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Opportunities for Enriching the Vale

A vision for habitat restoration in the Blackmore Vale

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English Nature
Habitat Restoration Project

Opportunities for

"ENRICHING THE VALE"

A Vision for Habitat Restoration in the Blackmore Vale

A report by:

Karen Eppey, Philip Horton and Jeanette Hall

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FWAG

HABITAT
RESTORATION
PROJECT

PREFACE

The countryside has changed dramatically over the last fifty years: bluebell woods, flower-rich meadows, skylark and water vole are just some of our valuable habitats and species that have declined in area or numbers. Not only have habitats been lost, but the remaining areas are smaller and more isolated. In signing the International Biodiversity Convention at the Rio Earth Summit of 1992 the Government committed itself to the task of reversing this trend and of increasing the variety of wildlife in our countryside. The UK Biodiversity Action Plan which was produced following the Summit (HMSO 1995a & b) states that 'the fragmentation or isolation of key habitats [is] to be avoided and wherever practicable past fragmentation [is] to be reversed'.

The current agricultural grants and other incentives provide a means of reversing the tide; of bringing back some of what we have lost, of linking up isolated areas, and providing stepping stones to help wildlife move across the landscape.

English Nature is taking a lead through the Habitat Restoration Project, by establishing four Trial Areas in which these ideas can be put into practice within the framework of Natural Areas and the Biodiversity Action Plan. Within each area, we are identifying priority habitats and species, and opportunities to restore or recreate them.

English Nature cannot (and should not) do this alone. To be successful we must involve everyone with an interest in the countryside. The Project needs to build support and enthusiasm among landowners, voluntary conservation bodies, government bodies such as MAFF and the Forestry Commission, and Local Authorities. In Dorset, English Nature are working in partnership with the Farming and Wildlife Advisory Group (FWAG) to develop the project.

There is a chance in the next few years, not to set rigid rules about which habitats should be created where, but to develop criteria, procedures and practices to help us, and others, to make the countryside a richer and more attractive place for wildlife and for people. This report describes how we hope to achieve this in the Dorset Trial Area where the Project is being publicised as The Blackmore Vale.

For further information about The Blackmore Vale or the Project as a whole please contact:

Karen Eppey
Project Officer
The Blackmore Vale Project
Farming and Wildlife Advisory Group
Government Buildings
Prince of Wales Road
Dorchester, DT1 1PY

or

Rachel Thomas
Project Manager
The Habitat Restoration Project
English Nature
Northminster House
Peterborough
PE1 1UA

1. INTRODUCTION

1.1 The Blackmore Vale Project

The Blackmore Vale Project is part of a national Habitat Restoration Project, initiated by English Nature in April 1996. The aim is to investigate ways of increasing the variety and abundance (the biodiversity) of our wildlife, focusing on reversing habitat fragmentation, by using existing Environmental Land Management Schemes (ELMS) such as Countryside Stewardship. The benefits to wildlife will be monitored over a ten year period. Each of the four Trial Areas has been chosen to represent a particular type of agricultural landscape typical of lowland England.

The Habitat Restoration Project forms part of English Nature's contribution to the UK's Biodiversity Action Plan for achieving targets agreed at the Rio Earth Summit in 1992. Its aims also accord with Article 10 of the EC Habitats Directive.

Trial Areas, each of about one hundred square kilometres, have been established where practical habitat restoration will be encouraged in co-operation with farmers and other landowners. One of these areas has been established in The Blackmore Vale in north Dorset. The area contains a wide variety of semi-natural habitats of high conservation value in addition to extensive areas of intensively managed farmland.

Experience gained from the Trial Areas will allow conservation organisations to target the most effective means of reversing habitat deterioration and fragmentation using existing schemes, and to identify any constraints which must be overcome.

In the first nine months of the Project we have already:

i. Set up a Steering Group and an Advisory Group comprising representatives of the countryside organisations and farming community.

ii. Prepared a leaflet entitled 'The Blackmore Vale Habitat Restoration Project' to publicise the Project. This is being distributed to farmers and other landowners, conservation organisations and other interested groups.

iii. Informed farmers and other landowners about the Project and how they can become involved. Many have allowed us access to their land to carry out a field survey of the existing wildlife.

iv. Used this field survey, along with existing records from the area, to select habitats and species for priority action.

v. Discussed with representatives of the statutory and non statutory countryside organisations how they might support the Project, and with them, identified existing incentive schemes which are available to farmers to help them enhance the biodiversity of their farms.

vi. Combined this information to develop an idealised 'vision' for creating a more wildlife friendly countryside, with particular reference to Biodiversity Action Plan priority habitats and species.

vii. Visited farms to discuss habitat restoration and management, whole farm plans and ELMS. Several farmers and other landowners are keen to apply for Countryside Stewardship this year, some in conjunction with whole farm plans (FWAG Landwise Plan). Where appropriate these Landwise Plans will be sponsored by English Nature.

viii. Prepared a questionnaire to evaluate landowners' experiences and opinions of habitat restoration/conservation and ELMS (Appendix I). The questionnaire is being used when visiting farms and holdings in the Trial Area.

ix. Prepared, with the Environment Agency, a leaflet entitled 'Rivers, Streams and Ditches' to promote awareness of the freshwater systems throughout the Trial Area, and to encourage habitat restoration and management.

This document presents our vision, and sets out the information on which it is based. Possible ways of implementing the vision over the next ten years are given in Section 5, although current funding is only guaranteed for the first three years. We will be consulting widely about its implementation with both farmers and other landowners and the countryside organisations.

It should be emphasized that at present the vision is a hypothetical one only. No specific pieces of land are being targeted for restoration action. It is recognised that the aim of the Project, to investigate the extent to which Biodiversity Action Plan targets can be met using existing ELMS, can only be achieved through gaining the co-operation of all interested parties, particularly those who manage our farmland.

1.2 The Blackmore Vale Trial Area

The Trial Area is situated in the Blackmore Vale of north Dorset, south-east of Sherborne and south-west of Sturminster Newton. It is a low-lying, gently undulating clay vale, characterised by small intensive dairy farms that Thomas Hardy referred to as the "Vale of the Little Dairies".

English Nature, in consultation with the Countryside Commission, has recently identified 120 Natural Areas, and 181 associated Countryside Character Areas, in England. Each has a distinctive landscape and supports characteristic wildlife and natural features. The Blackmore Vale lies within the Wessex Vales Natural Area and Blackmore Vale Countryside Character Area. The location of the Trial Area in the Blackmore Vale, and in relation to adjacent Natural Areas is shown on Map 1.

Land usage within the Blackmore Vale is predominantly grassland, with most having been agriculturally improved. The many small fields are defined by a dense network of hedgerows, lanes and streams. Small woodlands are scattered throughout the area, and road-side verges support flower-rich plant communities. The little arable land is mostly sown with winter wheat and maize silage, and used for winter livestock feeding. There are a number of linear villages and hamlets, and many scattered farmhouses and dwellings. The Trial Area represents a landscape typical of the English lowland pastoral countryside.

2. PAST AND PRESENT LAND USE

The damp clay land of the Blackmore Vale has supported pastoral farming systems for hundreds of years. Farming was introduced to Dorset during the Neolithic period, over 6,000 years ago. The light, calcareous soils of the Downs to the south suited crops of wheat and barley, but the more heavily wooded clay lowlands could not be cleared so easily. Although, in time, they were gradually cleared and occupied, a field system didn't emerge until the Bronze Age (2,000 BC). During the latter part of the Roman occupation the plough was introduced, enabling heavier land to be brought under cultivation, but "the grass of permanent pasture" was thought "so good that trying to turn it to arable is hardly worth the while" (Salmon 1910). Sheep were the predominant domestic animal in the early years, probably due to their ability to forage for themselves during winter, and many grazed woods developed into open pastures and meadows. The Domesday Book (1086) contains references to large flocks on the Royal manors.

Historically, the county of Dorset had vast areas of rough open feeding ground, particularly in the parks of the royal manors. This was probably because, from early times, a large area of Dorset was dedicated to game. At the time of Domesday around half of the area of the county was Forest, consisting of pasture, woodland, arable and villages.

Dorset had a relatively small area of woodland (just 6% of the county at Domesday) composed of many, generally small, woods. The early clearance of woodland in the chalk downs for arable farming, and the loss of woodland on the heathlands in the east, were due to extensive early (possibly Bronze Age) burning and grazing. Most woodland was concentrated around the Forests of Gillingham and Cranborne Chase in the north and Holt in the east. Elsewhere Domesday depicts the same scatter of small woods seen in the present landscape. Stands of small-leaved lime trees, one of the more local native trees associated with ancient woodlands, still occur in the ancient woodlands of the Blackmore Vale.

The Forest Charter of the beginning of Henry III's reign much reduced the Forest area, but left four distinct Forests in Dorset, including the Forest of Blackmoor (the spelling of Blackmore changed in later years). At its greatest extent the royal hunting Forest stretched 16 miles from Yeovil to Sturminster Newton, including what is now the Trial Area. In 1225 it was reduced to about one seventh of its former size (Marnhull Festival of Britain Committee, 1952). In 1248 William de Centilupe enclosed Stock Gaylard Park, Dorset's oldest surviving park, within the Forest of Blackmoor. It contained fine, timber-quality standards of elm and oak, and as it is today, it was stocked with fallow deer. The medieval origin of Great Wootton Wood, whose recorded history dates from 1086, is revealed by its massive wood banks and ditches. Until recently the wood was neglected, but it is now in the eighth year of an extensive coppicing and selective thinning programme.

In the early 13th century there were thirty or so woods within the Blackmore Vale. Although a number were private property, the King had hunting rights over the Forest, which was subject to special Forest laws. A landowner needed a King's license to carry out activities that might be held to alarm or damage the deer, such as felling timber, clearing undergrowth and burning charcoal. Throughout his reign, Henry III gave gifts of venison, roofing-timber and brushwood for fuel from Blackmore. The Forest of Blackmoor was progressively reduced in size during the reign of Edward I, until in 1349 the remaining royal rights were allowed to lapse (Marnhull Festival of Britain Committee, 1952).

The majority of ancient woodlands in the Blackmore Vale have, until recently, been managed as coppice with standards. Hazel was the predominant underwood species, and provided the hurdles needed by a pastoral economy which was heavily dependent on sheep, with cattle and dairying being of secondary importance. In 1812 the Board of Agriculture issued a report on the scarcity of timber, and the quantity was said to be "continually diminishing". Where the Blackmore Vale previously had good timber woods, it now had merely hedgerow timber. Remaining woods included Fifehead Neville (24 ha of oak timber), Stock Gaylard (24 ha) and Stourton Caundle (26 ha). Many ancient woodlands have since suffered from coniferisation, to produce timber and economic returns.

After having disappeared from Dorset for two or three centuries, roe deer were introduced at Milton at the beginning of the 19th century, where they roamed freely about the woods of the Blackmore Vale, under the general protection of the landowners. They remain abundant within the Trial Area.

Dorset's character was, in the main, agricultural and pastoral, with quarrying being the only occupation that could compete with agriculture. The common fields in the Blackmore Vale disappeared in the early 15th century to be replaced by large enclosed fields of permanent pasture. A few commons still survive today, including Lydlinch Common in the Trial Area, a site which has recently been recognised as of European importance for the marsh fritillary butterfly.

In 1910, roughly 50% of the county was permanent grassland and 27% was arable, growing wheat and oats. During World War II farmers were required to plough up grassland for immediate reseeding, to encourage higher production. Fertilisers became available, and new systems of continuous cropping, with break crops to restore soil fertility, were introduced. The majority of permanent grassland was agriculturally improved, and now 62% of the Trial Area is covered by improved grassland. Only 3% of the area is semi-natural grassland.

Apart from war-time ploughing, arable farming in the Trial Area has only occurred during recent years. The Blackmore Vale now supports a considerable proportion of arable land (21% of the Trial Area), that is farmed intensively and mostly sown with wheat, flax and maize. Maize has been introduced within the last ten years to make silage for winter livestock feeding.

Hedgerow elms used to be a characteristic feature of the Blackmore Vale, although they were virtually all lost to Dutch Elm disease in the 1970s. Farm ponds were also a prominent feature of field corners and used as cattle drinking points, although they have largely been neglected and have become overgrown and shaded.

2.1 Factors Affecting the Habitats of the Trial Area

2.1.1 Geology and Soils

The Blackmore Vale is underlain by Oxford and Kimmeridge clays, which are separated by a central, narrower, band of Corallian limestone. Settlements in the Trial Area are concentrated along this ridge, which runs down through Hazelbury Bryan and Pulham towards Dungeon Hill in the south. This hill is an outcrop of the Upper Greensand and Chalk which form the boundary of the Vale and its transition to the scarp of the South Wessex Downs Natural Area (Map 1) in the south and south-east. Kimmeridge Clay lies between the downs and the narrow limestone ridge but is only found along the south and east edges of the Trial Area, which is predominately Oxford Clay. Two belts of Forest Marble, Cornbrash and Fullers Earth lie around Bishops Caundle and Folke/Alweston in the north and north-west of the Trial Area. They mark the transition to the oolitic limestone of the Yeovil Scarplands Countryside Character Area.

The soils in the central band of the Trial Area are predominantly the fine loams and clayey soils of Wickham 2 and Denchworth associations. These are surface water gleys, slowly permeable with a clayey subsoil, and subject to water-logging. Profiles may be slightly acidic on the surface, becoming calcareous at depth. Nutrients are not readily leached. Around Hazelbury Bryan, Duntish and along the Caundle Brook are brown earths of the Bursledon series. These deep, fine loams are slowly permeable but still prone to seasonal water-logging. The better drained soils are on the periphery of the Vale, along the chalk, greensand or limestone boundaries, although small patches of gravel occur over the Oxford Clay, typically along river valleys or topping some of the higher ground as at Lydlinch village. There is also a clay or silty alluvium alongside the main streams and some patches of sand in places eg at Hazelbury and Holwell.

2.1.2 Drainage

The area is drained by many small meandering streams from the base of the chalk hills to the south of the Vale. Together with the many small springs, these streams flow north-east, collecting in the River Lydden or Caundle Brook to join the River Stour upstream of Sturminster Newton. Other tributaries of the Caundle Brook flow from the limestone hills in the north of the Vale. The River Divelish flows northwards through the eastern boundary of the Trial Area.

The many small ditches around the fields were created to clear surface water quickly. The ditches are deep and about a metre wide, and hold open or flowing water for short periods only, although the substrate is usually damp. Fields remain wet until late in the Spring and then dry rapidly, until the onset of the autumn rains.

2.1.3 Climate

The south-west of England enjoys the summer warmth of southern England but has rather milder, wetter winters than the east of the country. The average annual number of sunshine hours is greatest in the south and south east of England, and the Blackmore Vale receives 4.5 hours of sunshine per day, compared to mountain areas which receive around three hours per day.

The Blackmore Vale ranges in altitude from 20-120 m and annual rainfall averages 700-900 mm. Most runs off, to collect in the open ditches which feed the extensive network of streams.

2.1.4 Farm Constraints

The factors constraining farming in the Trial Area have been determined through telephone conversations with farmers and other landowners. The main constraints concern finance, labour and land tenure. Many farms are family businesses, and more than one person is involved in the decision-making. Almost a third of farms are rented from neighbouring large estates, the County Council or private owners, again increasing the number of people involved in decision making.

Many farmers are currently facing substantially reduced profits, if not outright losses, and so are less disposed to spend money on environmental enhancement than they might otherwise be. Milk prices are severely depressed, in common with the price of most agricultural commodities, and the recent BSE crisis has caused further problems. This is leading to a concentration of spending on those aspects of the business that yield a financial return; in preference to those, including nature conservation, which do not. Furthermore, it is likely that such difficulties will continue in the future. The recent development of Environmental Land Management Schemes (ELMS), such as Countryside Stewardship, do now offer some financial incentives for farmers to carry out a range of environmentally friendly projects on their land.

The use of artificial fertilisers, and modern technology, such as efficient milking machines and purpose built parlours, has also changed farm habitats and their management. Unimproved grassland is scarcely viable, because today's highly productive dairy cows require high quality forage and winter feed. Production is maximised to maintain milk outputs at the quota level. The comparatively high capital investment needed for dairying makes this system inherently less flexible than beef or sheep livestock enterprises. As a result, important wildlife habitats have been fragmented causing a decline in the species they once supported.

Many farmers and land managers are generally uneasy and suspicious of conservation, feeling that it would further restrict their business. The Project is currently building on FWAG's established involvement with, and respect for, the farming community, and meetings and farm walks promote an understanding of the Project and alleviate any concerns.

Collectively, the farm constraints highlighted above will affect the implementation of the Project. They help define the parameters within which we must work, and these must be flexible and practical to implement.

2.1.5 Wildlife

The landscape of the Blackmore Vale is typical of the English lowland pastoral countryside, composed of small, grassy fields, defined by a dense network of hedgerows, streams and small roads with colourful, flowery verges. Many small woodlands are scattered throughout the area. The little arable land is mostly sown with winter wheat and maize for silage. Several small villages and hamlets, and many scattered farmhouses, line the narrow roads. However although superficially the landscape does not appear to have changed radically in the last fifty years, the extent and quality of semi-natural habitats has decreased considerably due largely to agricultural intensification and conifer planting on ancient woodland sites. The following are examples of such losses:

Habitat loss

- 50% loss of working wood-pasture and parkland in south-west England to scrub woodland and/or arable/improved grassland over the last 50 years (Cordrey 1997).
- 7.5% loss of Dorset's ancient woodland since the turn of the century; a further 49% has been replanted with conifers (Spencer 1988).
- 60% loss of Dorset's neutral grassland between 1982 and 1988, equating to a 10% annual loss rate (Jefferson, 1996).
- 75% decline of ponds in the UK over the last 100 years (Cordrey, 1997).

Species

- 70% decline in pipistrelle bat in the UK between 1978 and 1993 (Cordrey 1997).
- Water voles lost from three quarters of pre-1939 UK sites, predicted total loss of 94% by the year 2000. In Dorset water vole still occupy 50% of recorded sites, although there are few records from the Trial Area.
- 10% decline per decade of marsh fritillary butterfly in the UK (Cordrey 1997). The south-west holds nearly 50% of the UK population.

Important wildlife sites within the Trial Area

There are two Sites of Special Scientific Interest (notified under the Wildlife and Countryside Act 1981, as amended) in the Trial Area, Lydlinch Common and Stock Wood; and Rooksmoor. Both contain species-rich meadows, scrub and woodland, and support major populations of the marsh fritillary butterfly. In order to protect this internationally scarce butterfly, the two sites together have been proposed as a Special Area for Conservation under the EU Habitats Directive.

In addition, the Trial Area includes forty seven locally important Sites of Nature Conservation Interest (SNCI) containing unimproved neutral grassland, semi-natural ancient woodland, and parkland.

The Trial Area contains the following Biodiversity Action Plan Priority Habitats (HMSO 1995b):

- Lowland Hay Meadow (*including all lowland unimproved neutral grassland*)
- Ancient and/or Species-Rich Hedgerows
- Lowland Wood-pasture and Parkland
- Wet woodland
- Purple Moor Grass and Rush Pasture
- Cereal Field Margins

Other habitats in the Trial Area, identified as of regional importance by the Wessex Vales Natural Area Profile (Heath undated), are:

- Woodland: other broadleaved; planted coniferous;
- Lowland farmland: other boundary features; arable; improved grassland
- Freshwater systems: standing open water; rivers and streams; ponds

3. RESULTS OF THE BLACKMORE VALE SURVEY

3.1 Methodology

During August and September 1997, farmers and other landowners within the area were contacted by telephone to explain the purpose of the Project, and to obtain access permission for a field survey. Many names were initially obtained from the National Farmers Union and the Forestry Authority (after these organisations had obtained permission to pass on these details, from the people concerned) and personal communication from neighbouring land owners.

The field survey (Walls 1997) was carried out between August and October 1997 using the standard methodology of the Phase I Habitat Survey (Nature Conservancy Council 1990). Dominant habitat and plant species were recorded, and target notes highlighted special features of interest. In a few instances access permission was refused and some landowners could not be contacted. Their land was not surveyed from public rights of way, in order to maintain trust, ground surveying was only carried out on land where access permission had been given. These areas were completed using aerial photographs held by the Environment Agency. Throughout all farm and landowner contact, it was guaranteed that individual farm results would remain confidential within the Project.

Additional information was collected from the Butterfly Conservation Group; Dorset County Council; Dorset Environmental Records Centre; Dorset Wildlife Trust; English Nature; The Environment Agency; and The Herpetological Conservation Trust.

3.1.1 Access Permission

147 farmers and other landowners have been identified in the Trial Area. Of these, 119 gave access permission (81%); 13 declined (9%); and 15 could not be contacted (10%).

Reasons given for refusing access were: a general feeling of unease towards conservation, "too many individuals and organisations looking around their farms", and the wish to avoid imposition of restrictive conservation designations. Some people could not be contacted, partly because a number of farm sales and ownership changes meant current names and phone numbers could not be obtained. In some instances no reply was received, despite repeated phone calls.

3.1.2 Farmer and Landowner Interest

Of the 119 people who gave access permission, there was an encouragingly high level of interest expressed for the Project. As a result of this initial contact 34 are keen to have a farm visit, and a further 18 have asked to be contacted again. Areas of interest include:

- Countryside Stewardship
- Other grant schemes
- Pond restoration and creation
- Stream management
- Tree planting
- Hedgerow laying and management
- Organic farming
- Wildlife in general

3.2 Summary of Wildlife Habitats Present

The field survey identified a mosaic of good wildlife habitat throughout the Trial Area, connected by streams, hedgerow and roadside verges. There is a concentration of wildlife sites around Lydlinch, Rooksmoor and Deadmoor, which can be considered as a Prime Biodiversity Area. The percentage of the Trial Area covered by each habitat is shown below:

Habitat Type	% Trial Area Covered
Woodland	**9**
Broadleaved	5
Coniferous	3
Mixed	<1
Lowland Grassland	**3**
Unimproved neutral	<1
Semi-Improved neutral	2
Lowland Farmland	**83**
Improved grassland	62
Arable	21

This can also be represented as a pie chart:

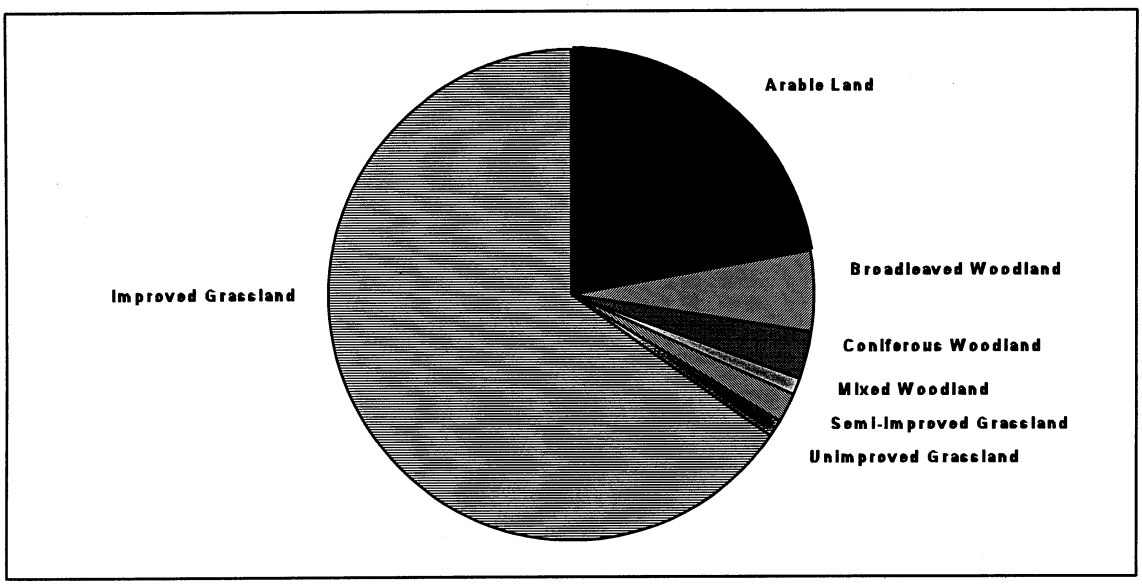

Table 1: **Species, recorded in the Trial Area, which have been identified as Priority Species in the UK Biodiversity Action Plan (UK Biodiversity Group 1998), or in the Wessex Vales Natural Area (Heath undated)**

	Biodiversity Action Plan Priority Species	Wessex Vales Natural Area Priority Species
Mammals		
Brown hare	*	
Brown long-eared bat		*
Dormouse	*	*
Natterer's bat		*
Otter	*	*
Pipistrelle bat	*	
Serotine bat		*
Water vole	*	*
Birds		
Barn owl		*
Bullfinch	*	
Corn bunting	*	*
Curlew		*
Grey partridge	*	*
Kestrel		*
Kingfisher		*
Lapwing **		
Lesser spotted woodpecker		*
Linnet	*	*
Nightingale		*
Reed bunting	*	
Skylark	*	*
Song thrush	*	
Tree sparrow	*	
Reptiles		
Grass snake **		

	Biodiversity Action Plan Priority Species	Wessex Vales Natural Area Priority Species
Amphibians		
Great crested newt	*	
Butterflies		
Brown hairstreak		*
Marsh fritillary	*	*
Pearl-bordered fritillary +	*	*
Small pearl-bordered fritillary		*
Moths		
Double line	*	
Narrow-bordered bee hawk	*	
Small eggar **		
Other invertebrates		
Dead wood beetles**		
Vascular Plants		
Bithynian vetch		*
Corky-fruited water- dropwort		*
Devil's bit scabious		*
Greater butterfly orchid		*
Green-winged orchid		*
Meadow thistle		*
Lower plants		
Lichens associated with veteran trees	*	*

** Other priority species within the Blackmore Vale.

+ The Pearl-bordered fritillary is thought recently to have become extinct in the Blackmore Vale.

3.2.1 Woodland and Scrub

- ***Broadleaved Semi-Natural Woodland***

Broadleaved semi-natural woodland is found throughout the Trial Area. Twenty seven woods are locally recognised Sites of Nature Conservation Interest (SNCI), of which thirteen are also listed on the Ancient Woodland Inventory (AWI) (Spencer, 1988). These are predominantly oak, ash and hazel, and were traditionally managed as coppice-with-standards (Heath, 1990). Middlemarsh Park and Common is an extensive ancient woodland site of 69 hectares, although it has largely been replanted with conifers and only relicts of the semi-natural oak-ash-hazel woodland remain.

Other notable areas include clusters of fragmented woodland on the Stock Gaylard Estate and around Dungeon Hill. On the calcareous clay there are many small woods and copses in field corners and alongside tracks, mostly variants of an ash-field maple-dogs mercury woodland, with a large component of oak.

Woods containing managed ride networks, and those where coppice is still worked, are important for their butterflies, including small pearl-bordered and silver-washed fritillaries. Characteristic breeding birds include buzzard and nightingale.

Broadleaved semi-natural woodland covers approximately 4-5% of the Trial Area.

- ***Broadleaved Plantation***

There are five examples of broadleaved plantation in the Trial Area. Common Plantation is a 2.4 hectare oak-ash-beech woodland. Pilleys Coppice is an oak-ash-hazel woodland covering 2.6 hectares. A few areas of semi-natural broadleaved woodland have been under-planted with poplar for timber income. One such wood is Thornhill Copse, originally an ash-oak-elm woodland, now planted with poplar.

Broadleaved plantation covers less than 1% of the Trial Area.

- ***Mixed Woodland***

There are five examples of mixed woodland in the Trial Area. All are isolated woodlands under 5 hectares in size, typically of oak and ash with planted pine. Some mixed woods support plants of nature conservation interest, including wild service tree, violet helleborine and meadow saffron.

Mixed woodland covers approximately 1% of the Trial Area.

- ***Coniferous Plantation***

Many semi-natural woodlands have been cleared and replanted with conifers. There are a number of coniferous plantations in the Trial Area. By far the most notable is Middlemarsh Park and Common, an extensive ancient woodland site with the majority of its 69 hectares replanted with conifer species. Other plantations are small and scattered, some are adjacent to semi-natural woodland, and a few contain relict broadleaved trees.

Coniferous plantation covers approximately 3% of the Trial Area.

- ***Lowland Wood-Pasture and Parkland***

A few of the remaining parklands in the Trial Area retain a high proportion of old trees, especially oak and ash, in an open grassland situation. The processes which created these habitats have long since ceased and most have been converted to arable farmland. As already noted, Stock Gaylard Park is the oldest existing park in the county. Although recent surveys indicate that its lichen and invertebrate communities are not particularly well developed, its close proximity to Lydlinch Common and Stock Wood SSSI enhances its value for wildlife.

Wood-pasture is a scarce habitat in the Wessex Vales. Deadmoor Common is the only example in the Trial Area, and contains scrub, woodland, neutral grassland and swamp. Veteran trees and dead wood provide important habitats for invertebrates (especially when nectar sources such as hawthorn are also available) and lichen communities.

- ***Wet Woodland***

Alder is locally prominent on the chalk-greensand interface where surface water drainage is a characteristic feature. The only examples of wet woodland in the Trial Area are stream-side strips scarcely more than one tree wide. They grade into alder woodland with stinging-nettle dominant in the ground flora. Crack willow is also present, with white willow common along some stream sides. Withy beds were once a common feature of the Blackmore Vale, and several are marked on Ordnance Survey maps.

The wet woodland strips contain important invertebrate assemblages, notably soldier flies, crane flies and beetles. Characteristic plant species are thin-spiked wood sedge and opposite-leaved golden saxifrage. The much rarer alternate-leaved golden saxifrage has also been recorded.

- ***Hedgerows***

There is a dense network of hedges throughout the area, defining farm fields and alongside ditches and roads. They are generally thick, well managed hedges with good structure, and containing blackthorn, hawthorn, bramble, privet and rose. Mature elm tree standards were historically a feature of the Trial Area, although Dutch elm disease killed nearly all of them in the 1970s, and only oak and ash standards remain. Some hedgerows are becoming gappy, and most are annually trimmed in the typical box-shape.

Hedgerows form important links between fragmented semi-natural habitat, and support characteristic species such as gatekeeper and brown hairstreak butterflies, and possibly dormouse.

- ***Scrub - dense, continuous or scattered***

Scrub is often present and left unmanaged alongside streams and other watercourses, and hedgerows; and may encroach into adjacent areas of grassland. Hawthorn, blackthorn and bramble are the most frequent species, with some patches of gorse on the more acidic soils.

The most notable areas of continuous scrub are at Lydlinch and Deadmoor Commons. The hedges and woodland edges at Rooksmoor are managed to support brown hairstreak butterflies. An introduction of brown hairstreaks has recently been made at Ryewater Nurseries.

3.2.2 Lowland Grassland

- ***Acid Grassland***

The Phase I survey identified no examples of true acid grassland in the Trial Area. However, some areas of neutral grassland become mildly acidic in places, including Rooksmoor, Lydlinch and Deadmoor where sneezewort is present; and Burton Common which has a wet heath community.

- ***Calcareous (downland) Grassland***

No examples of true calcareous grassland were identified by the Phase I survey. However, some areas of neutral grassland where the oolitic limestone lies close to the surface, for example around Dungeon Hill, contain calcareous grassland species such as rock rose and quaking grass.

- ***Neutral Grassland (flower-rich grasslands including hay meadows)***

Neutral grassland is Dorset's most threatened habitat. It occurs on clay and inferior oolite soils, and supports many uncommon plants and invertebrates (Porley 1989). Fourteen sites have been selected as SNCIs. It typically developed through grazing and/or cutting regimes but most has now been lost to agricultural intensification. Most remaining areas are managed as pasture, less frequently as hay meadow with aftermath grazing. There are a number of unimproved and semi-improved grasslands scattered throughout the Trail Area. The largest examples are at Dungeon Hill, Lydlinch Common, Rooksmoor Meadows and the restored grassland at Ryewater Nurseries. The remaining areas comprise small isolated fields.

Rooksmoor Meadows represent approximately 5% of Dorset's unimproved neutral grassland, and supports at least 30 species of grass including crested dog's-tail and tufted hair grass, as well as herbs like pepper saxifrage and the corky-fruited water dropwort, a notable species in Dorset. A total of 28 species of butterfly are known to breed here, including the UK's densest and largest recorded population of the marsh fritillary butterfly (M. Warren, pers. comm.), whose larvae feed on the devil's-bit scabious.

There are several roadside verges with flower-rich plant communities, of which three are SNCIs. They are mainly damp grasslands, sometimes with an adjacent bank and ditch. Typical species include stone parsley, meadow sweet, ragged robin and tufted hair grass.

Neutral grassland covers approximately 3% of the Trial Area.

- ***Purple Moor Grass and Rush Pasture***

Historically, the Blackmore Vale was characterised by herb-rich grassland and fen meadow. Although agricultural improvement has resulted in considerable losses of this nationally declining resource, fragments of fen meadow, mire and scrub remain within areas of neutral grassland.

The fen areas of Rooksmoor contain species such as purple-moor grass, meadow thistle, pale sedge and jointed rush. Lydlinch Common has extensive patches of meadow thistle, several rushes and a rich sedge flora including glaucous sedge. Tall herbs such as angelica and marsh thistle are also prominent.

- ***Improved/Reseeded Grassland***

Most of the Trial Area consists of agriculturally improved and reseeded grasslands, rye grass-clover leys of low biodiversity, supporting the characteristic intensive dairy farms.

The clay soils and fine loams of the Vale are subject to water-logging, causing surface water flooding in winter and spring. Permanently, or seasonally, wet grassland is an important habitat for birds such as snipe, curlew and other waders, especially during spring and autumn migration.

Improved grasslands cover approximately 62% of the Trial Area.

3.2.3 Arable Farmland

Apart from war-time ploughing, arable farming in the Trial Area has only occurred during recent years. The intensively farmed arable land, is mostly sown with wheat, flax and maize. Maize has been introduced within the last ten years to make silage for winter livestock feeding, and flax is a more recent crop that also provides financial benefits from subsidy payments.

In winter, arable land is occasionally used by blackheaded gulls, and waders such as lapwing and golden plover for feeding. Several sightings of brown hare were recorded during the Phase I survey, although their numbers have declined in the Vale, and throughout the country.

Arable farmland covers approximately 21% of the Trial Area.

3.2.4 Rivers, Streams and Ditches

There is a dense network of small rivers, streams and ditches. They are generally shallow with steep-sided banks, causing them to flood quickly in the winter. The water quality is generally good. Many watercourses are overgrown and shaded, and intensively farmed close up to the waters edge, to take advantage of the fertile alluvium soils on the river banks. The River Lydden and Caundle Brook, tributaries of the River Stour, dissect the Trial Area.

The otter population is recovering on the River Stour, upstream of the Trial Area, and individuals are thought to be present in the Trial Area itself. A few water voles have been recorded, although the wooded stream banks and rapidly fluctuating water levels are generally an unsuitable habitat. Scarce invertebrates include the white-legged damselfly, which has been recorded on the lower reaches of the River Lydden.

3.2.5 Farm Ponds

There are many small farm ponds in the area, often in field corners, unconnected to water courses. Some hold water throughout the year, although water levels may fluctuate. Most ponds have been neglected, and are overgrown and heavily shaded by trees and shrubs. Some have been purposely filled-in, and others neglected for such a time that they have filled-in naturally. Other ponds are relatively new and were created for duck rearing or fishing.

The ponds around Glanvilles Wootton support a large meta-population of great crested newts. These, together with other amphibians and some invertebrates, benefit from ponds that occasionally dry up in summer, as predatory fish cannot survive. There is also a population of great crested newts in the ponds around Pulham and King's Stag.

4. A VISION FOR HABITAT RESTORATION

4.1 General

As would be expected in a rural area characterised by small intensive dairy farms, 83% of the Trial Area consists of agriculturally improved grassland and arable land, with a small proportion of semi-natural habitat. The Phase I survey shows that these areas are mainly small, fragmented, and scattered throughout the area. The survey, and interviews with most of the farmers, has also highlighted parameters to work within when planning restoration in the Blackmore Vale. These include:

- Valuable wildlife habitats are small and fragmented
- Farm businesses - finance, labour and land tenure constrain the reversal of fragmentation
- Use of Environmental Land Management Schemes (ELMS) is crucial to implementing the reversal of fragmentation

The vision for future habitat restoration aims, in discussion with the farming community, to create a diverse arrangement of rich wildlife habitats by:

- protecting and maintaining existing habitats
- restoring existing unmanaged habitats
- improving under-managed habitats for wildlife
- buffering and extending existing habitats
- creating linkage between remnant habitats
- creating new habitats
- encouraging management of farmland by less intensive methods

Target habitats and appropriate areas for restoration have been selected by considering:

- existing landscape and land use of the area
- existing semi-natural habitat types, and their present and former extent
- degree of fragmentation of existing semi-natural habitats
- soil types, aspect and drainage
- UK Biodiversity Action Plan (HMSO 1995b), Tranche 2 Action Plans (UK Biodiversity Group 1998), Action for Biodiversity in the South West (Cordrey 1997) and the Wessex Vales Natural Area Profile (Heath undated) which identify habitats and species under most threat
- discussions with farmers and naturalists
- costs, labour and timescale of restoration work
- appropriate grant schemes to help fund restoration work

4.2 Preferred Areas for Habitat Restoration

The intricate landscape of the Blackmore Vale, composed of farmland, hedgerows, woods and streams, contains many habitats of varying value for wildlife. In general, the most valuable habitats are fragmented and scattered throughout the Blackmore Vale, although clusters of important habitats do occur locally. Our strategy for restoring the wildlife of the Vale is based on protecting, expanding and linking these existing target habitats.

The preferred areas for habitat creation have been selected by prioritising:

- Areas suitable for habitat creation/ restoration, adjacent to existing semi-natural habitats
- Areas that support key Biodiversity Action Plan species.

The ultimate vision for the Trial Area is to create a mosaic of wildlife habitats which will maintain and enhance the populations of priority species.

The information presented here has been used to identify those parts of the Trial Area where particular types of habitat restoration and creation will benefit wildlife most. This information is shown in Map 2. Existing areas of broadleaved woodland, wood pasture and parkland, conifer plantation, and neutral grassland are also shown.

The map has been designed to show interested farmers and other land managers how their land fits into the ecology of Blackmore as a whole, and presents options which if adopted, would benefit wildlife through the area as a whole. The options range from relatively small scale works, like restoring hedgerows, to large scale grass or woodland restoration.

It should be emphasised that the information provided in this report is designed to help farmers and other land managers to decide which option, if any, they might adopt on their land. The final extent and location of any new or restored habitats will depend entirely on their individual farm circumstances.

Rationale for the Selection of the Preferred Areas for Habitat Restoration

As a general rule, habitat restoration is more beneficial when it extends or links existing semi-natural habitats. For instance flower-rich grassland is an important habitat characteristic of the Blackmore Vale. Its creation is to be encouraged throughout the Trial Area. However, new areas would be especially valuable within one kilometre of the larger areas or blocks of existing unimproved grassland, and within half a kilometre of small isolated grasslands or any semi-improved grassland.

Some flower-rich meadows support important populations of marsh fritillary butterfly. The preferred area for creation or restoration management of such meadows for the marsh fritillary has been selected by targeting areas within two and a half kilometres of known colonies (the maximum distance the insect is known to fly between colonies), that lie on clay or alluvium soils suitable for supporting devil's bit scabious (the food plant of the marsh fritillary caterpillars).

Similarly the most valuable areas for new woodlands are adjacent to existing semi-natural broadleaved woodland, plantation and scrub. Care should be taken not to plant woodland in areas supporting other semi-natural habitats, such as flower-rich grassland. Where possible, and particularly within the marsh fritillary area, wide grassy rides should be included to provide corridors for grassland species.

Because the existing semi-natural habitats are so scattered, the preferred areas for restoration of different habitats overlap. In such cases, there may be one habitat type which is preferred above others. For example, within the preferred areas for management for the marsh fritillary butterfly, grassland creation and management for this insect would be even more valuable than new woodland planting, although both are target habitats.

4.3 TARGET HABITATS

4.3.1 Broadleaved Woodland

Habitat Objectives

- Restore and enhance the wildlife value of existing woods, especially ancient woodland:
  - Reinstate traditional management of coppice with standards at appropriate sites, especially in areas suitable for dormice, or the pearl-bordered fritillary butterfly.
  - Manage woodland edges, rides and glades to create a diverse habitat structure.
  - Retain veteran trees, and standing and fallen dead wood of a variety of species and sizes.
  - Plant and safeguard young trees as potential replacements for veterans.

- Extend and/or link existing woodland habitats, especially ancient woodlands:
  - Create new woodland/ hedgerows to extend/ link existing habitats, where suitable (i.e. not on flower-rich grassland).
  - Buffer existing woodlands by habitat restoration or careful management practices on adjacent areas.
  - Where woodland creation is not an option, create flower-rich grassland or scrub next to semi-natural woodland, to provide nectar sources for woodland insects.

- Restore areas of wet woodlands and former withy beds alongside streams:
  - Sympathetically manage wet woodland strips alongside watercourses, possibly using minimum intervention.
  - Restore existing withy beds and where suitable, extend or recreate the habitat.

Target Species

Broadleaved Woodland	UK Biodiversity Action Plan Priority Species	Wessex Vales Natural Area Priority Species
Dormouse	*	*
Pipistrelle bat	*	
Natterer's bat		*
Lesser spotted woodpecker		*
Nightingale		*
Song thrush	*	
Brown hairstreak butterfly		*
Pearl-bordered fritillary (recently extinct in the Blackmore Vale)	*	*
Small pearl-bordered fritillary		*
Double line moth	*	
Greater butterfly orchid		*

Preferred Areas for Restoration

- Appropriate management will be encouraged in all ancient woodlands to retain and protect valuable sites. This may include traditional coppice management, especially in those woods within, and close to, Rywater Nurseries where dormice have recently been recorded. Coppiced woodland is particularly important for the pearl-bordered fritillary which was recorded at Lydlinch 15 years ago, but has since become extinct.

- Woodland creation should concentrate on extending small and isolated sites. Where there are clusters of woodland closer together, e.g. on the Stock Gaylard Estate, opportunities could be sought to link them. Woodland/hedgerow corridors should also be created/ maintained between the woodland clusters to reduce their isolation.

- The target for woodland expansion is relatively small, 5 to 10% of the target areas. It would not be desirable to cover the whole area shown on the vision map, especially within the marsh fritillary area (although they will occur in woodland rides).

Overall Target

- **To increase the area of broadleaved woodland cover from the current 600ha by 25% (150ha), by the year 2010 within the identified preferred areas.**

Key Mechanisms and Incentives Available

- *Forestry Authority's Woodland Grant Scheme*

Annual management grant	£35/ha
Woodland establishment grant	£1,350/ha - woods up to 10ha
Supplement for planting arable/improved grassland	£600/ha
Natural woodland regeneration	£525/ha
Restocking	£525/ha

- *Forestry Authority Woodland Improvement Grant*
  50% funding for work within existing woodlands, to reinstate management, or to enhance the conservation, landscape or recreation value.

- *Forestry Authority Woodland Management Challenge*
  Management of Small Dorset Woods - provides up to 100% funding for woods under 10ha, available until 31 March 2000.

- *MAFF Farm Woodland Premium Scheme*
  £300/ha for planting new woods on land currently in arable production or improved grassland, in addition to WGS payments.

- *Local Authority Conservation Grant*
  Up to 50% of capital costs for tree and shrub planting, fencing, pollarding and coppicing.

4.3.2 Lowland Wood-Pasture and Parkland

Habitat Objectives

- Maintain existing areas of valuable habitat:
  - Sympathetically manage to maintain and enhance a diverse habitat structure, addressing biological, historical, cultural and agricultural values (South West target - by 2010).
  - Retain veteran trees, i.e. at least five per hectare plus eventual replacements, and standing and fallen dead wood where safety conditions allow.
  - Expand the area of existing sites.

- Restore the quality of wood pasture and parkland:
  - Link and buffer existing sites, where appropriate.
  - Establish young trees as future replacements for current ancient trees, either by protecting natural regeneration or by planting, as appropriate.
  - Consider 'premature ageing' of middle-aged trees to provide dead-wood habitats.

- Sympathetically manage associated grassland:
  - Encourage restoration of relict sites, including grazing and scrub removal

Target Species

Lowland Wood-Pasture and Parkland	UK Biodiversity Action Plan Priority Species	Wessex Vales Natural Area Priority Species
Natterer's bat		*
Pipistrelle bat	*	
Serotine bat		*
Lesser spotted woodpecker		*
Dead wood beetles**		
Lichens of veteran trees	*	*

Overall Target

- **To increase the area of wood-pasture/parkland from the current <10ha by 10% (1ha) by 2010.**

Preferred Areas for Restoration

- As there are a small number of wood pastures and parklands in the Trial Area, they are all priorities for continuing appropriate management. Management to ensure suitable conditions for bats, and to enhance conditions for the invertebrate and lichen communities, would be particularly valuable on land within and around Stock Gaylard Park and Deadmoor Common.

- Areas of modified wood pasture and parkland should be targeted for restoration and suitable management where appropriate.

Key Mechanisms and Incentives Available

- *MAFF Countryside Stewardship*

Historic park restoration plan - special project	75% of cost
Restoring historic parks - special project	no set payment
Lowland pastures	£85/ha/yr
(plus supplement for pastures <3 ha)	£30/ha/yr
Recreating grassland on cultivated land	£280/ha/yr
Parkland tree planting	£6 per tree
Tree surgery (minor or major)	£22.50 or £50
Scrub clearance base payment	£50 (plus £100, £250 or £500/ha for clearance)

- *Local Authority Conservation Grant*
  Up to 50% capital costs for tree planting, fencing, pollarding and pond restoration

4.3.3 Ancient and/or Species-Rich Hedgerows and Scrub

Habitat Objectives

- Protect and enhance existing hedgerows:
  - Create non-cultivated buffer strips alongside hedgerows.
  - Restore gappy and weak hedgerows by laying, coppicing and gapping up.

- Sympathetic management of hedgerows:
  - Manage hedgerows to sustain biodiversity (South West target - 50% by 2005).
  - Adopt an improved cutting regime to improve the structure and shape of the hedgerow, especially in the vicinity of brown hairstreak colony.
  - Avoid cutting hedgerows every year to provide better nesting sites for birds and to leave berries and fruits for winter food.

- Restore/ create new hedgerows to link existing valuable habitats:
  - Restore/ create new hedgerows or scrub areas to link ancient semi-natural woodlands, where appropriate, especially in areas suitable for brown hairstreak or dormice.
  - Restore flower-rich grassland along hedgerows, especially on south-facing side.

- Maintain overall numbers of isolated hedgerow trees (South West target - by 2000):
  - Retain occasional old and dead hedgerow trees, wherever safety considerations allow (i.e. not overhanging roads etc).
  - Establish young trees as future replacements.

- Manage, maintain and create important scrub areas:
  - Manage scrub areas to prevent succession to secondary woodland and maintain diversity of structure.
  - Create new scrub areas where this will enhance biodiversity.
  - Ensure scrub does not swamp habitats of wildlife value e.g. flower-rich grassland.

Target Species

Ancient and/or Species-Rich Hedgerows and Scrub	UK Biodiversity Action Plan Priority Species	Wessex Vales Natural Area Priority Species
Dormouse	*	*
Natterer's bat		*
Pipistrelle bat	*	
Barn owl		*
Bullfinch	*	
Grey partridge	*	*
Linnet	*	
Nightingale		*
Song thrush	*	
Brown hairstreak butterfly		*
Small eggar moth**		

Preferred Areas For Restoration

- Hedgerows linking ancient, SSSI and SNCI woodlands will be targeted for appropriate management and restoration where needed. Areas where this may be appropriate include the hedgerows on the Stock Gaylard Estate, hedgerows linking Deadmoor, Rooksmoor and Lydlinch Common, and those in and around Middlemarsh, Dungeon Hill and Burton Common.

- Hedgerow creation should be considered in any kilometre square with a total length of hedgerow below the average for the area.

- Hedgerow management and restoration should be considered in any kilometre square with more than 200 metres of hedgerow in poor condition.

- Blackthorn dominated scrub areas where brown hairstreak butterfly is known to occur.

- Mixed scrub in areas where nightingales or dormice have recently been recorded.

- Stream side scrub to encourage otters.

- Scrub along the boundaries between woodland and areas of open habitat.

Overall Targets

- **50% of poorly managed hedgerows to be restored to good management by 2005** (in conjunction with the South West target of 50% by 2005)

- **25% of hedgerows and scrub in the area where brown hairstreak butterfly is known to occur to be suitably managed by 2010**

Key Mechanisms and Incentives Available

- *MAFF Countryside Stewardship*

Hedgerow restoration	£2/m
Substantial preparatory work to hedgerow	£1/m
Hedge management payment	£1/m
Post and wire fencing	£0.80/m

- *Local Authority Conservation Grant*
  Up to 50% of cost of hedgerow restoration work

4.3.4 Lowland Neutral (Flower-rich) Grassland and Fen Meadow

Habitat Objectives

- Protect and maintain existing areas of neutral grassland:
  - Continue, and where appropriate restore traditional management by grazing and/or cutting, especially on Rooksmoor Meadows and Lydlinch Common.
  - Control scrub if encroachment is reducing the diversity of grassland, especially small isolated grasslands including species-rich roadside verges (NB: Scrub can be an important habitat (see 4.3.3 above) so care should be taken to remove it only where this will significantly benefit a more diverse habitat such as species rich-neutral grassland)

- Restore and extend existing areas of neutral grassland (South West target - 20% by 2006):
  - Where appropriate, remove scrub which has invaded neutral grassland areas, e.g. on Lydlinch and Deadmoor Commons.
  - Buffer existing sites by sympathetic management of adjoining habitats, especially improved farmland.
  - Recreate neutral grassland to extend existing sites and/or link separate sites. Only seed of British, and preferably local, origin should be used.
  - Restore the species-richness of semi-improved grassland through a sympathetic management regime, to include no applications of fertiliser or herbicide.

- Protect and enhance species-rich roadside verges:
  - Adopt a suitable cutting regime, which includes removal of cut material.
  - Do not use fertilisers or pesticides, including manure and slurry.

- Maintain and improve areas of wet grassland:
  - Continue, and where necessary restore, appropriate management of areas of purple moor grass and rush pasture, especially at Rooksmoor Meadows and Lydlinch Common.
  - Buffer existing sites by sympathetic management of adjoining habitats.

Target Species

Lowland Neutral Grassland	UK Biodiversity Action Plan Priority species	Wessex Vales Natural Area Priority Species
Brown hare	*	
Barn owl		*
Curlew		*
Grey partridge	*	*
Skylark	*	*
Grass snake**		
Marsh fritillary butterfly	*	*
Small pearl-bordered fritillary		*
Narrow-bordered bee hawk	*	
Grass snake**		
Bithynian vetch		*
Corky-fruited water-dropwort		*
Devils bit scabious		*
Green-winged orchid		*
Meadow thistle		*

Preferred Areas for Restoration

- Neutral grasslands (pastures, hay meadows, roadside verges and wet grassland) are the most important habitats in the Trial Area. As they cover just 3% of the Trial Area, they should all be considered for appropriate management of cutting and/or grazing to retain and enhance their diversity.
- Extending SSSI, SNCI and other species-rich grassland, and linking them to other neutral grassland and/or other valuable habitats should be considered. This would be particularly valuable for the smaller, isolated grasslands.
- SNCI and species-rich roadside verges will be targeted for a suitable cutting regime.

Overall Target

- **To increase the extent of flower-rich grassland from the current 300ha by 25% (75ha) by 2010, at least 50% of which should be adjacent to existing semi-natural habitats.**

- **To undertake at least 5 hectares of habitat restoration for the marsh fritillary butterfly, within the core area identified on map 2, through scrub management within the identified preferred area by 2010.**

- **To create 10 hectares of new habitat for marsh fritillary butterfly by 2010 in the identified preferred area**

Key Mechanisms and Incentives Available

- *MAFF Countryside Stewardship*

Managing lowland hay meadows	£85/ha/yr
(plus supplement for pasture < 3 ha)	£30/ha/yr
Grassland supplement	£40/ha/yr
Recreating grassland on cultivated land	£280/ha/yr
Recreating grassland on improved permanent pasture	Varied - special project
Scrub clearance base payment	£50
	(plus £100, £250 or £500/ha for clearance)
Post and wire fencing	£0.80/m

- *Local Authority Conservation Grant*
  Up to 50% of capital costs for structures and works to aid better grassland management.

4.3.5 Arable Farmland and Improved Grassland

Habitat Objectives

- Protect and maintain existing areas of valuable farmland habitat:
  - Create uncropped grass margins or beetle banks on arable fields, where suitable, to buffer the adjoining habitat (e.g. hedgerows) and to create a wildlife habitat.
  - Create unimproved grass margins on improved permanent grass fields, where suitable, to buffer adjoining habitats (eg river) and to create a wildlife habitat.
  - Sympathetically manage wet improved grassland that is suitable for wading birds.

- Enhance existing areas of farmland:
  - On lighter soils, create conservation headlands for farmland birds and scarce arable weeds.
  - Sympathetically manage set-aside to benefit farmland birds and other wildlife.
  - Restore wet grassland on potentially wet areas such as clay basins, to benefit wintering and breeding waders.

- Adopt a 'whole farm approach':
  - Advice and recommendations, to include overall best environmental practices, will be delivered on the whole holding.
  - Where appropriate, advice will be delivered using the FWAG Landwise Plan

Target Species

Arable Farmland and Improved Grassland	UK Biodiversity Action Plan Priority species	Wessex Vales Priority
Brown hare	*	
Barn owl		*
Corn bunting	*	*

Curlew		*
Grey partridge	*	*
Lapwing**		
Skylark	*	*
Song thrush	*	

Preferred Areas for Restoration

- Creation of flower-rich grass margins would be valuable where arable or intensive grassland adjoins a valuable wildlife habitat, such as an ancient semi-natural woodland, species-rich hedgerow or a stream supporting water vole.

- Management of set-aside to benefit wildlife will be encouraged wherever suitable and practicable.

- Headlands and arable field margins can be managed to benefit game birds, other wild birds, scarce arable weeds and brown hare. They can also be valuable in protecting watercourses from pollution.

Key Mechanisms and Incentives Available

- *MAFF Countryside Stewardship*

Uncropped arable grass margin 6m	£35/100m/yr (£583/ha)
Uncropped arable grass margin 2m	£15/100m/yr (£750/ha)
Beetle banks	£15/100m/yr
Boundary grass margin	Varied - Special Project

- *MAFF Organic Aid Scheme*
  Annual payments for conversion from conventional farming to an organic system

- *MAFF Habitat Scheme*
  Annual payments for managing set-aside to benefit wildlife £290/ha

4.3.6 Rivers, Streams and Ditches

Habitat Objectives

- Maintain and restore the quality and biodiversity of rivers, streams and ditches (South West target - ongoing):
  - Adhere to the Codes of Good Agricultural Practice for the protection of water, and prevent spray-drift, slurry, manure etc entering and polluting the watercourse.
  - Restore overgrown and heavily shaded watercourses, where appropriate, to create openings and a diverse habitat structure by coppicing or pollarding stream-side trees and shrubs.
  - Create habitat margins alongside watercourses, e.g. by cutting or grazing flower-rich grassland, tall herbs, wetland areas, scrub or trees.

- Promote the sympathetic management of rivers (South West target - by 2005), streams and ditches:
  - Produce an awareness leaflet with management options, and distribute to farmers and other landowners in the Trial Area (summer 1998).

Target Species

Rivers, Streams and Ditches	UK Biodiversity Action Plan Priority species	Wessex Vales Priority
Otter	*	*
Water vole	*	*
Kingfisher		*
Reed bunting	*	

Preferred Areas for Restoration

- Parts of the River Lydden, River Divelish and Caundle Brook (tributaries to the River Stour) in the northern part of the Trial Area will be targeted to provide suitable habitat for the otter, to encourage the otter population to extend its range from the River Stour.

- Suitable management of watercourses supporting water vole should be considered. Should include creation of grass margins to allow an undisturbed grassy bank.

- Habitat restoration and management for wildlife should be considered for habitats alongside rivers, streams and ditches.

Overall Target

- **To manage 200 metres per kilometre of river bank as a wildlife habitat by 2010**
  (the rivers include the Caundle Brook, River Lydden and River Divelish)
  (up to 10 metres from river bank to be managed as a wildlife habitat)

- **To manage 100 metres per kilometre of stream bank as a wildlife habitat by 2010**
  (up to 6 metres from stream bank to be managed as a wildlife habitat)

Key Mechanisms and Incentives Available

- *MAFF Countryside Stewardship*

Ditch restoration	£2/m
Tree planting	£0.65 per tree
Coppicing bankside trees	£15
Scrub clearance base payment	£50 (plus £100/ha for clearance)
Post and wire fencing	£0.80/m
Grass boundary margins	Varied - Special Project

- *Local Authority Conservation Grant*
  Up to 50% of capital costs for tree and shrub planting, fencing, pollarding and coppicing.

- *Environment Agency*
  Up to 50% of capital costs for tree and shrub planting and otter holts (subject to available funds)

4.3.7 Farm Ponds

Habitat Objectives

- Ensure the favourable management of potentially valuable ponds and their catchment areas to maintain and enhance their conservation interest (South West target - by 2005):
  - Sympathetically manage the pond and its adjacent terrestrial habitats.
  - Maintain some sheltered areas for wildlife around the pond.

- Restore unmanaged and neglected ponds, where desirable:
  - Restore some overgrown and neglected ponds, where it will not damage the invertebrate or fen/marsh communities.

Target Species

Farm Ponds	UK Biodiversity Action Plan Priority species	Wessex Vales Priority
Kingfisher		*
Great crested newt	*	
Grass snake**		

Preferred Areas for Restoration

- The ponds in Pulham, King's Stag and Glanvilles Wootton support populations of great crested newts, and appropriate management to sustain and enhance their overall numbers should be considered.

- Ponds within 500m of established great crested newt colonies should be considered for appropriate management to extend newt habitat.

- Where there are clusters of neglected and unmanaged farm ponds, restoration of some of them should be considered to create a more balanced distribution of different habitats and increase their value as stepping stones.

- Pond creation will be encouraged in kilometre squares which currently lack ponds, to maintain the diversity of habitats throughout the Vale.

Overall Target

- **To ensure the suitable management, by 2010, of 75% of ponds within 500 metres of great-crested newt sites.**

- **To ensure that, by 2010, at least 5 ponds in each one kilometre square are managed for wildlife, in all clay areas of the vale**
  (NB. A pond is defined as a hollow that holds water at some time of the year.
  There are on average 10 ponds per one kilometre square on the clay areas)

Key Mechanisms and Incentives Available

- *MAFF Countryside Stewardship*

Pond creation first 100 m^2	£3/m^2 (then £0.50/ m^2)
Pond restoration first 100 m^2	£2/ m^2 (then £0.50/ m^2)
Scrape creation first 100 m^2	£1.25/ m^2 (then £0.25/ m^2)

- *Local Authority Conservation Grant*
  Up to 50% of capital costs for pond creation and restoration, tree and shrub planting, pollarding and coppicing

- *Environment Agency*
  Up to 50% of capital costs for tree and shrub planting (subject to available funds)

Table 2 **Summary of Key Habitats within the Trial Area, indicating their associated Biodiversity Action Plan (BAP) and/or Natural Area (NA) Priority Species**

KEY HABITAT	TARGET SPECIES	UK BAP Priority	Wessex Vales NA Priority
Broadleaved woodland	Dormouse	*	*
	Natterer's bat		*
	Pipistrelle bat	*	
	Lesser spotted woodpecker		*
	Nightingale		*
	Song thrush	*	
	Brown hairstreak butterfly		*
	Pearl-bordered fritillary	*	*
	Small pearl-bordered fritillary		*
	Double line moth	*	
	Greater butterfly orchid		*
Lowland wood-pasture and parkland	Natterer's bat		*
	Pipistrelle bat	*	
	Serotine bat		*
	Lesser spotted woodpecker		*
	Dead wood beetles**		
	Lichens of veteran trees	*	*
Ancient/species rich hedges & scrub	Dormouse	*	*
	Natterer's bat		
	Pipistrelle bat	*	
	Barn owl		*
	Bullfinch	*	
	Grey partridge	*	*
	Linnet	*	
	Nightingale		*
	Song thrush	*	
	Tree sparrow	*	
	Brown hairstreak butterfly		*
	Small eggar moth**		

KEY HABITAT	TARGET SPECIES	UK BAP Priority	Wessex Vales NA Priority
Lowland Neutral Grassland	Brown hare	*	
	Barn owl		*
	Curlew		*
	Grey partridge	*	*
	Skylark	*	*
	Grass snake**		
	Marsh fritillary butterfly	*	*
	Small pearl-bordered fritillary		*
	Narrow-bordered bee hawk	*	
	Bithynian vetch		*
	Corky-fruited water-dropwort		*
	Devils-bit scabious		*
	Green winged orchid		*
	Meadow thistle		*
Arable Farmland and Improved Grass	Brown hare	*	*
	Barn owl		*
	Corn bunting	*	*
	Curlew		*
	Grey partridge	*	*
	Lapwing**		
	Kestrel		*
	Skylark	*	*
	Song thrush	*	*
Rivers, Streams and Ditches	Otter	*	*
	Water vole	*	*
	Kingfisher		*
	Reed bunting	*	
Farm Ponds	Kingfisher		*
	Grass snake**		
	Great crested newt	*	

** Other priority species within the Blackmore Vale.

5. IMPLEMENTATION

The vision identifies the priority habitats and species within the Blackmore Vale Trial Area, the restoration of which would contribute to achieving the Biodiversity Action Plan targets. The areas where the restoration of each target habitat is likely to be most appropriate are shown on Map 2. The mechanisms and financial incentives available to assist implementation and continuity of management have also been identified. Clearly the vision can only be successfully implemented with the agreement and support of the farmers and other landowners of the Blackmore Vale. The resources, influence and support of the many countryside organisations will also be vital to the success of the Project.

During the first six months of the Project the majority of farmers and other landowners allowed access to their land for the Phase I survey to be carried out. Countryside organisations including the Dorset Wildlife Trust, Environment Agency, Game Conservancy Trust, National Farmers Union, Royal Society for the Protection of Birds, FRCA and MAFF have given practical help and advice.

We will now be consulting further over the vision and how we can work together to implement it. Only by working together in this way can the Biodiversity Action Plan be implemented. A summary of ways in which each partner organisations can help is given in Table 2. The following actions will be undertaken in the next few months.

5.1 PROMOTION

5.1.1 *To canvass opinion on the vision statement and its implementation we will consult with the following:*

i. The Steering Group and Advisory Group
ii. Local farmers and other landowners
iii. The statutory and non-statutory countryside organisations
iv. English Nature and the Farming and Wildlife Advisory Group

5.1.2 *To implement the vision at farm level our Project Officer will:*

i. Visit farmers to discuss priorities for habitat restoration and the availability of practical advice to undertake the restoration.

ii. Produce short farm reports and detailed Landwise Plans, identifying sources of funding through ELMS and producing costed action plans. In appropriate cases the Project will grant aid the production of a more detailed plan.

iii. Assist farmers with completion of application forms for Countryside Stewardship and other ELMS, and liaise with the relevant officers.

iv. Liaise with other landowners and managers, including the Environment Agency, to encourage them to enhance the wildlife value of their land.

v. Fund specific biodiversity projects not eligible for funding from other sources.

5.1.3 *To achieve wider publicity of the Project and Habitat Restoration we will:*

i. Organise farm walks and demonstrations on restoration techniques in partnership with the Game Conservancy, the Forestry Authority and other organisations.

ii. Deliver presentations to local group meetings of farmers, conservation organisations and others.

iii. Arrange and attend display stands at local agricultural shows.

iv. Produce a newsletter about the Project for participating farmers, other landowners, conservation organisations and other interested parties.

v. Submit articles to local newspapers, farming and nature conservation publications.

5.1.4 *To monitor the success of the Project we will:*

i Monitor the take up of ELMS to determine the number of schemes applied for, the extent of wildlife habitat restored/created and the progress of reversing habitat fragmentation.

ii. Monitor the quality of the habitat created and the wildlife it can support to determine whether biodiversity targets are being met.

iii. Maintain a dialogue with participating farmers and land managers to determine whether they remain happy with the schemes they have entered.

Monitoring will occur during the last (third) year of the Project, then five and ten years later (years eight and thirteen).

Table 3 Project Support - Ways in which other Countryside Organisations can help.

ORGANISATION	POTENTIAL CONTRIBUTION
Blackmore Vale Arks Group	Sharing advice and experience on the conservation management of the Vale
Country Landowners Association	Assisting with farm walks, agricultural shows Promoting the Project among its membership
Countryside Commission	Advice on landscape issues in the Blackmore Vale
Dorset Bird Club	Local knowledge, survey and habitat advice within the Trial Area.
Dorset Butterfly Conservation	Advice and involvement on habitat restoration Promoting the Project among its membership, including monitoring of important butterfly populations
Dorset County Council	Assisting with sympathetic management of road verges through its management policies Promoting the Project through its literature Advice and funding by DCC Conservation Grants
Dorset Wildlife Trust	Advice and involvement on habitat restoration and management for wildlife especially SNCIs. Assisting with farm walks, demonstrations Promoting the Project among its membership
Environment Agency	Representative on Steering Group Advice and involvement on waterside restoration Promoting the Project through its literature Funding for waterside restoration works
Farming and Rural Conservation Agency	Representative on Steering Group Assisting with farm walks and advising on Countryside Stewardship Identifying the Blackmore Vale as a Countryside Stewardship target area Promoting the Project through its literature
Forestry Authority	Advice and involvement on woodland restoration and management Advice and assistance on the Woodland Grant Scheme and Woodland Improvement Grant Assisting with farm walks, demonstrations
Friends of Lydlynch Common	Local involvement in the management of Lydlinch Common SSSI and cSAC
Game Conservancy Trust	Advice and involvement on habitat restoration, particularly in arable areas. Assisting with farm walks, demonstrations

Herpetological Conservation Trust	Survey and habitat advice for great-crested newts within the Trial Area.
Ministry of Agriculture Fisheries and Food	Administrator of the Countryside Stewardship Scheme, Organic Aid Scheme and Habitat Scheme Advice on MAFF schemes
National Farmers Union	Advice and involvement on farming issues Assisting with farm walks, demonstrations Promoting the Project through its literature and membership
North Dorset District Council	Advice on local community aspects. Grant aid available.
Royal Society for the Protection of Birds	Advice and involvement on habitat restoration Assisting with farm walks, demonstrations Promoting the Project among its membership
Vincent Wildlife Trust	Survey and habitat advice for protection of bat roosts and feeding areas.
West Dorset District Council	Advice on local community aspects Grant aiding conservation work on SNCIs

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Appendix 1: Blackmore Vale Landowner Questionnaire

In 1996 English Nature initiated a national Habitat Restoration Project to look, in consultation with farmers, land managers and conservation organisations, at how the variety and abundance of wildlife (biodiversity) in the countryside might be increased. There are four trial areas in the country, and in Dorset English Nature are working in partnership with the Farming and Wildlife Advisory Group to deliver the project, locally known as The Blackmore Vale.

This questionnaire seeks to determine your experience and opinions on conservation work and the various grants schemes available for carrying out these works. The information will be put together with comments from the other three trial areas, and used to help landowners and managers carry out habitat restoration to benefit wildlife, in commercially acceptable ways.

All information given will remain confidential.

Your assistance in completing this questionnaire is greatly appreciated.

If you have any additional comments or would like some further information please contact:

Karen Eppey, Project Officer
Farming and Wildlife Advisory Group
Government Buildings, Prince of Wales Road
Dorchester DT1 1PY

Tel: 01305 251742 Fax: 01305 214310

1. Name ..... Address .....

..... Tel. No. .....

2. ARE YOU THE :

Owner Manager Forestry Agent Tenant Other

3. HOW MUCH LAND DO YOU MANAGE?

< 5 ha 5-50 ha 51-100 ha 101-200 ha 201-300 ha over 300 ha

4. PLEASE DESCRIBE YOUR LAND by numbering your main and secondary enterprise:

Dairy Arable Beef Forestry Other

Pigs Poultry Sheep Game (Please state) .....

5. DOES YOUR LAND HAVE ANY NATURE CONSERVATION AREAS? For example:

Site of Special Scientific Interest (SSSI) Ancient Woodland

Site of Nature Conservation Interest (SNCI) Private nature area

Existing features of wildlife interest

6. WHAT LEVEL OF INTEREST DO YOU HAVE FOR THE WILDLIFE ON YOUR LAND?

Very high High Moderate Low Unsure

Please state any animal, bird or plant that you enjoy seeing on your land: .....

:.....

.....

.....

7. HAVE YOU CREATED ANY OF THE FOLLOWING WILDLIFE HABITATS?

Hedgerows Ponds Woodland Wet grassland

Arable field margins Other (Please state) .....

Why did you create these habitats?.....

.....

.....

Did you receive any grants for carrying out these works?

No Yes Please state: .....

8. WOULD YOU LIKE TO CREATE OR MANAGE SOME HABITATS ON YOUR LAND?

Yes No Possibly

Please state habitats: .....

.....

and reasons why: .....

.....

9. ARE THERE ANY WILD ANIMALS OR PLANTS YOU WOULD PARTICULARLY LIKE TO SEE ON YOUR LAND WHICH ARE NOT THERE AT PRESENT? No Yes Please state animals/plants: .....

.....

and reasons why: .....

.....

10. WHICH OF THE FOLLOWING SCHEMES HAVE YOU HEARD ABOUT?

Countryside Stewardship District Council SNCI Management Grant

Dorset County Council Landscape & Conservation Grant Organic Aid Scheme

Woodland Grant Scheme Woodland Improvement Grant

Please list any schemes that you are interested in, or would like to know more about :

.....

.....

11. IF YOU HAVE JOINED A GRANT SCHEME, PLEASE STATE YOUR SATISFACTION :

High Moderate or Low Grant Scheme (1) .....

High Moderate or Low Grant Scheme (2) .....

How much land do you manage? ..... How much land is in the scheme? .....

Did any person/organisation advise or help you with the grant application? No Yes

If yes, please state: .....

What benefits did the scheme (s) bring you? Please state for each grant scheme:

.....

.....

Have you encountered any problems or difficulties? Please state for each grant scheme:

.....

.....

.....

Would you like to see the schemes improved? Please give suggestions:

.....

.....

.....

12. IF YOU HAVE NOT JOINED A GRANT SCHEME, PLEASE GIVE REASONS WHY.

.....

.....

.....

13. DO YOU THINK THERE SHOULD BE MORE ENVIRONMENTAL INITIATIVES OR DIFFERENT SCHEMES? Please give suggestions :

.....

.....

.....

Appendix 3 Summary of Key Mechanisms and Incentives for Implementation

- **English Nature**

Annual payments are made for the sympathetic management of Sites of Special Scientific Interest.

- **Environment Agency**

Capital payments of up to 50% of costs are made for small waterside restoration projects including tree and shrub planting, and otter holts.

- **Dorset County Council Conservation Grant**

Capital payments of up to 50% of costs are made for small conservation projects including tree and shrub planting, hedgerow restoration, fencing, pond restoration, pollarding and coppicing.

- **North Dorset District Council**

Advice on local community aspects. Grant aid available.

- **West Dorset District Council**

Advice on local community aspects. Grant aiding conservation work on SNCIs

- **Forestry Authority Woodland Grant Scheme**

Capital payments are paid in installments for the planting of new woodlands and restocking. Additional supplements are also available to assist the projects, including planting conifers or broadleaves on arable land or improved grassland, compensation for excluding stock from woodland and encouragement of natural regeneration.

- **Forestry Authority Woodland Improvement Grant**

Capital payments of up to 50% of costs are made to enhance existing woodlands, eligible under Providing Public Recreation in Woodlands, Under managed Woods or Woodland Biodiversity options.

- **Forestry Authority Woodland Management Challenge**

Payments are made in addition to WIG to top funding up to 100% for the Management of Small Dorset Woods.

- **MAFF Countryside Stewardship Scheme**

Capital and annual management payments are made for the conservation and enhancement of landscapes, wildlife, historic features and public enjoyment. A wide range of payments are available. The scheme offers 10-year management agreements, and acceptance is discretionary.

- **MAFF Farm Woodland Premium Scheme**

Annual payments for planting new woods on land currently in productive agriculture, in addition to the Forestry Authority's Woodland Grant Scheme.

- **MAFF Habitat Scheme**

Annual payments to create or improve wildlife habitats on land that came out of the voluntary 5-Year Set-Aside Scheme in 1996, and which has not been returned to cultivation in the meantime.

- **MAFF Non-Rotational and Rotational Set-Aside**

Annual payments for set-aside land, eligible under field margin, grassland or natural regeneration management options under the Arable Area Payments Scheme.

- **MAFF Organic Aid Scheme**

Annual payments for the conversion to organic farming from conventional practices.

MAP 1

Location of the Blackmore Vale Project Area