓	✓
Abandonment of cattle grazing on in-bye pastures due to the economic decline in upland farming. Sensitive cattle grazing can promote a varied sward structure with suitable breeding sites and a rich invertebrate fauna.		✓
High nest losses during spring machinery operations, e.g. rolling, muck spreading and silage operations.		✓✓
Others		
Increasing rates of egg and chick predation owing to increased numbers of predators such as crows. This is particularly significant when lapwing are nesting in sub-optimal habitat.		✓✓
Recent run of wet springs in the 1990s, leading to low chick survival.		✓
Tree planting proposals have threatened a number of important lapwing colonies where the importance of these sites has not been recognised.		✓

An impact ✓ *Significant impact* ✓✓

CURRENT ACTION

Designated Sites

- The Dark Peak, Leek Moors, Eastern Peak District Moors and Goyt Valley SSSIs are all recognised as being important for their assemblages of upland breeding birds including lapwing.
- Lapwing are considered as being a species of interest within the South Pennines Moors SPA (incorporating all of the above SSSIs) although they are not a qualifying species in terms of the designation. Implementation of the EU Birds Directive in the SPA should impart increased protection for the lapwing's Peak District habitat.
- Owners of SSSI land on the Leek Moors are re-negotiating management agreements with EN to benefit lapwing.

Sites Owned and Managed by Conservation Organisations

- Re-wetting work to encourage breeding lapwing is underway on tenanted farms belonging to both NWW and the NT.

Sites Within Conservation Agreements

- Landowners have brought several key lapwing colonies under Environmentally Sensitive Area (ESA) management agreements at, for example, Hazel Barrow, Ford Grange, Padfield, Moscar House and Midhopestones.
- The RSPB is working with landowners to bring lapwing colonies into Countryside Stewardship (CS) agreements through the Hade Edge Community Project.

Research and Survey

- A survey of lapwing breeding sites on in-bye land in the South West and Dark Peak Natural Areas was carried out in the summer of 2000.
- A joint MAFF/NWW/RSPB project is looking at re-wetting compacted land by mechanical slotting at Padfield in the North Peak.

Awareness Raising

- The RSPB has produced a lapwing management sheet for landowners and conservation organisation staff and has run a course on lapwing habitat management for the PDNPA.

ACTION PLAN OBJECTIVES AND TARGETS

National Targets

There is no national action plan for lapwing in the UK. The RSPB, however, has published an internal Species Action Plan for lapwing. Its objectives are:

- To ensure that the England and Wales breeding population of lapwing in 2008 is no lower than that estimated by the 1998 survey in England and Wales.
- To maintain the lapwing as a widely distributed species (occupying around 1500 ten km squares in the UK).
- In the long term, to see a sustained and measurable increase in the numbers and distribution of breeding lapwings.

A Vision for the Peak District

The lapwing has declined alarmingly in the Peak District in the last 30 years, so that its distinctive 'pee-weet' call and dramatic display flight, once one of the commonest sounds and sights on upland farms, is now absent in many areas and is in danger of disappearing altogether. Intimately linked with farmland, the future for the lapwing in the Peak District rests with everyone - policy makers, conservation agencies, farmers and landowners. Together we need to implement actions which will maintain the existing population in the short term and aim to see a measurable increase in population and range over the next 10 years.

OBJECTIVES AND TARGETS

Objective 1

Maintain the existing breeding population and range, as estimated in 2000.

Target

Bring 50% of all lapwing breeding sites into favourable conservation management by 2005, and 100 % by 2010.

Objective 2

Achieve a measurable and sustained increase in both the numbers and range of breeding lapwing by 2010.

Target

Increase breeding numbers on 50% of targeted sites and increase the number of breeding sites by 10 % by 2010.

Main Factors Likely to Affect Achievement of Targets

Land Management

Implementation of the Rural Development Regulation and reform of the Common Agricultural Policy.

Effectiveness of agri-environment and conservation scheme prescriptions.

High land prices – forcing intensive management following purchase of land.

Resources and Financial Incentives

Availability of funding for agri-environment and conservation scheme agreements.

Adequacy of financial incentives within conservation agreements.

Availability of funding for survey, awareness raising programme and negotiation of conservation agreements.

Planning and Regulation

Planning policy.

Conflicts with Other Conservation Priorities

Conflicts between lapwing habitat and other ecological conservation priorities when (a) considering woodland creation proposals in moorland fringe areas, and (b) lapwing breed in botanically high quality grassland or moorland.

The potential conflicts with archaeology/landscape, for example in relation to any increase in arable/ fodder crops.

Others

Lack of a strategy for safeguarding sites of particular wildlife importance where this cannot be achieved through the normal channels of negotiation.

Threats to lapwing in its wintering habitat.

Predation of chicks and eggs.

ACTIONS

Key to the achievement of the proposed targets are the actions relating to:

- survey and compilation of a comprehensive list of lapwing breeding sites, coupled with negotiations to secure appropriate land management (Actions LW1 - 4 and 24 - 28);
- awareness-raising and training measures (LW14 – 21);
- ensuring agri-environment and conservation schemes provide adequate financial incentive and appropriate management prescriptions to safeguard lapwing habitat (LW23);
- the continuation of re-wetting/slotting trials and their expansion if appropriate (LW10), and
- appropriate predator control measures (LW9 and 20).

	ACTIONS	TIMESCALE	LEAD AGENCY & Partners
DATA COLLATION AND SURVEY			
	Data Collation		
LW1	Collate existing information on lapwing. (Objectives 1 and 2)	2001	**RSPB**/EN/PDNPA WTs/LRCs Voluntary Sector
LW2	Compile an 'inventory' of lapwing breeding sites including all known birds and breeding pairs, and their 'Wildlife Site' status, and initiate a system for regular up-dating. (Objective 1)	2001	**RSPB**/BBAPG
	Survey		
LW3	Identify priority sites for survey. (Objective 1)	2001	**RSPB**/ Bird Study Groups
LW4	Carry out a co-ordinated survey of all known breeding lapwing sites within the entire BAP area. (Objective 1)	2001	**RSPB**/ Bird Study Groups

EVALUATING THE IMPORTANCE AND CONDITION OF SITES

Evaluating Importance and Identifying Key Sites

LW5	Agree methodology for the evaluation of 'Wildlife Site' status. (Objectives 1 and 2)	2001	**BBAPG**

Defining Favourable Condition

LW6	Agree definitions of favourable condition for the range of lapwing breeding sites in the Peak District. (Objectives 1 and 2)	2001	**BBAPG**
LW7	Agree guidelines for the appropriate management needed to achieve favourable condition and enhancement of lapwing breeding sites. (Objectives 1 and 2)	2001	**BBAPG**

RESOURCES

LW8	Seek resources to carry out surveys, awareness raising and negotiation of agreements in collaboration with other grassland and bird action plans. (Objectives 1 and 2)	Autumn 2001	**RSPB**/EN/ PDNPA
LW9	Seek funding to employ a full time gamekeeper on the Leek Moors. (Objective 1 and 2)	2002	**RSPB**/EN/PDNPA

RESEARCH

LW10	Continue re-wetting/slotting machine research project at Padfield and expand if results are positive. (Objectives 1 and 2)	2002 - 2004	**RSPB**/MAFF/NWW
LW11	Ensure that the results of research into the effects of ivermectin on invertebrate communities associated with animal dung are implemented at a local level. (Objectives 1 and 2)	2001 onwards	**WEG**
LW12	Continue with nest guard trials. (Objectives 1 and 2)	2001 onwards	**RSPB**

MONITORING

LW13	Repeat co-ordinated lapwing surveys in 2005 and 2010. Ensure that the information is used to update the lapwing 'inventory'. (Objectives 1 and 2)	2001 - 2010	**RSPB**/Bird Study Groups

AWARENESS RAISING

LW14	Share information on the wildlife importance and management needs of key lapwing conservation and restoration sites with the landowners/managers, including feedback from surveys. (Objectives 1 and 2)	2001 onwards	**RSPB**/EN/PDNPA/NT FWAG/MAFF/WTs
LW15	Arrange bi-annual training days for all farm conservation advisers to update on lapwing habitat requirements and promote proactive targeting of sites within the 'inventory'. (Objectives 1 and 2)	2001	**RSPB**/EN/PDNPA MAFF/FWAG
LW16	Encourage, through posters and media publicity, public participation in the co-ordinated survey, e.g. 'lapwing hotline' to report sightings. (Objectives 1 and 2)	2001	**RSPB**/BBAPG/MAFF
LW17	Produce a Lapwing Recovery Project leaflet and posters to be circulated amongst landowners and managers. (Objectives 1 and 2)	2001	**RSPB**/NFU/MAFF/Bird Study Groups

LW18	Produce a slide pack and talk and use to promote lapwing conservation to farmer/landowner clubs, group branches and organisations e.g. NFU branch talk circuits. (Objectives 1 and 2)	January 2002 - 2005	**RSPB**/NFU/MAFF
LW19	Organise a series of annual farm demonstration days to promote successful lapwing agri-environment schemes/management agreements. (Objectives 1 and 2)	2002- 2005	**BBAPG**/MAFF/PDNPA NFU
LW20	Run a series of training days for landowners, promoting legal and effective predator control. (Objectives 1 and 2)	2002 - 2005	**BBAPG**
LW21	Promote suitable moorland management for lapwing, specifically heather burning and other appropriate rotational management. (Objectives 1 and 2)	2002	**BBAPG**

CONSERVATION ACTION AND INCENTIVES

Designation

LW22	Consider lapwing key sites in any programme of acquisition/lease/management of nature reserves including NNRs and LNRs. (Objectives 1 and 2)	2001 onwards	**EN/LAs** (joint leads) PDNPA/WTs/RSPB/NT

Grant Schemes

LW23	Consider recommending a review of all agri-environment and conservation schemes to ensure that: *Management prescriptions include specific benefits to lapwing and include flexible site-specific measures *Payments consider inclusion of financial measures to encourage a shift from sheep to cattle *Management prescriptions and payments encourage an increase in the area of spring drilled crops and bare fallows, where appropriate_(Objectives 1 and 2)	2002 - 2010	MAFF/EN/PDNPA WEG/BBAPG

Negotiation and Review of Agreements

LW24	Review management of all lapwing breeding sites within SSSIs. Where necessary agree revised management regimes with owners/managers, through appropriate mechanisms, to ensure maintenance/restoration of favourable condition and site extension. (Objectives 1and 2)	2001 - 2005	**EN**/RSPB
LW25	Negotiate appropriate agreements with landowners and managers of all key lapwing sites outside SSSIs and existing agreements, in order to achieve favourable condition of the site. (Objectives 1 and 2)	2002 – 2005	**RSPB/PDNPA**/EN MAFF/FWAG
LW26	Review management of lapwing breeding sites, which are in existing agreements, outside SSSIs. Where necessary agree revised management regimes with owners/managers to ensure that favourable condition is being achieved. (Objectives 1 and 2)	2002 – 2005	RSPB/PDNPA/EN/MAFF
LW27	Negotiate appropriate agreements on sites adjacent to lapwing colonies or sites with potentially suitable habitat, to facilitate favourable management. (Objective 2)	2003 – 2005	RSPB/PDNPA/EN MAFF/FWAG
LW28	Review whole holding agreements which include unprotected lapwing breeding sites. Consider the opportunities for amending the agreement to incorporate their safeguard, enhancement and extension. (Objective 1 and 2)	2002 - 2005	RSPB/PDNPA/MAFF

	Land Acquisition		
LW29	Consider negotiating purchase/lease of priority moorland fringe habitats of importance for lapwing where this would be the most effective way of achieving conservation and when a negotiated conservation solution has not succeeded. (Objectives 1 and 2)	2001 onwards	PDNPA/EN/WTs/RSPB NT
	Direct Action		
LW30	On land owned by public or conservation bodies, ensure that: *Management maintains and where possible enhances lapwing breeding and feeding habitats *Options for the restoration and creation of lapwing breeding and feeding habitats are reviewed *Opportunities for involvement of local communities in site management are taken where possible (All Objectives)	2001 onwards	PDNPA/EN/LAs/FC NT/WTs
LW31	Consider the opportunities for increased safeguard of wader migratory sites. (Objectives 1 and 2)	2001 onwards	**RSPB**/PDNPA/EN/WTs NT/Bird Study Groups
LW32	On re-seeded leys, use volunteers to mark and move nests during in-field machinery operations. (Objectives 1 and 2)	2002 - 2010	**RSPB**/Bird Study Groups
LW33	If nest guards prove successful (RSPB trial elsewhere), produce and disseminate nest guards to key sites, where grazing levels cannot be controlled. (Objectives 1 and 2)	2002	**RSPB**/Bird Study Groups
REGULATION			
	Planning		
LW34	Ensure all planning applications and General Development Orders are adequately assessed in relation to their impact on lapwing breeding sites; that loss or damage is avoided; and that opportunities for the enhancement or creation of key habitat is considered in relevant planning decisions. (Objectives 1 and 2)	2001 onwards	PDNPA/EN/WTs/LAs
	Pollution Control and Waste Management		
LW35	Review procedures and consultation processes in relation to the spreading of paper pulp. (Objectives 1 and 2)	2001	**EA**/WTs/PDNPA/EN LAs
LW36	Ensure good practice is followed in disposing of sheep dip, avoiding lapwing breeding sites. Implement by continuing with an awareness raising strategy amongst land managers; continuing the programme of licensing; extending consultation procedures for disposal applications to the whole of the Peak District and, where necessary, by enforcement action. (Objectives 1 and 2)	2001 onwards	**EA**/LAs/PDNPA
	Other Regulatory Mechanisms		
LW37	Ensure that all woodland planting proposals avoid planting on lapwing breeding sites. (Objectives 1 and 2)	2001 onwards	**FC**/MAFF/LAs/WTs EN/PDNPA

RESOURCES

It is envisaged that many of the actions proposed will be carried out by the relevant organisations using current resources. These include:

- continuing investment by landowners and managers in managing their land sympathetically for wildlife;
- EN's programme of SSSI management and designation and their grant and management agreement schemes;
- MAFF's Environmentally Sensitive Area and Countryside Stewardship schemes;
- the RSPB's surveys and advisory work;
- volunteer surveys;
- the PDNPA's advisory and grants service for landowners/managers and its rolling programme of special conservation projects;
- FWAG and the WTs' advisory services;
- continuing management of lapwing habitat in the ownership of conservation organisations, public bodies (EN, NT, WTs, LAs, PDNPA) and WCs.

Additional resources are likely to be required:

- for survey work (2001) and negotiations (2002 - 2005);
- to provide adequate financial incentives for the conservation and restoration management of lapwing habitat (2001 onwards);
- for a programme of awareness raising;
- to aid in the production of the proposed registers (2001 onwards).

The RSPB, PDNPA and EN are currently seeking resources for a Ground-nesting Bird Habitat Project (to run from 2001 - 2004) which would specifically target lapwing conservation and the safeguarding and restoration of lapwing breeding and feeding habitats. The PDNPA and EN are currently seeking resources for a continuation of the Pastures Project, to run during 2001/2002, aimed at surveying and securing high quality sites within appropriate agreements. This may also have implications for lapwing conservation.

TREND IN THE PEAK DISTRICT:
Severe decline in the South Pennines in the last 10 years, probably in the order of 50%.

ESTIMATED POPULATION IN THE PEAK DISTRICT:
A quarter of the South Pennines population - approximately 200 pairs.

NATIONAL BAP STATUS:
Species of Conservation Concern

ASSOCIATED PEAK DISTRICT ACTION PLANS:
Habitats: Nesting - Heather Moorland. Feeding - Hay Meadows, Rush Pasture, Unimproved Pasture, Rough Grazing.
Species: Curlew, Lapwing.

INTRODUCTION

The twite is arguably the bird of highest conservation priority within the Peak District owing to its rarity and recent severe population decline. Dependent on moorland for nesting and moorland fringe habitats for feeding, the twite is very vulnerable to habitat change. In England, the twite is restricted as a breeding species to the uplands of the South Pennines. Approximately a quarter of the South Pennine population breeds within the Peak District. A small, brown finch, the twite is one of only two British birds that have a diet consisting entirely of seeds. This has been the cause of its demise. As hay meadows, traditional lightly grazed pastures and unmanaged sites have disappeared, so too has the supply of late summer seeds on which the twite depends.

Formerly widespread across the entire moorland area, twite now exhibit a disjunct north/south population base. A small and declining population persists on the North Staffordshire/Cheshire border, with the core population in the north of the Dark Peak. Notable breeding colonies occur around Digley, Winscar Reservoir, Butterley Reservoir, Deer Hill and Wessenden. An estimated 50 % decline since 1990 has been accompanied by a severe range reduction and twite are now absent from the Eastern Moors and are virtually extinct in the Dark Peak south of Longdendale with the exception of a few isolated colonies.

The English population, estimated at between 600 - 1200 pairs, is the most southerly in the European Community and is entirely separate from the larger Scottish population. As well as being recognised as of international importance, the twite is a barometer of the quality and extent of upland hay meadows and pastures (priority UK Biodiversity Action Plan habitats) as the future of the two are inextricably linked.

ADVERSE IMPACTS

	Historic	Current
Land Management – Feeding Sites		
The loss of seed food associated with upland hay meadows and species-rich pasture, especially species such as common sorrel. This is linked to:		
Conversion from hay to silage production.	✓	✓✓
Re-seeding and fertilising of species-rich pasture.	✓	✓✓
Heavy grazing reducing seed production.	✓	✓✓
Decline of arable and fodder crops in the uplands.	✓✓	✓
Early summer cutting of roadside verges, on which twite feed in the absence of hay meadows.		✓
Regular mowing of reservoir banks and dams, reducing the period of seed availability at such sites.	✓	✓
Land Management – Breeding Sites		
Eradication of bracken stands, in which twite often nest.		✓
Overgrazing and over-burning of heather moorland, reducing the area of tall heather for nesting. This is now less of a problem since the introduction of the Environmentally Sensitive Area schemes.	✓✓	✓

An impact ✓ *Significant impact* ✓✓

CURRENT ACTION

Designated Sites

- The Dark Peak, Goyt Valley and Leek Moors SSSIs are all recognized as being important for their assemblages of upland breeding birds including twite.
- Twite are considered as being a species of interest within the South Pennines Moors SPA (incorporating all of the above SSSIs) although they are not a qualifying species in terms of the designation. Implementation of the EU Birds Directive in the SPA should impart increased protection for the twite's Peak District habitat.

New Initiatives

- The RSPB has submitted proposals to MAFF to fund arable break crops, wildlife seed plots and reversion to hay, via a special project unique to the South Pennines, within Countryside Stewardship (CS).

Sites Owned and Managed by Conservation Organisations

- Re-creation of hay meadows on a tenanted farm owned by the NT in the Edale Valley aims to increase twite feeding habitat.

Sites within Conservation Agreements

- A large number of hay meadows are being managed sympathetically under agri-environment and conservation scheme agreements, as a result of the PDNPA's Hay Meadow Project (HMP) and work by Environmentally Sensitive Area (ESA) and CS Project Officers.
- The RSPB is working with farmers to facilitate management of hay meadows under the CS scheme through the Hade Edge Community Project.
- Overgrazing of moorlands is being successfully addressed through the ESA schemes.

Awareness Raising

- The RSPB has produced a twite management sheet for landowners/land managers and conservation organisation staff and has run courses on twite management for the NT, the PDNPA and MAFF.
- The RSPB Hade Edge Community Project takes opportunities for awareness raising about twite ecology and management needs.

ACTION PLAN OBJECTIVES AND TARGETS

National Targets

There is no national action plan for twite in the UK. The RSPB, however, has published an internal Species Action Plan for twite. Its objectives are:

- To maintain the breeding numbers and distribution (based on the 1999 survey) of twite in the UK.
- In the long term, to recover the distribution of twite into areas where there has not been irretrievable habitat loss.

A Vision for the Peak District

Intimately linked with both hay meadows and heathland, the future for twite in the Peak District seems at best uncertain. Co-ordinated and targeted action between all involved will be essential if we are not to lose this special 'moorland linnet' and with it a symbol of upland farming. The objectives and targets respect both the short and long term RSPB aims.

OBJECTIVES AND TARGETS

Objective 1

Maintain the existing breeding population and range, as estimated in 2000.

Target

Bring all known twite feeding sites into favourable conservation management by 2005.

Objective 2

Achieve a measurable and sustained increase in both the numbers and range of breeding twite, by increasing the area of suitable feeding sites by 2010.

Target

Increase the number of seed-rich feeding sites within 2 km of the moorland edge, in the current and former range of breeding twite, by 20 % by 2010.

Main Factors Likely to Affect Achievement of Targets

Land Management

Implementation of the Rural Development Regulation and reform of the Common Agricultural Policy.

Effectiveness of agri-environment and conservation scheme prescriptions.

High land prices – forcing intensive management following purchase of land.

Resources and Financial Incentives

Availability of funding for survey, awareness raising and negotiation of conservation agreements.

Availability of funding for agri-environment and conservation scheme agreements.

Adequacy of financial incentives within agri-environment and conservation agreements.

Planning and Regulation

Planning policy.

Conflicts with Other Conservation Priorities

Conflicts between the habitat requirements of twite and other ecological conservation priorities e.g. when considering bracken stands in the moorlands.

The potential conflicts with archaeology/landscape particularly in relation to the re-introduction of arable/fodder crops and the creation of small scale wildlife seed plots.

Others

Lack of a strategy for safeguarding sites of particular wildlife importance where this cannot be achieved through the normal channels of negotiation.

Threats to twite in its wintering habitat.

Predation of chicks and eggs.

ACTIONS

Key to the achievement of the proposed targets are the actions relating to:

- survey and compilation of a comprehensive list of twite breeding and feeding sites (particularly hay meadows on the moorland fringe) coupled with negotiations to secure appropriate land management (Actions TW1 - 4 and 19 - 23);
- awareness-raising and training measures (TW10 – 16), and
- ensuring agri-environment and conservation schemes provide adequate financial incentive and appropriate management prescriptions to safeguard twite habitat (TW18).

	ACTIONS	TIMESCALE	LEAD AGENCY & Partners
DATA COLLATION AND SURVEY			
	Data Collation		
TW1	Collate existing information on twite. (Objectives 1 and 2)	2001	**RSPB**/EN/PDNPA WTs/LAs/LRCs Voluntary Sector
TW2	Compile an 'inventory' of twite breeding and feeding sites , including their 'Wildlife Site' status, and initiate a system for regular up-dating. Ensure linkage between the twite, PDNPA hay meadow inventory and any other known hay meadow records. (Objective 1)	2001	**RSPB**/BBAPG
	Survey		
TW3	Identify priority sites for survey. (Objective 1)	2001	**RSPB**/Bird Study Groups
TW4	Carry out a co-ordinated survey of all breeding and feeding sites. (Objective 1)	2001	**RSPB**/Bird Study Groups

EVALUATING THE IMPORTANCE AND CONDITION OF SITES

Evaluating Importance and Identifying Key Sites

TW5	Agree methodology for the evaluation of 'Wildlife Site' status. (Objectives 1 and 2)	2001	**BBAPG**

Defining favourable condition

TW6	Agree definitions of favourable condition for the range of twite breeding and feeding sites in the Peak District. (Objectives 1 and 2)	2001	**BBAPG**
TW7	Agree guidelines for the appropriate management needed to achieve favourable condition and enhancement of twite breeding and feeding sites. To include: *Consideration of re-introduction of arable/fodder crops *Small scale wildlife seed plots *Uncut field margins/corners *Twite friendly management of reservoir banks and dams *Late meadow cutting (Objectives 1 and 2)	2001	**BBAPG**/WCs

RESOURCES

TW8	Seek resources to carry out survey and negotiation of agreements in collaboration with other grassland and bird action plans. (Objectives 1 and 2)	2001	RSPB/EN/PDNPA

MONITORING

TW9	Repeat co-ordinated twite surveys in 2005 and 2010. Ensure that the information is used to update the twite 'inventory'. (Objectives 1 and 2)	2001 - 2010	**RSPB**/Bird Study Groups

AWARENESS RAISING

TW10	Share information on the wildlife importance and management needs of key conservation and restoration sites with landowners/managers, including feedback from surveys. (Objectives 1 and 2)	2001 onwards	**RSPB**/EN/PDNPA/NT WTs/FWAG/MAFF
TW11	Run bi-annual training courses for all farm conservation advisers to update on twite habitat requirements and promote proactive targeting of sites within the 'inventory'. (Objective 1)	2001	**RSPB**/EN/PDNPA/MAFF FWAG
TW12	Carry out an awareness raising campaign to highlight the decline in twite and to raise profile for targeted conservation action. (Objectives 1 and 2)	2002-2005	**RSPB**/PDNPA/EN
TW13	Produce and disseminate a Twite Recovery leaflet to a large land-owning audience. (Objective 2)	January 2002	**RSPB**/PDNPA/EN/NFU MAFF/Bird Study Groups
TW14	Produce a slide pack and talk, and use to promote twite conservation to farmer/landowner clubs, group branches and organisations eg. NFU branch talk circuits. (Objectives 1 and 2)	January 2002-2005	**RSPB**/PDNPA/EN MAFF/NFU
TW15	Organise a series of annual farm demonstration days to promote successful twite agri-environment schemes and management agreements. (Objective 1)	2002 - 2005	**RSPB**/PDNPA/EN MAFF
TW16	Set up a 'Showing twite to people' viewing scheme with the aim of disseminating messages regarding ecology and management for twite to landowners and other members of the public. (Objective 1)	Summer 2003	**RSPB**/PDNPA/EN

CONSERVATION ACTION AND INCENTIVES

Designation

TW17	Consider twite key sites in any programme of acquisition/lease/management of nature reserves including NNRs and LNRs. (Objectives 1 and 2)	2001 onwards	**EN/LAs**(joint leads) PDNPA/WTs/RSPB/NT

Grant Schemes

TW18	Consider recommending a review of agri-environment and conservation schemes to ensure that: *Management prescriptions and payments address wildlife seed plots, arable break crops, reversion of improved pasture to seed rich pasture, and consider a supplement for late cutting of hay (Aug 1st). (Objectives 1 and 2)	2001 - 2010	MAFF/EN/PDNPA/WEG BBAPG

Negotiation and Review of Agreements

TW19	Review management of all twite breeding and feeding sites within SSSIs. Where necessary agree revised management regimes with owners/managers, through appropriate mechanisms, to ensure maintenance and restoration of favourable condition and site extension. (Objectives 1 and 2)	2001 - 2005	**EN**/RSPB
TW20	Negotiate appropriate agreements with landowners and managers of all key twite sites outside SSSIs and existing agreements, in order to achieve favourable condition of the site. (Objectives 1 and 2)	2002 - 2005	RSPB/PDNPA/MAFF
TW21	Review management of twite breeding and feeding sites in existing agreements, outside SSSIs. Where necessary agree revised management regimes with owners and managers to ensure that favourable condition is being achieved. (Objectives 1 and 2)	2002 - 2005	RSPB/PDNPA/MAFF FWAG
TW22	Review whole holding agreements which include unprotected twite breeding and feeding sites. Consider the opportunities for amending the agreement to incorporate their safeguard, enhancement and extension. (Objective 1 and 2)	2002 - 2005	RSPB/PDNPA/MAFF
TW23	Approach owners to re-create feeding sites elsewhere in the twite's current and former range and negotiate agreements as appropriate. (Objective 2)	2003 - 2005	RSPB/PDNPA/EN MAFF/FWAG

Land Acquisition

TW24	Consider negotiating purchase/lease of priority moorland fringe sites of importance for twite where this would be the most effective way of achieving conservation and when a negotiated conservation solution has not succeeded. (Objectives 1 and 2)	2001 onwards	PDNPA/EN/WTs/RSPB NT

Direct Action

TW25	On land owned by public and conservation bodies ensure that: *Management maintains and, where possible, enhances twite breeding and feeding sites *Opportunities are taken for twite habitat restoration and creation where appropriate *Opportunities for involvement of local communities in site management are taken where possible (Objectives 1 and 2)	2001 onwards	PDNPA/WTs/NT/LAs EN/FC

TW26	Consider the need and practicalities of supplementary winter feeding of grain to encourage twite to over-winter in areas with suitable breeding habitat. Implement if appropriate. (Objective 2)	Winters 2003-2005	**BBAPG**
TW27	Agree a strategy for delayed road-side verge cutting in key twite areas. (Objective 2)	Autumn 2001	**RSPB/LAs/HA** (joint leads)

REGULATION

Planning

TW28	Ensure all planning applications and General Development Orders are adequately assessed in relation to their impact on twite breeding and feeding sites; that loss or damage to the sites is avoided; and that opportunities for the enhancement or creation of key habitats are considered in relevant planning decisions. (Objectives 1 and 2)	2001 onwards	PDNPA/EN/LAs/WTs

Pollution Control & Waste Management

TW29	Review procedures and consultation processes in relation to the spreading of paper pulp. (Objectives 1 and 2)	2001	**EA**/LAs/PDNPA/EN WTs

Other Regulatory Mechanisms

TW30	Ensure that all woodland planting proposals avoid adverse effects of planting on twite breeding and feeding sites. (Objectives 1 and 2)	2001 onwards	**FC**/LAs/EN/PDNPA MAFF
TW31	Ensure that bracken control does not take place in the vicinity of twite breeding sites. (Objective 1)	2001 onwards	**EA**/EN/PDNPA/MAFF

RESOURCES

It is envisaged that many of the actions proposed will be carried out by the relevant organisations using current resources. These include:

- continuing investment by landowners and managers managing their land sympathetically for wildlife;
- EN's programme of grant and management agreement schemes;
- MAFF's Environmentally Sensitive Area and Countryside Stewardship schemes;
- the RSPB's surveys and advisory work;
- volunteer surveys;
- the PDNPA's advisory and grants service for landowners/managers and its rolling programme of special conservation projects;
- FWAG and the WTs' advisory services;
- continuing management of twite habitat in the ownership of conservation organisations, public bodies (EN, NT, WTs, LAs, PDNPA) and WCs.

Additional resources are likely to be required:

- for survey work (2001), and negotiations (2002 - 2005);
- to provide adequate financial incentives for the conservation and restoration management of twite feeding sites (2001 onwards);
- for a programme of awareness raising (2001 onwards);
- to aid in the production of the proposed registers (2001 onwards).

The RSPB, PDNPA and EN are currently seeking resources for a Ground-nesting Bird Habitat Project (to run from 2001 - 2004) which would specifically target twite feeding sites. The PDNPA and EN are currently seeking resources for a continuation of the Pastures Project, to run during 2001/2002, aimed at surveying and securing high quality sites within appropriate agreements. This may also have implications for twite conservation.

WHITE-CLAWED CRAYFISH

TREND IN THE PEAK DISTRICT:
Major losses in the last 2 decades

ESTIMATED POPULATION IN THE PEAK DISTRICT:
Confirmed presence in only 2 sites in the White Peak in 1997; present at one and possibly a second site on the South West Peak/Dark Peak boundary west of Chapel-en-le-Frith, and possibly also in a number of small streams in the west of the South West Peak Natural Area.

NATIONAL BAP STATUS:
Priority species

ASSOCIATED PEAK DISTRICT ACTION PLANS:
Habitats: River Corridor Habitats.
Species: Water vole.

INTRODUCTION

The white-clawed crayfish is the only species of freshwater crayfish which is native to the UK. Nationally it is widespread in clean streams, rivers and lakes in England and Wales, particularly in calcareous water. In the Peak District it occurs in the White Peak where, until recently, it was common. It occurs less widely in the Dark Peak and South West Peak where populations may be restricted by environmental parameters such as calcium content. It has probably been under-recorded as it tends to be active at night and spends much of the time hiding under stones. It is not often found unless searched for.

The white-clawed crayfish has suffered a serous decline in recent years and is subject to several major threats. Nationally, many populations have been lost since the 1970s, and an overall decline of 25 % has been estimated for the last 25 years. In the Peak District, the decline has been very noticeable in the White Peak, where it has been lost from a number of rivers including the Lathkill and Bradford and is confirmed at only two sites in the Rivers Dove and Manifold since 1997. Close to the South West/Dark Peak Natural Area boundary a thriving population exists in the Wash Brook near Chapel Milton. Crayfish are also known from a site near Chinley although the species is unknown. Further south, white-clawed crayfish are also thought to occur in the tributaries of the River Dane. Population trends in these areas are unknown but a decline in range is suspected.

The conservation importance of the white-clawed crayfish is illustrated by its status. It is a priority species in the UK Biodiversity Action Plan, is listed in Annexes IIa and IVa of the European Union Habitats and Species Directive and is protected under Schedule 5 of the Wildlife & Countryside Act (1981) in respect of sale and taking from the wild. Locally, it is listed in the Derbyshire Red Data Book. It has no economic importance, though its survival is closely linked to signal crayfish, which have been introduced to the Peak District on crayfish farms and have subsequently escaped. It is one of a threesome of high profile river species (the other two, water vole and otter, admittedly being somewhat more cuddly) whose conservation is easy to sell to the public, if not necessarily to land managers.

ADVERSE IMPACTS	Historic	Current
River Management		
Habitat modification and inappropriate river management (dredging, fishery management, unsuitable management of bankside and aquatic vegetation).	✓	✓✓
Low water flows as a result of water loss to mineshafts and soughs, ground and surface water abstraction and climate change.	✓	✓✓
Winter floods with associated problems of habitat modification as a result of sedimentation and siltation.	✓	✓
Connection of otherwise unconnected signal crayfish and white-clawed crayfish populations at times of flood.	✓	✓✓
Disease		
Crayfish plague (which can be transmitted by contaminated water or equipment, by fish or by the introduced crayfish species).	✓	✓✓
Invasive Species		
Release or escape of non-native crayfish into water-courses. These directly compete for food and habitat, and may kill white-clawed crayfish.	✓	✓✓
Pollution		
Pollution (particularly by pesticides, including sheep dip, and sewage).	✓	✓

An impact ✓ *Significant impact* ✓✓

CURRENT ACTION

Designated Sites

- White-clawed crayfish are included as a reason for notification of the Peak District Dales cSAC.

New Initiatives

- The White Peak Crayfish Action Group was formed in 1999 as a forum for discussion and action regarding crayfish conservation in the White Peak.
- The Signal Crayfish Initiative on the River Hamps has included weekends in both 1999 and 2000 when volunteers have removed signal crayfish from a stretch of the river using a combination of both trapping and stone turning.
- The EA (North West Region) are currently collecting information about crayfish populations in the Chinley area.

Sites Owned and Managed by Conservation Organisations

- The existing known White Peak white-clawed crayfish sites in the Rivers Dove and Manifold are owned by the National Trust.
- Management for white-clawed crayfish on the River Dove has been agreed between all the relevant agencies and land managers.

Research and Survey

- MAFF holds a registry of crayfish farms and monitors outbreaks of crayfish plague.
- There is a national research and development project on the control of signal crayfish.
- In 1999 the Buxton area and the Dove & Manifold tributaries were surveyed for signal crayfish.
- Signal crayfish in the Buxton area have been assessed for plague.
- Survey of the Bentley Brook (a tributary of the River Dove) for signal crayfish was carried out in March 2000, with a view to a possible control operation similar to that carried out on the River Hamps.
- A trial white-clawed crayfish breeding programme has been initiated on the River Lathkill with a view to larger scale introductions in subsequent years. This is part of the English Nature/Environment Agency 'Safeguarding Natura 2000 Rivers in the UK' project aimed at developing practical techniques to expand the range of white-clawed crayfish where suitable habitat is available, and is being carried out in partnership with Haddon Estates.

Awareness-raising

- A variety of awareness raising media have been used to publicise the issues of crayfish conservation, many initiated by the Environment Agency.

ACTION PLAN OBJECTIVES AND TARGETS

National Targets

- Attempt to maintain the present distribution by limiting the spread of crayfish plague, limiting the spread of non-native crayfish, and by maintaining appropriate habitat conditions.

A Vision for the Peak District

Historically children searched for white-clawed crayfish under stones and in crevices in stream and river banks. This is now an activity of the past, with the white-clawed crayfish a species tottering on the brink of survival within the Peak District. If we are to keep it as a constituent part of our biodiversity then urgent action is needed to both safeguard existing populations and allow for expansion in the range and numbers of the species. Although much of its demise may be due to crayfish plague and the spread of non-native crayfish, it is also very sensitive to water quality and habitat modification. Loss of this species from Peak District rivers and streams would be a sad reflection on our management of this crucial habitat.

OBJECTIVES AND TARGETS

Objective 1

Safeguard the existing populations of white-clawed crayfish.

Target

Ensure all known white-clawed crayfish sites are in favourable conservation management by 2005, with the aim of maintaining white-clawed crayfish numbers and distribution and also habitat and water quality.

Objective 2

Extend the range and numbers of existing populations of white-clawed crayfish.

Targets

Identify the opportunities for range extension by 2005 .

By 2010 achieve an increase in the length of river with optimal habitat/water quality/quantity in areas likely to be colonised by known populations (the length to be determined following the identification of opportunities.)

By 2010 achieve an increase in the range of white-clawed crayfish, dependent on the length of habitat identified by survey as being suitable following necessary works.

Objective 3

Create new colonies of white-clawed crayfish within their former known Peak District range.

Targets

Achieve a self-sustaining population in the area of the Rivers Lathkill and Bradford by 2005.

Investigate the possibilities for introductions in other suitable areas by 2005.

If investigations prove positive, introduce white-clawed crayfish to suitable areas by direct introduction by 2010, or by 2015 following necessary habitat/water quality/quantity modifications.

Main Factors Likely to Affect Achievement of Targets

Planning and Regulation

Planning and licensing policies.

Invasive Species

Difficulty in controlling signal populations.

Some landowners are protective of their signal crayfish.

Public attitude towards culling signal crayfish.

Practical Difficulties and Gaps in Knowledge

Surveys are difficult and not standardised and so are not always comparable.

Indirect means of transmission of plague are difficult to control.

Sourcing donor populations for re-introductions.

In-river obstructions preventing expansion of known white-clawed crayfish populations.

Pollution/Climate Change

Continuing risk of pollution events.

Climate change.

Others

Genetics of re-introduced populations.

Optimal habitat/water conditions conflicting with other river users.

ACTIONS

Key to the achievement of the proposed targets are the actions relating to:

- Establishing details of population size and range within the South West Peak Natural Area (Actions CF3 and CF4);
- The control of signal crayfish, which is deemed crucial to the survival of the native white-clawed crayfish (CF9- 13) ;
- The control of water quality and quantity within the relevant catchments (CF37 - 40 and CF44);
- The facilitation of expansion of populations into adjacent lengths of river (CF5, CF19 and CF28), and
- A re-introduction programme (CF6, CF7, CF19, CF29 and CF30).

	ACTIONS	TIMESCALE	LEAD AGENCY & Partners
DATA COLLATION AND SURVEY			
	Data Collation		**EN/EA** (joint lead) PDNPA/WTs/NT/LAs LRCs/Voluntary Sector
CF1	Collate existing information on white-clawed and signal crayfish. (Objectives 1, 2 and 3)	2001 onwards	
CF2	Compile a register of white-clawed and signal crayfish sites and initiate a system for regular up-dating. (Objective 1)	2001	**EN/EA** (joint lead)
	Survey		
CF3	Establish the crayfish species present at Chinley. (Objective 1)	2001	**EA**
CF4	Survey tributaries of the River Dane for white-clawed crayfish. (Objective 1)	2002 - 2005	**ABAPG**/Universities
CF5	Carry out habitat and water quality and quantity surveys in reaches adjacent to known white-clawed crayfish populations.(Objective 2)	2002/2003 onwards	**EA**/EN
CF6	Carry out habitat and water quality and quantity surveys of potential sites for re-introductions. (Objective 3)	2002/2003	**EA**/EN
EVALUATING THE IMPORTANCE AND CONDITION OF SITES			
	Evaluating Importance and Identifying Key Sites		
CF7	Identify potential refuges for white-clawed crayfish re-introductions that are 'signal proof'. (Objectives 1, 2 and 3)	2003 - 2005	**EN/EA** (joint leads)
RESEARCH			
CF8	Encourage further research into crayfish ecology at local universities through student projects. (Objectives 1, 2 and 3)	2001 onwards	**WPCAG**
	INVASIVE SPECIES		
CF9	Continue to monitor the spread of signal crayfish where these threaten known populations or areas suitable for colonisation, using standardised techniques. (Objectives 1 and 2)	2001 onwards	**NT**(R. Hamps) **EN/EA** (joint leads at other sites)
CF10	Continue regular manual control programme of signals on the River Hamps using volunteers. (Objective 1)	2001 onwards	NT/WPCAG

CF11	Consider control of other signal populations where these threaten known white-clawed crayfish populations or areas suitable for colonisation, and initiate control measures if appropriate. (Objectives 1 and 2)	2001 onwards	**WPCAG**
CF12	Investigate bylaw enforcement through angling clubs and water bailiffs. Contact angling interests to ensure compliance with new bylaws banning the use of any crayfish as angling bait. (Objective 1)	2001 onwards	**EA**
CF13	Ensure that all fish used for re-stocking come from signal crayfish-free hatcheries. Negotiate with angling interests to ensure correct sourcing. (Objective 1)	2001 onwards	**EA**

MONITORING

CF14	Monitor known white-clawed crayfish populations using standard technique every 3 years. (Objective 1)	2001 onwards	**EN**(SSSI) **EA**(non SSSI)
CF15	Monitor water quality/quantity at known sites every 3 years. (Objective 1)	2001 onwards	**EA**
CF16	Monitor habitat structure of reaches with known populations every 3 years. (Objective 1)	2001 onwards	**EN**(SSSI) **EA**(non SSSI)
CF17	Undertake monitoring of main tributaries of River Dove for white-clawed crayfish. (Objective 2)	2001 onwards	**EN/EA** (joint lead)
CF18	Monitor presence/numbers of white-clawed crayfish in areas suitable for colonisation outside of the River Dove catchment every 3 years. (Objective 2)	2005/2006 onwards	**EN**

AWARENESS RAISING

CF19	Share information on white-clawed crayfish and their management needs with the landowners/managers of existing sites and sites suitable for range expansion or re-introductions, including feedback from surveys. (Objectives 2 and 3)	2001 onwards	**EN**/PDNPA/NT
CF20	Continue with an awareness raising strategy on white-clawed crayfish conservation targeted at the general public and at angling clubs, and through: *Local press releases and school packs *Making available interpretive information at key river access points. (Objective 1)	2001 onwards	**EA**
CF21	Encourage increased awareness of white-clawed crayfish and sharing of best conservation management practice amongst BACA, NAAC, NFU, MAFF, FWAG. (Objectives 1, 2 and 3)	2001 - 2002	**EA**/NAAC/BACA/NFU MAFF/FWAG
CF22	Increase awareness amongst riparian owners and angling clubs of the implications of using disease infected bait. (Objective 1)	2001 onwards	**EA**
CF23	Ensure that riparian landowners are aware of their legal responsibilities under the 1981 Wildlife & Countryside Act (as amended) with regard to the release of signal crayfish, and the associated penalties. (Objective 1)	2001 onwards	**PDNPA/EN** (joint leads)

CONSERVATION ACTION AND INCENTIVES

Designations

CF24	Implement obligations under European (Natura 2000) legislation with respect to review of the Peak District Dales cSAC. (Objective 1)	2001 onwards	**EN**

CF25	Progress re-notification of the Dove Valley and Biggin Dale SSSI to include white-clawed crayfish as one of the criteria for notification. (Objective 1)	2002/2003	**EN**
CF26	Consider SSSI notification of other sites of known white-clawed crayfish populations. (Objective 1)	2002/2003	**EN**
CF27	Consider white-clawed crayfish sites in any programme of acquisition/lease/management of LNRs and NNRs. (Objectives 1 and 2)	2001 onwards	**EN/LAs** (joint leads) NT
	Negotiation and Review of Agreements		
CF28	Facilitate the expansion of known populations into suitable reaches, negotiating with landowners and managers over the adjustment of water quality/quantity or habitat as necessary, and by securing appropriate agreements. (Objective 2)	2004/2005 onwards	**PDNPA**/EN/EA
	Direct Action		
CF29	Continue with the Lathkill re-introduction programme. (Objective 3)	2001 onwards	**EN**
CF30	Introduce white-clawed crayfish to identified refugia. (Objective 3)	2005/2006	**EN**
CF31	Liaise with angling clubs to provide bleach disinfection facilities at key points on the River Dove and at other strategic locations. (Objective 1)	2001	**NT**
CF32	Consider restricting access to river fords in areas where crayfish plague is present. (Objective 1)	2001/2002	**LAs**
CF33	Sample known signal populations to determine whether any crayfish plague is present. (Objective 1)	2001/2002	**EA**
CF34	Following monitoring, take actions to adjust water quality/quantity of reaches with known populations if necessary. (Objective 1)	2001 onwards	**EA**
CF35	Following monitoring, take actions to adjust habitat structure of reaches with known populations if necessary. (Objective 1)	2001 onwards	**EN**(SSSI) **EA**(non SSSI)

REGULATION

	Planning		
CF36	Ensure all planning applications are adequately assessed in relation to their impact on white-clawed crayfish populations and habitat and that loss or damage is avoided. (Objectives 1 and 2)	2001 onwards	PDNPA/EN/WTs/LAs
	Pollution Control and Waste Management		
CF37	Compile a register of all Groundwater Regulation applicants, sheep farms and mobile dipping contractors and where appropriate determine their location in sensitive catchment(s). (Objective 1)	2001	**EA**
CF38	Locate and map regular sheep dipping sites in the Dove river catchment using information from the register. (Objective 1)	2002/2003	**EA/**MAFF
CF39	Continue with a targeted programme of farm visits in the river Dove catchment to ensure Groundwater Regulation compliance and suitability of any dipping facilities. (Objective 1)	2001 onwards	**EA**/NFU/MAFF
CF40	Continue to use chemical and biological monitoring in specific watercourses at risk from sheep dip pollution. (Objective 1)	2001 onwards	**EA**

	Licensing		
CF41	Ensure all works which affect rivers and streams in areas important for white-clawed crayfish are assessed beforehand and licensed if appropriate. (Objective 1)	2001 onwards	**EA**/EN/DETR
CF42	Ensure populations of white-clawed crayfish are monitored before and after all works which affect rivers and streams with important populations. (Objective 1)	2001 onwards	**EA**/EN
	Disease Control		
CF43	Control use of potentially infected bait through bylaw enforcement. (Objective 1)	2001 onwards	**EA**
	Other Regulatory Mechanisms		
CF44	Continue with the review of abstraction consents and licences in relation to rivers that fall within the Peak District Dales cSAC. (Objective 2)	2001 onwards	**EA**/EN

RESOURCES

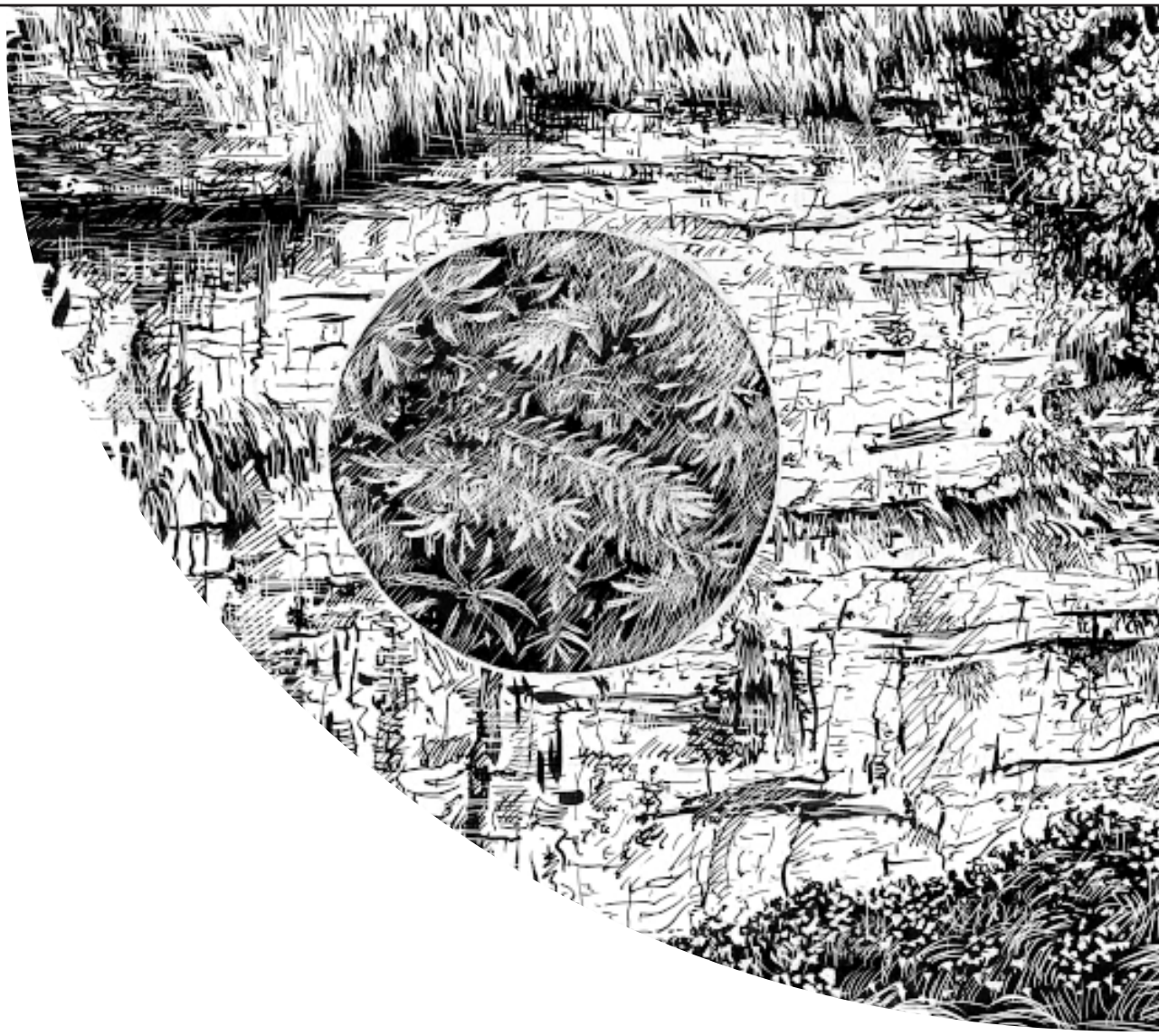
It is envisaged that the majority of the actions proposed will be carried out by the relevant organisations using current resources. These include:

- the EA's programme of water quality monitoring, coupled with their commitment to the reduction in water quality problems;
- the EA's review of water quantity with respect to the cSAC;
- the EA's regulation of sheep dip disposal;
- EN's programme of reviewing SSSI management and designation;
- EN's programme of work relating to crayfish conservation;
- EN's re-introduction project on the River Lathkill and the grant-aid through the 'Safeguarding Natura 2000 Rivers in the UK' project;
- the PDNPA's advisory service for landowners/managers;
- the NT's resource commitments for the conservation of white-clawed crayfish;
- volunteers, specifically with relation to the removal of signal crayfish;
- the commitment of the White Peak Crayfish Action Group.

Additional resources are likely to be required for:

- surveys of white-clawed crayfish populations, habitats and water quality and quantity (2002/2003 onwards);
- the re-introduction programme (2005/2006 onwards);
- monitoring signal crayfish populations and distribution (2001 onwards);
- the implementation of conservation measures with regard to signal crayfish (2001 onwards).

APPLEYARD'S FEATHER-MOSS



TREND IN THE PEAK DISTRICT:
Stable.

ESTIMATED POPULATION IN THE PEAK DISTRICT:
34 colonies in 8 White Peak dales.

NATIONAL BAP STATUS:
Priority Species

ASSOCIATED PEAK DISTRICT ACTION PLANS:
Habitats: Limestone Dales.

INTRODUCTION

Appleyard's feather-moss (*Brachythecium appleyardiae)* is a rare moss found within Derbyshire, so far, at only eight sites within the White Peak. Although this moss has also been found at one site in Somerset and one site in Wiltshire, the Peak District is the British stronghold for the species. Formerly Appleyard's feather-moss was thought to be endemic to Britain, but it has since been found in Germany and Northern Ireland.

At all its Peak District sites, Appleyard's feather-moss grows at the bottom of limestone cliffs under low overhangs, about 0.6 - 1m high. Inland cliffs form an integral part of the dales habitat, and it is likely that other populations of the species occur on cliffs where these very specific conditions are met. These low overhangs protect the species from both physical damage and direct rainfall.

Appleyard's feather-moss is provisionally classified as 'near threatened' in Britain, and 'vulnerable' in Europe. Derbyshire holds the largest populations of the species.

ADVERSE IMPACTS

- Scrub encroachment leading to shading out of the species.
- Unintentional damage by visitors and climbers.
- Unlicensed collection by bryologists.

CURRENT ACTION

Designated Sites

- Five of the eight Derbyshire sites are protected within SSSIs, all of which are also within the Peak District Dales cSAC.

Sites Owned and Managed by Conservation Organisations

- Of the five SSSI sites, two lie within the Derbyshire Dales NNR and are managed by EN and one is owned and managed by DWT.

Survey and Research

- A survey of the eight populations of the species within the White Peak is currently underway, and this will detail site specific management requirements.

ACTION PLAN OBJECTIVES AND TARGETS

National Targets

- Maintain populations at all extant sites, and increase the extent of these populations if appropriate and feasible.
- Establish by 2005 *ex situ* stocks of this species to safeguard extant populations.

A Vision for the Peak District

The Peak District is probably the world stronghold for Appleyard's feather-moss. Decline or loss of any Peak District sites would therefore be of global conservation concern. Thus, targets for this very special species are in line with those set nationally and the actions proposed have been devised to address the site specific needs for individual populations.
For such a globally rare moss *ex situ* stocks are often maintained in order to ensure the survival of the species. The action plan needs to consider the development of collection techniques using the Peak District populations, to meet national requirements for *ex situ* stocks.

OBJECTIVES AND TARGETS

Objective 1

Maintain the population and distribution of Appleyard's feather-moss within the Peak District.

Targets

Complete survey of known sites by 2001.

Secure favourable management for the species at all known sites by 2002.

Initiate monitoring programme by 2002.

Continue maintenance of favourable condition and amend management in the light of increased knowledge.

Objective 2

Consider the need to develop collection techniques using Peak District populations.

Target

Establish, by 2005, the need for developing collection techniques in the Peak District.

Main Factors Likely to Affect Achievement of Targets

Lack of appropriate knowledge of specific requirements for the species.

Lack of knowledge of collection techniques for *ex-situ* conservation.

Conflicts with other ecological conservation priorities in terms of management.

ACTIONS

Key to the achievement of the proposed targets are the actions relating to:

- the survey and monitoring of known sites (Actions AF3 and AF6)
- negotiation of appropriate management (AF9 and 10).

	ACTIONS	TIMESCALE	LEAD AGE & Partners
DATA COLLATION AND SURVEY			
	Data Collation		
AF1	Collate information on all known sites. (Objective 1)	2001	EN
AF2	Compile a register of sites and initiate a system for regular up-dating. (Objective 1)	2001	EN
	Survey		
AF3	Complete survey of eight known sites. (Objective 1)	2001	EN
EVALUATING THE IMPORTANCE AND CONDITION OF SITES			
	Defining Favourable Condition		
AF4	Agree definitions of favourable condition. (Objective 1)	2001	EN
AF5	Agree guidelines for the range of appropriate management needed to achieve favourable condition. (Objective 1)	2001	EN
MONITORING			
AF6	Initiate a monitoring programme for known sites and ensure results are collated and used to update the register. (Objective 1)	2001	EN

AWARENESS-RAISING

AF7	Share information on the wildlife importance and management needs of key sites with the landowners/ managers, including feedback from surveys. (Objective 1)	2001 onwards	**EN**/PDNPA
AF8	Consider the need for awareness raising amongst conservation organisation staff with regard to the species' ecology and management requirements and implement if necessary. (Objective 1)	2002	**EN**

CONSERVATION ACTION AND INCENTIVES

Negotiation and Review of Agreements

AF9	Review management of all sites within SSSIs. Where necessary agree revised management regimes with owners/managers through appropriate mechanisms, such as WES to ensure maintenance or restoration of favourable condition. (Objective 1)	2002	**EN**/DWT
AF10	If appropriate, negotiate conservation agreements with land owners/managers of all known sites for Appleyard's feather-moss outside SSSIs, in order to achieve maintenance or restoration of favourable condition. (Objective 1)	2002	EN/DWT/PDNPA

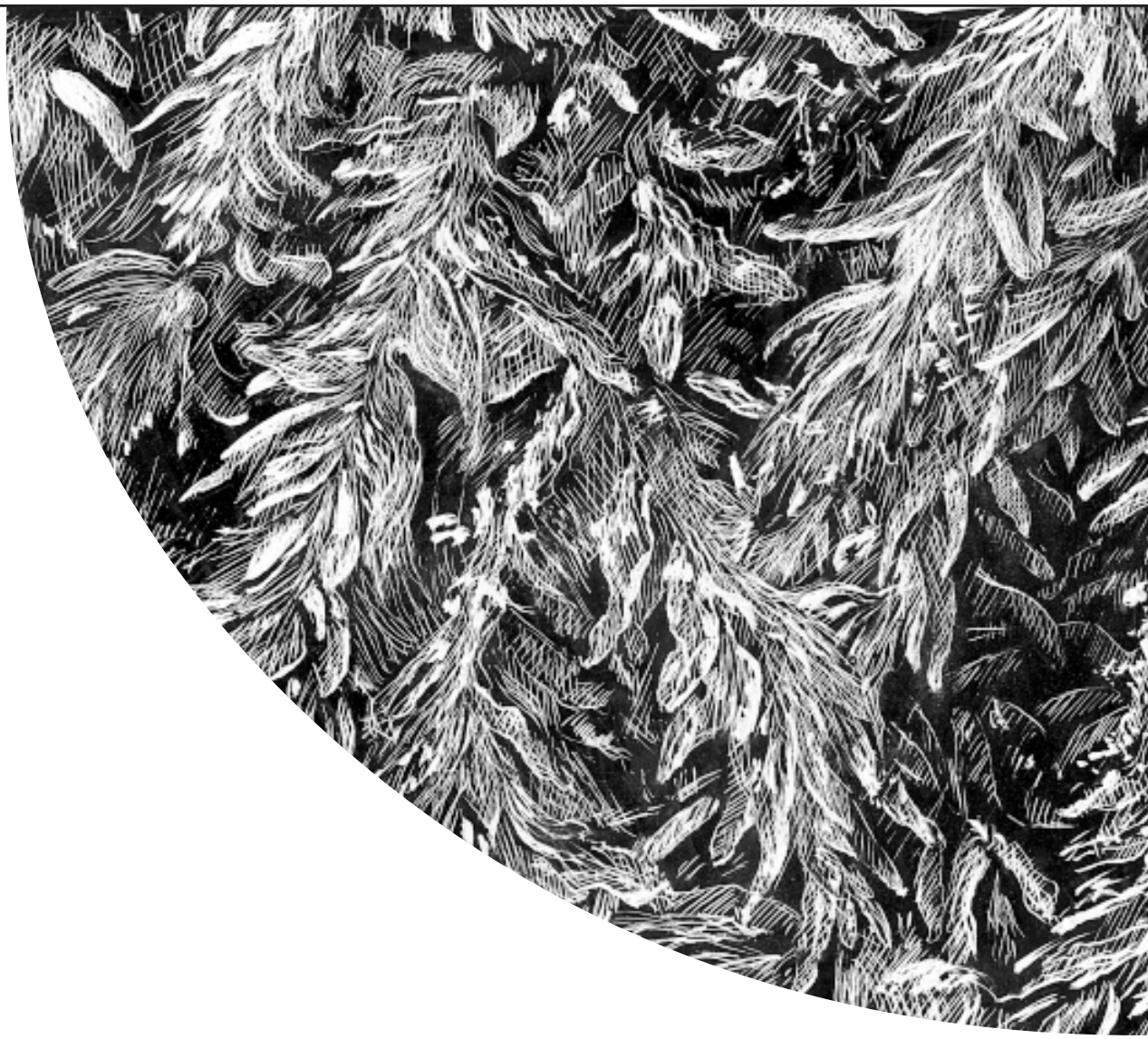
Direct Action

AF11	Assess need for, and if necessary develop, strategy for collection techniques for ex situ stocks. (Objective 2)	2005	**EN**

RESOURCES

It is envisaged that the majority of the actions proposed will be carried out by the relevant organisations using current resources.

DERBYSHIRE FEATHER-MOSS



TREND IN THE PEAK DISTRICT:
Stable.

ESTIMATED POPULATION IN THE PEAK DISTRICT:
One population in the White Peak.

NATIONAL BAP STATUS:
Priority species

ASSOCIATED PEAK DISTRICT ACTION PLANS:
Habitats: River Corridor Habitats.

INTRODUCTION

The only known site in the world for Derbyshire feather-moss (*Thamnobryum angustifolium)* is in the White Peak. It is one of a small group of essentially aquatic *Thamnobryum* species which have very restricted distributions, such as *T. cataractarum* of Yorkshire and *T. fernandesii* of Madeira. Since its discovery, Derbyshire feather-moss has had a confused taxanomic history and research is on-going into its relations with other species of the genus including the widespread *T. alopecurum*.

Bryologists have suggested that the species is a clone that has arisen *in situ* and that its slow growth rate and dependence on vegetative regeneration accounts for its extremely limited distribution. We can therefore conclude that it is 'naturally rare' and has not suffered any long-term decline.

The species is protected under Schedule 8 of the Wildlife and Countryside Act 1981 and is a national Biodiversity Action Plan priority species.

ADVERSE IMPACTS	Historic	Current
Unintentional recreational damage.	✓	✓
Pollution events.	?	?
Unlicensed collection by bryologists.	?	?
Lack of reproduction (spores never observed).	✓	✓

An impact ✓ *Impact unknown ?*

CURRENT ACTION

Site Designation and Ownership

- The site is protected by SSSI status and in the ownership of a conservation body.

Survey and Research

- The adjacent locality and other likely Peak District sites have been surveyed (with negative results) for the presence of other populations.
- The site is wardened and monitored and the extent/condition of the species is reported to JNCC.
- Water quality is monitored annually using biological and chemical methods.
- 2 *ex-situ* populations are maintained.

Awareness Raising

- Liaison with recreation interests is on-going to minimize impact on the species.
- The species' importance and vulnerability has been emphasised in appropriate media both locally and nationally, whilst not disclosing the location.

ACTION PLAN OBJECTIVES AND TARGETS

National Targets

- Safeguard at only known site and at any other sites if found.
- Promote ecological research to aid management.

A Vision for the Peak District

The Peak District holds the sole world responsibility for Derbyshire feather-moss. The hope is that we can implement and support the relevant actions to safeguard the species for now and for future generations.

OBJECTIVES AND TARGETS

Objective

Safeguard the existing population.

Target

Ensure that the known site is in favourable conservation management by 2003.

Initiate ecological research to aid conservation management by 2005.

Continue maintenance of favourable condition and amend management in the light of research.

Main Factors Likely to Affect the Achievement of Targets

Lack of resources for research into the species' ecology.

Climate change.

Change in recreational patterns.

Limited knowledge with regard to detail of the water catchment of the site.

Recent demise of the owner of one ex-situ population.

ACTIONS

Key to the achievement of the proposed targets are actions relating to:

- site monitoring (Actions DF7 - 11);
- the proposed research into the species ecology (DF3);
- safeguard of water quality and quantity (DF4, DF14, DF17 and DF18), and
- liaison with recreation groups to prevent damage (DF6).

	ACTIONS	TIMESCALE	LEAD AGENCY & Partners
RESEARCH			
DF1	Continue support for research into the effects of Asulox on bryophytes	2001 onwards	**EN**/Manchester Metropolitan University
DF2	Continue support for research into the *Thamnobryum* taxa.	2001 onwards	**EN**
DF3	Seek funding for and commission a study of the ecology of the species using the wild and/or *ex-situ* populations, including information about its habitat requirements, susceptibility to probable pollutants and reproduction.	2002/2003	**EA**/EN/JNCC
DF4	Research the catchment for details of water passage and identify possible threats to the water quality and quantity	2002/2003	**EA**
DF5	Ensure that results of research are incorporated into future management of the site.	2001 onwards	**EA**/EN/JNCC
RECREATION			
DF6	Continue liaison with recreation interests to ensure damage to the site is minimised.	2001 onwards	**EN**/Recreation groups
MONITORING			
DF7	Carry out 10 year surveys to accurately map extent of population.	Initially 2002/2003	**EN**/JNCC

DF8	Ensure EN staff and volunteers warden the site regularly and forward information to JNCC.	2001 onwards	**EN**
DF9	Carry out annual water quality monitoring at the site and compare the results with previous data sets.	2001 onwards	**EA**
DF10	Carry out annual bio-sampling at the site and compare the results with previous data sets.	2001 onwards	**EA**
DF11	Log the flow conditions using a standardised technique at each visit to build up a data set.	2001/2002	**EA**

AWARENESS RAISING

DF12	Produce occasional non site-specific publicity items to ensure that the public are aware of the species' vulnerability and importance.	2006/2007	**EN**/EA
DF13	Discourage collectors and other unauthorised visitors by ensuring no direct publicity of location in this or any other public documents.	2001 onwards	**EN/**EA

CONSERVATION ACTION AND INCENTIVES

Direct Action

DF14	Following monitoring, take actions to adjust water quality/quantity if necessary.	2001 onwards	**EA**
DF15	Investigate whether the species is or could be stored live or cryogenically by Kew.	2001	**EN**/JNCC
DF16	Clarify status of *ex-situ* populations and ensure their continuing safe-keeping.	2001	**EN**/JNCC

REGULATION

Other Regulatory Mechanisms

DF17	Ensure that discharge authorisations in the catchment take due regard of species' presence.	2001 onwards	**EA**
DF18	Ensure that abstraction authorisations in the catchment take due regard of species' presence.	2001 onwards	**EA**

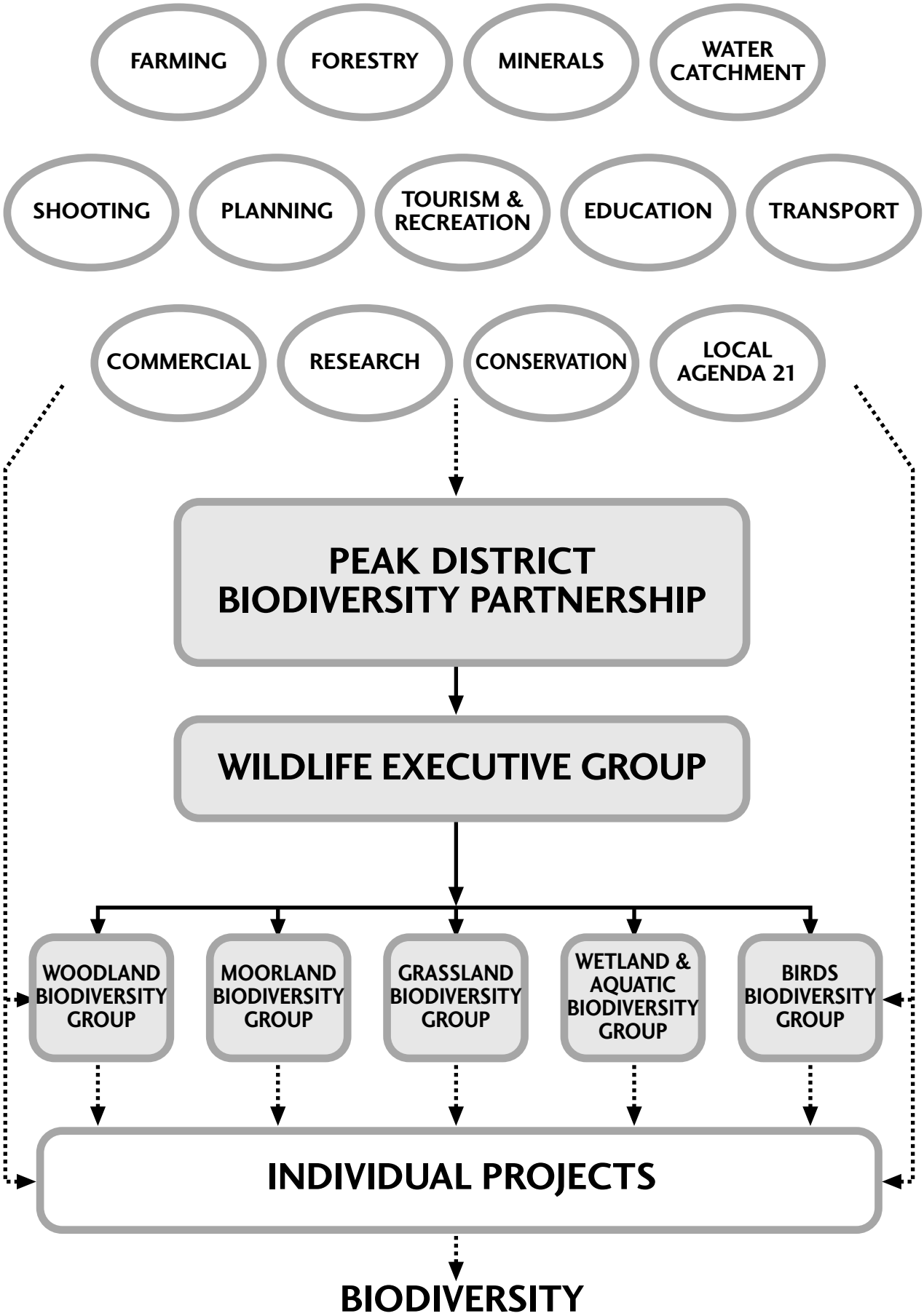
RESOURCES

It is envisaged that the majority of the actions proposed will be carried out by the relevant organisations using current resources.

Additional resources will be needed for:

- the research essential for an understanding of the species ecology (2002/2003).

ABAPG ..... Aquatic and Wetlands Biodiversity Action Plan Group
ADAS ..... Agricultural Development Advisory Service
BACA ..... British Association of Coarse Anglers
BBAPG ..... Birds Biodiversity Action Plan Group
BMC ..... British Mountaineering Council
BTCV ..... British Trust for Conservation Volunteers
BW ..... British Waterways
CA ..... Countryside Agency
CLA ..... Country Land and Business Association
CWT ..... Cheshire Wildlife Trust
DCA ..... Derbyshire Cavers Association
DCC ..... Derbyshire County Council
DETR ..... Department of the Environment, Transport and the Regions
DWT ..... Derbyshire Wildlife Trust
EA ..... Environment Agency
EC ..... European Community
EH ..... English Heritage
EHA ..... Environmental Health Authority
EN ..... English Nature
EU ..... European Union
FC ..... Forestry Commission
FRCA ..... Farming and Rural Conservation Agency (now part of MAFF)
FWAG ..... Farming and Wildlife Advisory Group
GBAPG ..... Grassland Biodiversity Action Plan Group
GC ..... Game Conservancy
HA ..... Highways Agency
HT ..... Heather Trust
IUCN ..... International Union for the Conservation of Nature
JNCC ..... Joint Nature Conservation Committee
LA ..... Local Authority
LPA ..... Local Planning Authority
LRC ..... Local (Biological) Records Centre
MAFF ..... Ministry of Agriculture, Fisheries and Food
MBAPG ..... Moorland Biodiversity Action Plan Group
MGA ..... Moorland Gamekeepers Association
MoD ..... Ministry of Defence
NAAC ..... National Association of Angling Clubs
NFU ..... National Farmers Union
NRA ..... National Rivers Authority (now the EA)
NT ..... National Trust
NWW ..... North West Water
PDLAF ..... Peak District Local Access Forum
PDNPA ..... Peak District National Park Authority
PPMOTA ..... Peak Park Moorland Owners and Tenants Association
RLMEG ..... Rural Land Management Executive Group
RSPB ..... Royal Society for the Protection of Birds
SCC ..... Sheffield City Council
STW ..... Severn Trent Water
SWT ..... Staffordshire Wildlife Trust
TGA ..... Timber Growers Association
VWT ..... Vincent Wildlife Trust
WBAPG ..... Woodland Biodiversity Action Plan Group
WC ..... Water Companies
WdT ..... Woodland Trust
WEG ..... Wildlife Executive Group
WPCAG ..... White Peak Crayfish Action Group
WT ..... Wildlife Trust


FARMING
FORESTRY
MINERALS
WATER CATCHMENT
SHOOTING
PLANNING
TOURISM & RECREATION
EDUCATION
TRANSPORT
COMMERCIAL
RESEARCH
CONSERVATION
LOCAL AGENDA 21
PEAK DISTRICT BIODIVERSITY PARTNERSHIP
WILDLIFE EXECUTIVE GROUP
WOODLAND BIODIVERSITY GROUP
MOORLAND BIODIVERSITY GROUP
GRASSLAND BIODIVERSITY GROUP
WETLAND & AQUATIC BIODIVERSITY GROUP
BIRDS BIODIVERSITY GROUP
INDIVIDUAL PROJECTS
BIODIVERSITY

Aggregate Industries UK Ltd
Ashbourne Field Club
Bakewell & District Bird Study Group
Bakewell Civic Society
Barnsley Bird Study Group
Barnsley Metropolitan Borough Council
Block Stone Ltd
Blue Circle Industries
British Association for Shooting and Conservation
British Butterfly Conservation Society
British Mountaineering Council
Buxton Field Club
Chatsworth Settlement Trust
Cheshire & Wirrall Ornithological Society
Cheshire County Council
Cheshire LIFE Econet Project
Cheshire Wildlife Trust
Council for the Protection of Rural England
Country Land and Business Association
Countryside Agency
Dark Peak Ringing Group
Derby Museums & Art Gallery
Derbyshire and Nottinghamshire Entomological Society
Derbyshire Bat Group
Derbyshire Caving Association
Derbyshire County Council
Derbyshire Dales District Council
Derbyshire Ornithological Society
Derbyshire Wildlife Trust
East Staffordshire Borough Council
English Nature
Environment Agency
Fitzwilliam Estate
Forestry Commission
George Farrar (Quarries) Ltd
Glebe Mines Ltd
Government Office for the East Midlands
Greater Manchester Ecology Unit
Haddon Estate
Heather Trust
High Peak Borough Council
Highways Agency
Huddersfield Birdwatchers' Club
Kirklees Countryside Unit
Kirklees Metropolitan Borough Council
Macclesfield Borough Council
Mid-Derbyshire Badger Group
Ministry of Agriculture, Fisheries and Food
Ministry of Defence
National Farmers Union
National Small Woods Association
National Trust
North East Derbyshire District Council
North West Water
Oldham Metropolitan Borough Council
Peak District National Park Authority
Peak Park Moorland Owners & Tenants Association
Peak Park Wildlife Advisory Group
Railtrack PLC
Ramblers Association
RMC Roadstone
Royal Society for the Protection of Birds
Severn Trent Water
Sheffield Bird Study Group
Sheffield City Council
Sheffield City Ecology Unit
Sheffield Hallam University
Sheffield Wildlife Action Partnership
Sheffield Wildlife Trust
Slinter Mining Co Ltd
Sorby Natural History Society
Staffordshire County Council
Staffordshire Moorlands District Council
Staffordshire Wildlife Trust
Stancliffe Stone Co Ltd
Stanton Estate
Stockport Metropolitan Borough Council
Tameside Metropolitan Borough Council
Tarmac Quarry Products Ltd
Timber Growers Association
Tissington Estate
University of Derby
University of Manchester
University of Sheffield
West Midlands Bird Club
Woodland Trust
Yorkshire Naturalists' Union
Yorkshire Water
Yorkshire Wildlife Trust
Youth Hostel Association

Organization	Wildlife Executive Group	Woodland Group	Grassland Group	Wetland Group	Moorland Group	Birds Group
Barnsley Bird Study Group						✓
Cheshire Wildlife Trust	✓					
Country Land and Business Association		✓	✓	✓	✓	
Derbyshire County Council	✓		✓			
Derbyshire Ornithological Society						✓
Derbyshire Wildlife Trust	✓	✓	✓			
English Nature	✓	✓	✓	✓	✓	✓
Environment Agency				✓		
Forestry Commission		✓				
Friends of the Peak District		✓				
Huddersfield Birdwatchers' Club						✓
Ministry of Agriculture, Fisheries & Food			✓	✓	✓	✓
National Farmers' Union			✓	✓	✓	✓
National Trust	✓	✓	✓	✓	✓	
North West Water					✓	✓
Peak District National Park Authority	✓	✓	✓	✓	✓	✓
Peak Park Moorland Owners & Tenants					✓	
Peak Park Wildlife Advisory Group					✓	
Royal Society for the Protection of Birds	✓		✓		✓	✓
Severn Trent Water		✓		✓		
Sheffield Bird Study Group						✓
Sheffield City Council		✓				
Sheffield City Ecology Unit	✓		✓			
Sheffield Wildlife Trust					✓	
Staffordshire Wildlife Trust	✓		✓	✓	✓	
West Midlands Bird Club						✓
Woodland Trust		✓				
Yorkshire Wildlife Trust	✓					

PEAK DISTRICT HABITATS

NATIONAL HABITATS				PEAK DISTRICT HABITATS
BROAD HABITAT TYPE	**PRIORITY HABITATS**	**Lead Agency**	**Tranche**	
BROADLEAVED, MIXED & YEW WOODLAND	Upland Oak Woodland	FC	1	Upland Oak/Birchwoods
	Upland Mixed Ashwoods	FC	2:2	Upland Ashwoods
	Wet Woodlands	FC	2:2	Wet Woodland
	Lowland Wood Pastures & Parkland	EN	2:2	Parkland & Veteran Trees
				Broadleaf/Mixed Plantation
				Limestone Dales Scrub
				Farmland Scrub
				Moorland Scrub
CONIFEROUS WOODLAND				Coniferous Plantation
BOUNDARY & LINEAR FEATURES	Ancient and/or Species Rich Hedgerows	MAFF	1	Hedges
				Walls
				Roadverges
				Disused Railway Lines
ARABLE & HORTICULTURE	Cereal Field Margins	MAFF	1	Arable
IMPROVED GRASSLAND				Improved Grassland
NEUTRAL GRASSLAND	Lowland Meadows	CCW	2:2	Hay Meadows
				Neutral Grassland
				Tall Dales Grassland
				Rush Pasture
CALCAREOUS GRASSLAND	Lowland Calcareous Grassland	EN	2:2	Calcareous Grassland
	Upland Calcareous Grassland (CG10)	CCW	2:6	
ACID GRASSLAND	Lowland Dry Acid Grassland	EN	2:2	White Peak Acid Grasslands
				Acid Pasture on Gritstone/Shale
				Grass Moor
BRACKEN				Bracken
DWARF SHRUB HEATH	Upland Heathland	EN	2:6	Limestone Heath
				Dry Heather Moor
				Dry Mixed Moor
				Wet Heath
FEN, MARSH & SWAMP	Fens	EN	1	Moorland Flushes
				Wetlands (fens)
				Wetlands (marsh and swamp)
BOGS	Blanket Bog	SNH	2:6	Blanket Bog
STANDING OPEN WATER & CANALS				Canals
				Reservoirs & Lagoons
				Ponds

RIVERS & STREAMS				Rivers & Streams
INLAND ROCK	Limestone Pavements	CA	1	Limestone Pavements
				Lead Rakes
				Quarries
				Limestone Cliffs
				Limestone Scree
				Caves and Mines
				Gritstone/Shale Rock Habitats
BUILT UP AREAS & GARDENS				Villages & Buildings

NATIONAL HABITATS NOT REPRESENTED IN THE PEAK DISTRICT

BROAD HABITAT TYPES

- **Montane Habitats**
- **All Marine and Coastal Habitats**

PRIORITY HABITATS

- **Lowland Beech**
  As well as native woods this includes long-established planted beech woods outside the native range, where of high nature conservation value. In the Peak District however stands of beech are generally small areas within larger woodlands, and are therefore treated here as part of the woodland types within which they occur.
- **Native Pine Wood**
- **Coastal & Floodplain Grazing Marsh**
  Periodically inundated grasslands are very limited in extent in the Peak District and lack many of the species characteristic of grazing marsh in lowland areas. Such habitats are therefore treated here as part of "Fen, Marsh & Swamp" or "Neutral Grassland".
- **Upland Hay Meadows**
  Some hay meadows in the Peak District are intermediate between lowland and upland (NVC community MG3) types. These are treated as "Lowland Meadows" here.
- **Lowland Heathland**
  All heathland in the Peak District is treated as "Upland Heathland".
- **Purple Moor Grass & Rush Pastures**
  The national definition of this habitat is restricted to the more species-rich fen meadows and culm grasslands characteristic of oceanic western areas of Devon and Cornwall, Wales and South-west Scotland (NVC community M24). Rush-pasture and Purple Moor Grass dominated vegetation in the Peak District is treated here as part of "Neutral Grassland" and "Blanket Bog" respectively.
- **Reedbeds**
  Only small stands of reed occur in the Peak District, as emergent vegetation associated with ponds or along small sections of some rivers. They are of insufficient size to support many of the characteristic reedbed species. These areas are therefore treated as part of "Rivers & Streams" or "Standing Open Water" here, depending on the context.
- **Lowland Raised Bog**
  Although some moorland areas in the Peak District may have originated as raised rather than blanket bog, they lack the species characteristic of raised bog in lowland areas, and are therefore treated as "Blanket Bog" here.
- **Mesotrophic Lakes**
  The national definition of this habitat covers natural lakes only.
- **Eutrophic Standing Waters**
- **Aquifer-fed Naturally Fluctuating Water Bodies**
- **Chalk Rivers**

Habitats and species covered by Action Plans are marked with an asterisk(*).

HABITATS

WOODLAND & SCRUB

Upland Ashwoods*
Upland Oak/Birchwoods*
Wet Woodland*
Parkland & Veteran Trees*
Broadleaf/mixed Plantation
Coniferous Plantation
Moorland Scrub*
Limestone Dales Scrub*

GRASSLAND

Hay Meadows*
Calcareous Grassland*
Neutral Grassland*
Tall Dales Grassland*
Acid Pasture on Gritstone/Shale*
White Peak Acid Grasslands*
Rush Pasture*
Lead Rakes*

MOORLAND & HEATHLAND

Blanket Bog*
Dry Heather Moor*
Dry Mixed Moor*
Grass Moor*
Bracken*
Moorland Flushes*
Wet Heath*
Limestone Heath*

WETLAND & AQUATIC

Rivers and Streams*
Ponds*
Wetlands*
Reservoirs

OPEN LAND & ROCKY HABITATS

Gritstone/Shale Rock Habitats*
Limestone Cliffs*
Limestone Scree*
Arable
Quarries
Caves & Mines

LINEAR HABITATS

Roadverges
Disused Railway Lines
Hedges
Walls

SPECIES

MAMMALS (7 spp)

Brown Hare
Leisler's Bat
Mountain Hare
Otter
Pine Marten
Pipistrelle
Water Vole*

BIRDS (17 spp)

Barn Owl
Black Grouse
Curlew*
Golden Plover
Grey Partridge
Lapwing*
Linnet
Merlin
Nightjar
Reed Bunting
Ring Ouzel
Short-eared Owl
Skylark
Snipe
Song Thrush
Teal
Twite*

REPTILES/AMPHIBIA/FISH (3 spp)

Adder
Great Crested Newt
Brook Lamprey

INVERTEBRATES (13 spp)

Beetles

Ernoporus caucasicus

Butterflies

Brown Argus
Dark Green Fritillary
Green Hairstreak
Small Blue

Moths

Argent & Sable
Chalk Carpet
Grey-scalloped Bar
Light Feathered Rustic

Bees/Wasps/Ants

Northern Wood Ant

Flies

Molophilus pusillus(a cranefly)
Trichocera maculipennis(a winter gnat)

Crustaceans

White-clawed Crayfish*

HIGHER PLANTS (12 spp)

Bird's-foot Sedge
Bog Rosemary
Burnt Orchid
Dark Red Helleborine
Floating Water-plantain
Jacob's Ladder
Killarney Fern
Labrador Tea
Maiden Pink
Mountain Currant
Nottingham Catchfly
Red Hemp-nettle

LOWER PLANTS (10 spp)

Mosses

Appleyard's Feather-moss*
Derbyshire Feather-moss*
Spruce's Feather-moss
Breutelia chrysocoma
Homalothecium nitens
Sphagnum warnstorfii

Liverworts

Bazzania trilobata
Targionia hypophylla
Trichocolea tomentella

Lichens

Cladonia fragilissima

BIODIVERSITY GROUP	ACTION PLAN	HABITATS
WOODLAND	Upland Oak/Birchwoods	Upland Oak/Birchwoods
	Upland Ashwoods	Upland Ashwoods
	Wet Woodland	Wet Woodlands
	Parkland & Veteran Trees	Parkland & Veteran Trees
GRASSLAND	Hay Meadows	Hay Meadows
	Unimproved Pastures	Neutral Grassland Acid Pasture on Gritstone/Shale White Peak Acid Grassland Calcareous Grassland
	Rush Pasture	Rush Pasture
	Limestone Dales	Calcareous Grassland Neutral Grassland Tall Dales Grassland White Peak Acid Grassland Limestone Dales Scrub Lead Rakes Limestone Heath Wetlands Limestone Cliffs Limestone Scree
	Rough Grazing	White Peak Acid Grassland Grass Moor Calcareous Grassland Neutral Grassland Acid Pasture on Gritstone/Shale
	Lead Rakes	Lead Rakes
	Limestone Heath	Limestone Heath
MOORLAND	Heather Moorland	Dry Heather Moor Dry Mixed Moor Grass Moor Gritstone/Shale Rock Habitats Bracken Moorland Scrub Moorland Flushes Wet Heath
	Blanket Bog	Blanket Bog Wet Heath
WETLAND & AQUATIC	Ponds	Ponds
	River Corridor Habitats	Rivers & Streams Wetlands

HABITATS NOT YET COVERED BY ACTION PLANS

WOODLANDS AND SCRUB

Broadleaf/mixed Plantation

Coniferous Plantation

Farmland Scrub

BOUNDARY & LINEAR FEATURES

Hedges

Walls

Roadverges

Disused railway lines

ARABLE & HORTICULTURE

Arable

IMPROVED GRASSLAND

Improved grassland

STANDING OPEN WATER & CANALS

Reservoirs and Lagoons

Canals

ROCKY HABITATS

Limestone Pavements

Quarries

Caves and Mines

BUILT UP AREAS & GARDENS

Villages and buildings

The Peak District Biodiversity Action Plan has its roots in the 1992 Rio Earth Summit which had the concept of sustainable development at its heart. Two definitions are particularly useful in defining the concept of sustainable development: -

Sustainable development is development which meets the needs of the present without compromising the ability of future generations to meet their own needs

Bruntland,1987

Human use and enjoyment of the world's natural or cultural resources should not, in overall terms, diminish or destroy them

Countryside Commission, 1993

The conservation of biodiversity is a key part of this and the Plan seeks to ensure sustainability with regard to our wildlife resource. It is also important, however, that the potential impacts of the Plan on other areas of sustainable development are recognised, and the production of a sustainability appraisal is an important means of carrying this out.

The Biodiversity Action Plan is one of the detailed Action Plans forming part of the Peak District National Park Management Plan, and the following appraisal is therefore based on the 16 sustainability criteria drafted for that Plan.

Potential Impact of Biodiversity Action Plan (BAP) on 16 Key Sustainability Criteria

✓ = POSITIVE POTENTIAL IMPACTS ✗ = NEGATIVE POTENTIAL IMPACTS

✓✓ = POSITIVE IMPACTS MAY BE SUBSTANTIAL ✗✗ = NEGATIVE IMPACTS MAY BE SUBSTANTIAL

SUSTAINABILITY CRITERIA	POTENTIAL IMPACT OF BAP	NOTES	MITIGATION OF POTENTIAL NEGATIVE IMPACTS
Social Progress			
Settlements & places	✓	Positive - enhancing local distinctiveness and encouraging local involvement	
Health & safety	✓✗	Positive - pollution control; reduced moorland fires Negative - risk of falling dead wood	Careful management in areas subject to public access
Local needs, equity & accessibility	✓✗	Positive -increased availability of information; enhanced opportunities for enjoyment Negative - possible restrictions on development	Normal planning and appeals procedures

SUSTAINABILITY CRITERIA	POTENTIAL IMPACT OF BAP	NOTES	MITIGATION OF POTENTIAL NEGATIVE IMPACTS
Economic Success			
Vibrant local economy	✓✓✗✗	Positive - encouragement of environmental grants to the area, diversification of farm businesses, tourism benefits, countryside management contractors Negative – restricting mineral extraction; constraints on agricultural and forestry incomes	Normal planning and appeals procedures; eligibility for agri-environment payments, and diversification linked to conservation
Skills & training	✓✓	Positive - encouraging countryside management skills	
Vitality of centres	✓✗	Positive - encouraging local involvement Negative - possible planning restrictions	Normal planning and appeals procedures
Environment			
Transport & air quality	✓✗	Positive - encouraging use of public transport in awareness-raising activities Negative - possible conflicts with transport infrastructure development	Normal planning and appeals procedures
Energy & air quality	✓✗	Positive - awareness-raising activities, safeguard of peatland carbon sink, woodland expansion Negative - potential conflicts with renewable energy development	Normal planning and appeals procedures
Natural resources & waste management	✓	Positive - pollution control	
Special Qualities of the Peak District			
Statutory sites & sites of international/national importance	✓✓	Positive - enhanced safeguard and management of such sites	
Statutory sites of regional & local importance	✓✓	Positive - enhanced safeguard and management of such sites	
Biodiversity & semi-natural habitat	✓✓✗	Positive – delivery of biodiversity targets Negative - potential conflicts between different habitats	Close liaison within BAP Partnership to reach concensus on priorities

SUSTAINABILITY CRITERIA	POTENTIAL IMPACT OF BAP	NOTES	MITIGATION OF POTENTIAL NEGATIVE IMPACTS
Historic & cultural features & traditions	✓✓✗	Positive - conservation of features of cultural/historic importance associated with semi-natural habitat Negative - potential conflicts with habitat creation (e.g. new woodland establishment) or, on a few sites, conflicting conservation management requirements	Close liaison with Local Authority and National Park Archaeology Services and English Heritage
Landscapes of special value	✓✓✗	Positive - habitat enhancement, restoration and creation will almost universally enhance the landscape Negative - in a very few instances there may be perceived landscape conflict locally, e.g. tree clearance to restore important habitats	Close liaison with Local Authority and National Park Landscape Services
Geomorphological & geological features	✓✓✗	Positive - conservation of features of geological importance associated with semi-natural habitat Negative - potential conflicts with habitat creation (e.g. new woodland establishment)	Close liaison with English Nature and RIGS groups
Built environment	✓✗	Positive - enhancement of village environment Negative - possible conflicts with supply of local building material	Normal planning and appeals procedures

Anderson P. 1984. *The Limestone Heaths of the Peak District*. Peak Park Joint Planning Board.

Anderson P & Radford E. 1988. *Bracken: A Review of its Role and Status in the Moorlands of the Peak District National Park.* Peak Park Joint Planning Board.

Anderson P & Shimwell D. 1981. *Wild Flowers and other Plants of the Peak District*. Moorland Publishing Co Ltd.

Anderson P, Tallis J & Yalden D W. 1997. *Restoring Moorland: Peak District Moorland Management Project Phase III Report.* Peak District National Park Authority.

Barnatt J W. 2000. *Lead Rakes in the Peak District - Hillock Today, Gone Tomorrow?* Peak District National Park Authority.

Brown A F & Shepherd K B. 1991. *Breeding Birds of the South Pennine Moors.* JNCC Report No. 7.

Buckingham H G. 1990. *Phase 2 Limestone Grassland Survey Report*. English Nature.

Cheshire Wildlife Trust. 1997. *Countdown 97.*

Clapham A R (ed). 1969. *Flora of Derbyshire.* Derby Museum.

Countryside Commission. 1991. *Landscape Change in the National Parks*.

Crofts A & Jefferson R (eds). 1994. *The Lowland Grassland Management Handbook*. English Nature/The Wildlife Trusts.

Derbyshire Wildlife Trust. 1997. *Mid Derbyshire Local Biodiversity Action Plan.*

Dickson M & Frith J. 2001. *Great Crested Newt and Pond Conservation Project, Peak District National Park: Project Report*. Peak District National Park Authority.

Drewitt A L & Manley V J. 1995. *The Vegetation of the Mountains and Moorlands of England- National Assessment of Significance*. English Nature.

East Midlands Regional Biodiversity Forum. 1999. *Sustainability and Biodiversity: Priorities for Action in the East Midlands*

East Midlands Sustainable Development Round Table. 2000. *The Potential Impacts of Climate Change in the East Midlands: Summary Report.*

Edwards K C. 1962. *The Peak District*. Collins.

Elkington T (ed). 1986. *The Nature of Derbyshire*. Derbyshire Naturalists' Trust.

Elkington T & Willmot A (eds). 1996. *Endangered Wildlife in Derbyshire: the County Red Data Book.* Derbyshire Wildlife Trust.

English Nature. 1995. *The Grassland Inventory: Derbyshire*.

English Nature. 1996. *The Grassland Inventory: Staffordshire*.

English Nature. 1998. *Natural Area Profile: Dark Peak*.

English Nature. 1998. *Natural Area Profile: Needwood & South Derbyshire Claylands*.

English Nature. 1998. *Natural Area Profile: South West Peak*.

English Nature. 1998. *Natural Area Profile: White Peak*.

English Nature. 1999. *Natural Areas in the East Midlands Region.*

European Community. 1992. *Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (The Habitats Directive)*.

Feltwell J. 1992. *Meadows: A History and Natural History*. Alan Sutton Publishing.

Frost R A. 1978. *Birds of Derbyshire*. Moorland Publishing Co Ltd.

Fuller R M. 1987. The Changing Extent and Conservation Interest of Lowland Grasslands in England and Wales: A Review of Grassland Surveys 1930-1984. *Biological Conservation* **40**, 281-300.

Gibbons D W, Reid J B & Chapman R A. 1993. *The New Atlas of Breeding Birds in Britain and Ireland: 1988-1991.* T & A D Poyser.

Greater Manchester Ecology Unit. 2000. *Greater Manchester Biodiversity Action Plan.*

Guest J P et al. 1992. *The Breeding Bird Atlas of Cheshire and Wirral*.

HMSO. 1994. *Biodiversity: The UK Action Plan.*

HMSO. 1995. *Biodiversity: The UK Steering Group Report. Vol 1: Meeting the Rio Challenge*

HMSO. 1995. *Biodiversity: The UK Steering Group Report. Vol 2: Action Plans.*

Hornbuckle J & Herringshaw D (eds). 1985. *Birds of the Sheffield Area.* Sheffield Bird Study Group.

Jefferson R G. 1996. *Lowland Grassland in Natural Areas: National Assessment of Significance.*

Jefferson R G & Robertson H J. 1996. *Lowland Grassland: Wildlife Value and Conservation Status.* EN Research Report No. 169.

Macdonald D W & Strachan R. 1999. *The Mink and the Water Vole: Analysis for Conservation.* WildCRU, University of Oxford.

MAFF. 1992. *The North Peak ESA - Monitoring Report, 1992.*

MAFF. 1997. *Environmental Monitoring in the North Peak ESA, 1988-1996.*

MAFF. 1997. *Biological Monitoring Report of Moorland in the North Peak ESA, 1988-1996.*

MAFF. 1997. *Monitoring of Breeding Birds in the North Peak ESA, 1988-1996.*

MAFF. 1997. *Environmental Monitoring Report for the South West Peak ESA, 1993-1996.*

Marren P. 1995. Harvests of Beauty: The Conservation of Hay Meadows. *British Wildlife* **6** (4), 235-243.

McKnight A J. 1997. *The North Staffordshire Moors Upland Breeding Bird Survey.* RSPB/English Nature.

Mitchell-Jones A J & Gent A H. 1997. *Priority Natural Areas for Mammals, Reptiles and Amphibians.* English Nature Research Report No. 242.

Moss C E. 1913. *Vegetation of the Peak District.* Cambridge University Press.

Mott N. 1997. *Otter, Water Vole & Mink Survey of the Dove River Catchment.* Staffordshire Wildlife Trust.

Peak District National Park Authority. 1997. *Meadows Beyond the Millennium – The Future for Hay Meadows in the Peak District National Park.*

Peak District National Park Authority. 1999. *Hidden Heaths: A Portrait of Limestone Heaths in the Peak District.*

Perkins H M & Mallon D P. 1999. *The Water Vole in Derbyshire: A Report on the Current Status and Distribution of Arvicola terrestris, 1997-1999.* Derbyshire Wildlife Trust.

Phillips J, Tallis J & Yalden D W. 1981. *Peak District Moorland Erosion Study: Phase I Report.* Peak Park Joint Planning Board.

Rodwell J S (ed). 1991-2000. *British Plant Communities, Volumes 1-5.* Cambridge University Press.

Sellars B & Baker A J M. 1990. *Review of Metallophyte Vegetation and its Conservation.* Contract report for the Nature Conservancy Council.

Shimwell D W. 1968. *The Vegetation of the Derbyshire Dales.* Nature Conservancy Council.

Shropshire County Council.1996. *Biodiversity Challenge: The Shropshire Response.*

Staffordshire Biodiversity Action Plan Steering Group. 1998. *Staffordshire Biodiversity Action Plan.* Staffordshire Wildlife Trust.

Strachan C, Strachan R & Jeffries D J. 2000. *Preliminary Report on the Changes in the Water Vole Population of Britain as shown by the National Surveys of 1989-1990 and 1996-1998.* Vincent Wildlife Trust.

Strachan R. 1998. *Water Vole Conservation Handbook.* WildCRU, University of Oxford.

Strachan R & Jeffries D J. 1993. *The Water Vole Arvicola terrestris in Britain 1989-1990: its Distribution and Changing Status.* Vincent Wildlife Trust.

Tallis J H & Yalden D W. 1983. *Moorland Restoration Project Phase II Report.* Peak Park Joint Planning Board.

UK Biodiversity Group. 1998. *Tranche 2 Action Plans. Volume 1- Vertebrates and Vascular Plants.* English Nature.

UK Biodiversity Group. 1998. *Tranche 2 Action Plans. Volume 2- Terrestrial and Freshwater Habitats.* English Nature.

UK Biodiversity Group. 1999. *Tranche 2 Action Plans. Volume 3- Plants and Fungi.* English Nature.

UK Biodiversity Group. 1999. *Tranche 2 Action Plans. Volume 4- Invertebrates.* English Nature.

UK Biodiversity Group. 1999. *Tranche 2 Action Plans. Volume 6- Terrestrial and Freshwater Species and Habitats.* English Nature.

Whiteley D (ed). 1985. *The Natural History of the Sheffield Area and the Peak District.* Sorby Natural History Society.

Yalden D W. 1997. The Current Status of the Water Vole Arvicola terrestris in the Peak District. *The Naturalist* **122**, 83-88.

Words or phrases in italics are listed under their own entry in the glossary.

Access Consultative Group – The precursor of the Peak District *Local Access Forum* which is responsible for advising the Peak District National Park Authority on access issues.

Acid – Refers to soils with a low pH (5 or less) which tend to be low in nutrients, particularly calcium. It can also refer to vegetation adapted to such soils.

Alkaline – Refers to soils with a high pH (8 or more) which tend to have high levels of calcium.

Agri-environment – With reference to conservation schemes, payment for farming in an environmentally friendly way.

Amphibia – Frogs, toads and newts.

Ancient woodland– A site which has been woodland continuously for over 400 years (this may include sites where the tree cover has been removed but immediately replanted or regenerated, with no intervening change in land use). An Ancient Woodland Inventory (AWI), identifying all such sites over 2 hectares in extent, has been compiled for each county by the Nature Conservancy Council (now English Nature).

Arable break crops – Arable crop grown as part of a grassland rotation.

Asulox – A herbicide which is relatively fern-specific, commonly used in bracken control.

Base-rich – Rich in the major nutrients, particularly calcium, but also phosphorus and magnesium. Usually but not exclusively associated with *calcareous/alkaline* conditions.

Biodiversity Action Plan (BAP) lists – Species and Habitats of conservation concern produced by the UK Steering Group in 1995 (revised in 1998).

Biological Records Centre (BRC) – Centres where biological information on the location, distribution and associated information on habitats and species is collated and stored.

Bronze Age – The pre-historic period dating roughly from 2000 to 800 BC, the time when metals began to be used and the period when permanently laid out fields used by sedentary farmers were first cultivated.

Bryologists – Those who study *bryophytes*.

Bryophytes – Mosses and liverworts.

Buffer strips – A strip of vegetation which is managed sympathetically to protect an adjacent feature or habitat.

Calaminarian – Term used to describe *metallophyte* vegetation.

Calcareous – Refers to lime (calcium) rich soils with an *alkaline* pH or vegetation adapted to such soils.

Carboniferous – The era of geological time 280 - 360 million years ago when most of the Peak District rocks were formed.

Catchment – The area of land draining into an individual stream or river.

Chasmophytic – Vegetation of rock crevices.

Clay and setts – In the context of dewponds this refers to the traditional construction method using a lining composed of a clay base protected by stones.

Clone – A genetically identical replica of another individual organism.

Clough – A small steep-sided valley usually on the *gritstone* or on the *gritstone/shale* boundary.

Common Agricultural Policy (CAP) – Agricultural policy of the European Union.

Community – Refers to a specific grouping of plants or animals associated with a particular set of environmental conditions.

Conservation- See page 27.

Coppice – Trees and shrubs periodically cut close to the ground and allowed to regrow to provide small diameter wood for fuel or other use.

Countryside Stewardship (CS) Scheme (CSS) – An *agri-environment* scheme run by the Ministry of Agriculture, Fisheries and Food, operating in a targeted manner outside *ESA* areas.

Creation - See page 27.

Cross-compliance- The requirement, under some *agri-environment* and other grant schemes, to safeguard features of conservation importance on a landholding other than those directly receiving grant.

Derbyshire Conservation Machinery Ring – A pool of conservation machinery available for use by members of the ring and administered by Derbyshire County Council in collaboration with English Nature.

Desiccated – Dried out.

Dewpond – Small circular artificial pond built with a waterproof lining (traditionally *clay and setts*, but also concrete or other waterproof material). Principally built to provide drinking water for livestock in the White Peak, they are generally fed by rainwater.

Enclosed - In relation to farmland, refers to the land enclosed into fields bounded by walls or hedges, as opposed to open moorland or daleside.

Endemic - Only found in the British Isles.

England Rural Development Programme (ERDP) – A seven year programme funded by the European Union and government to provide assistance to rural development.

Environmentally Sensitive Areas (ESAs) – Areas of England and Wales within which the Ministry of Agriculture, Fisheries and Food run specifically tailored *agri-environment* schemes. Such areas recognise the particular contribution that environmentally sensitive farming makes to maintaining the landscape, wildlife and historic interest.

Epiphyte – A plant which grows entirely on another plant but without being parasitic.

European Union (EU) Birds Directive – European legislation for bird conservation requiring EU member states, amongst other things, to designate *Special Protection Areas (SPAs)*.

European Union (EU) Habitats Directive – European legislation for wildlife conservation (other than birds) requiring EU member states, amongst other things, to designate *Special Areas of Conservation (SACs)*.

European Natura 2000 sites - The Europe-wide network of designated sites of European nature conservation importance (*SPAs* and *SACs*).

Eutrophication – Enrichment of water or soil by nitrate or phosphorus.

Ex-situ populations – Populations of species which are maintained in non-natural situations, such as glass houses.

Farm Conservation Scheme (FCS) – Conservation scheme run by the Peak District National Park Authority aimed at items of work where grant aid by national schemes such as *ESAs* or *CSS* is unavailable or otherwise inappropriate.

Fluorspar – Vein mineral (calcium fluoride) in high demand because of its use in the chemical and steel making industries. In Britain a huge proportion of the national resource is found in the Peak District.

Flush – An area where water flowing over the ground surface imparts a distinct character to the vegetation.

Forest Plans - Plans, for which Forestry Commission grant is available, which outline felling, thinning and restocking work for woodlands over a 20-year period.

Genotypes – Genetically distinct group of individuals.

Geographical Information System (GIS) – Computer based mapping system.

General Development Orders (GDOs) – *Permitted development rights* under Mineral Planning Guidance 2 1995.

Gritstone – One of the three major rock types in the Peak District, forming a horseshoe of high ground in the north and extending down the eastern and western sides of the area. It gives rise to *acid* soils, often covered with *peat*. Together with the *shales* it is the predominant rock in the Dark Peak and South West Peak.

Groundwater Regulations – In relation to sheep-dip this refers to the European Commission's groundwater directive of April 1999 which makes it an offence to dispose of sheep dip without authorisation from the Environment Agency.

Habitats Regulations 1994 – British legislation which enacts the *European Union Habitats Directive*.

Hay Meadows Project (HMP) – A project run by the Peak District National Park Authority from 1994-98, with the aim of identifying and conserving hay meadows of ecological importance.

Headage payments- Agricultural support grant payable per head of livestock on the landholding.

Hefting – A flock of sheep which as a result of breeding and custom naturally stay within one area of moorland.

Herbivores – Animals which only eat plants.

Humus – Decaying plant matter found in the surface layers of soil.

Impervious – Refers to a substrate which does not allow water to pass through it.

Improved - In relation to grassland, relates to land which has been treated with any or all of lime, slurry and artificial fertiliser and often ploughed and re-seeded with the aim of increasing the agricultural productivity. It is most often very species poor dominated by one or two productive grasses.

In-bye – Enclosed fields in the uplands close to the farmstead.

In-situ- Species occuring in their natural environment (as opposed to *ex situ*).

Integrated Administration and Control System (IACS) – A mechanism operated by MAFF intended as a safeguard against paying for the same land or animal twice under different schemes, and operated under the *Rural Development Regulation*.

Indigenous – Native to the British Isles.

Inundated – Covered with water.

Ivermectin – A drug administered to stock to kill internal parasitic worms, which may adversely affect the invertebrate fauna of dung.

Lead rake- Although strictly referring to an underground geological feature containing lead ore (a fissure in the rock which contains mineral-rich vein deposits), in this plan the term is used to refer to the above-ground series of hummocks and hollows which are the relics of past mining of lead from these features.

Lead Rakes Project (LRP) - A project run by the Peak District National Park Authority from 1996 onwards, with the aim of identifying and conserving lead rakes of ecological importance.

'LIFE' funding – A European Union grant scheme aimed at measures to enhance the conservation interest of habitats and species of European Community importance within *SACs* and *SPAs.*

Limestone - One of the three major rock types in the Peak District, forming a plateau of high ground and steeply incised dales in the centre and south. The extent of limestone defines the White Peak. It gives rise to *alkaline* soils except where it is overlain by superficial deposits.

Local Access Forum- A statutory forum under the Countryside and Rights of Way Act 2000, whose purpose is to advise on public access issues relating to public rights of way and open country.

Local Environment Agency Plans (LEAPs) – The Environment Agency's integrated local management plan for identifying, assessing, prioritising and solving local environmental issues related to the agency's functions.

Loess – A superficial wind-blown deposit of *acid* soil, of glacial origin.

Lower plants – Mosses, liverworts and lichens which have simple structure and do not produce flowers.

Medieval – From 1066 to 1600 A.D.

Mesotrophic - Refers to soils of *neutral* (neither *acid* nor *alkaline*) pH or vegetation adapted to such soils.

Metallophyte – Refers to a plant or vegetation adapted to high metal concentrations in the soil.

Monoculture – A *stand* of a single species.

National Muirburn Legislation – Laws regarding the controlled burning of heather and grass moorland for land management purposes.

National Nature Reserve (NNR) – A site of national wildlife importance (*SSSI*) managed by a body approved by English Nature, with nature conservation as the main objective.

National Vegetation Classification (NVC) – A national classification of vegetation types, published as "British Plant Communities".

Natural Areas - Areas of England defined by English Nature which are distinct in terms of their wildlife, natural features and land use.

Naturalised – With reference to a non-native species which, following introduction, has spread and established itself in an area.

Neolithic – 5000 to 7000 years ago.

Neutral – Refers to soils of pH 6 - 7 (neither *acid* nor *alkaline*) or vegetation adapted to such soils.

New Native Woodland in National Parks Challenge Fund – A Forestry Commission grant scheme available in 1997 – 2000 to promote new native woodland in National Parks.

Objective 5b Farm & Environment Project – A project designed to assist farm prosperity through sustainable environmental action within the Objective 5b area and funded by the EU and MAFF.

Paper pulp – The waste product of paper recycling. It can be used as a soil conditioner and as such its disposal does not require planning permission.

Parliamentary enclosures – The enclosure of land into fields as a result of Parliamentary legislation from the mid

18th to the mid 19th centuries.

Peak District Moorland Management Project – A partnership project which was set up in 1979 (originally as the Moorland Erosion Study) to establish the extent and reasons for moorland erosion in the Peak District, to trial possible restoration methods and research the effects of moorland management.

Peat - Accumulated partially decomposed plant remains. In the upland situation peat is found where environmental conditions, particularly acidity and a high rainfall, have resulted in poor microbial action.

Permitted Development Rights (PDRs) – Activities which can normally be carried out without planning permission, as defined by Planning Guidance 2, 1995. However Planning Authorities may be able to require a planning application to be submitted in some circumstances.

Plantations on Ancient Woodland Sites (PAWS) – A planted woodland on a site which previously supported *semi-natural ancient woodland*.

Poaching- The creation of bare ground as a result of livestock trampling, particularly on wet soils.

Pollard – A tree which is cut at a significant height above the ground to produce a close head of young branches. This both provides a crop of wood and prolongs the life of the tree. Pollarding in the past has resulted in trees of great age.

Quaking Bog – An area of wetland vegetation floating on water or liquid peat, so that it 'quakes' if disturbed.

Rawmat – A clay-impregnated fabric used for waterproof lining, e.g. of ponds.

Reclaimed – With relation to the *medieval wastes and commons* this refers to the practice of improving the agricultural productivity of the land i.e. reclaiming it for farming.

Red Data Book (RDB) species – National and local lists of rare species meeting agreed criteria of rarity.

Re-creation – See page 27.

Restoration – See page 27.

'Retrogressive' scrub- Species-rich scrub found in the limestone dales, with hazel as the main component. Such scrub may be derived from ancient ash woodland, in contrast to areas of scrub dominated by hawthorn which tend to be derived from grassland through scrub colonisation.

Riparian – A strip of land immediately adjacent to a stream, river or other flowing water body.

Rural Development Regulation (RDR) – Approved by the European Commission as part of the *England Rural Development Programme (ERDP)* and also known as the 'second pillar' of the *Common Agricultural Policy*, the regulation brings together a number of formerly separate measures for assisting rural development. The Programme makes use of these through ten schemes which aim to assist the development of rural areas, economies and communities and the improvement of the rural environment.

Scheduled Ancient Monument (SAM) – A statutorily designated archaeological site or feature of national importance.

Secondary woodland – Woodland that has developed on a previously non-wooded site.

Semi-improved - In relation to grassland relates to land which has been treated agriculturally so that it bears only some resemblance to traditionally managed *semi-natural* grasslands (see also *improved*).

Semi-natural – Vegetation which, although modified by man, is of significant nature conservation interest because it is composed of self-sown native species and is similar in structure to natural types (e.g. an oak woodland managed as coppice). Nearly all habitat types in Britain are generally regarded as semi-natural rather than truly natural.

Shale - One of the three major rock types in the Peak District, forming the majority of the larger valleys in the Dark Peak and South West Peak and also often found in intimate association with the *gritstone* in these areas.

Sheep dip – Chemicals used to treat sheep for a variety of external parasites.

Sites of Special Scientific Interest (SSSIs) – Statutory sites designated by English Nature under the Wildlife & Countryside Act 1981 and subsequent amendments. These are the best examples of our national heritage of wildlife habitats, geological features and landforms.

Slurry – Cattle excrement and urine commonly stored through the winter months and spread on agricultural land as a fertiliser.

Sough – An underground channel dug to drain a deep mine.

Special Areas of Conservation (SACs) – Sites of international importance for their habitats and species (other than birds). Designated by the UK Government under the *EU Habitats Directive* and the UK *Habitats Regulations 1994* (see also *European Natura 2000*). A cSAC is a candidate SAC (approved by the UK government and submitted to the EC).

Special Protection Areas (SPAs) - Sites of international importance for their populations of birds. Designated by the UK Government under the *EU Birds Directive* (see also *European Natura 2000*).

Spores – The reproductive cells of many *lower plants*.

Stand – Refers to a uniform swathe of vegetation comprising a single plant *community*.

Statutory – Legally binding.

Succession – An ecological process of vegetation development over time.

Subsidy – Financial aid.

Sward – An expanse of vegetation, usually in a grassland setting.

Transition mire - A wetland which is partially fed directly by rainwater and partly by groundwater.

Tree Preservation Order (TPO) – Legal designation imparted to trees of particular wildlife, historic or landscape importance.

Veteran Trees- Trees which, because of their age, size or condition are of exceptional value culturally, in the landscape and for wildlife.

Wastes and commons – Common grazing land, often at a distance from the village and managed non-intensively.

Weir – a dam built across a river or stream to regulate the upstream flow and depth of water.

White moor – A moorland area dominated by purple moor grass or mat grass.

Wildlife Enhancement Scheme (WES) – a conservation scheme operated by English Nature with the aim of enhancing *SSSIs*.

Wildlife headland – A wildlife rich strip or area of land, normally at the edges of a field, which has been managed less intensively.

Wildlife Sites – Sites of conservation interest which are non-statutory but are designated by Local Authorities and Wildlife Trusts and are recognised in some planning policy documents and government planning guidance.

Winterbourne streams – Streams which only run when groundwater levels are high, usually in the winter.

Woodland Certification – A Forestry Commission scheme to recognise woodlands which are managed to a minimum environmental standard.

Woodland Grant Scheme (WGS) – Grant scheme run by the Forestry Commission for woodland management and/or planting.