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# Habitat Restoration Project

## Ouse Valley Link Trial Area

**Final report**

**Nicky Wheeler**

MILTON KEYNES COUNCIL

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# English Nature Habitat Restoration Project

## Ouse Valley Link Trial Area Report

Nicky Wheeler

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# Preface

This report summarises the work of the Habitat Restoration Project in the Ouse Valley from 1996 to 1999 - The *Ouse Valley Link Project*. The comments made and conclusions reached are based on the actual experience of the Project but would not necessarily be repeated in other places or during other time frames. Common themes and contrasting approaches across the four trial areas will be established when comparisons are made between the *Ouse Valley Link Project* and the other project areas. Consequently the views expressed here are not necessarily those of English Nature but will make a valuable contribution to developing that view.

Rachel Thomas

September 1999

## Acknowledgments

I should like to thank the landowners and managers in the trial area, without whose action and enthusiasm none of the restoration work would have been possible, Milton Keynes Parks Trust and Milton Keynes Council and all the members of the advisory group who provided support for the project locally.

# 1. Executive Summary

The Ouse Valley Link Project was established as part of English Nature's Habitat Restoration Project to investigate how the effects of habitat fragmentation could be reversed in lowland farmland and to trial the delivery of targets for farmland Biodiversity Action Plan species. It focused on the valley of the River Great Ouse in Milton Keynes continuing the work of the Milton Keynes Wildlife Corridor Project.

The main habitats of conservation value are located along the river channel and close to flooded gravel pits that occur throughout the valley. Habitat links are needed on riparian farmland between these wetland sites.

A vision map was designed which showed the ideal locations for restoring particular habitat types and highlighted the species that these habitats would attract. The project officer used a proactive approach and the vision to help enthuse farmers and landowners to restore certain habitats.

Given encouragement, advice and technical support farmers and landowners were willing to restore habitats for wildlife on their land. Farmers preferred to create or restore linear habitat links such as field margins or buffer strips or restore existing features such as ponds or pollard willows than to take land out of agricultural production. Other landowners, whose main income was not derived from farming, were willing to restore larger blocks of habitat such as floodplain grassland.

Grant incentives were not high enough to attract most farmers to take large areas of land out of production or change management practices on arable or grassland. However, an important limiting factor to achieving habitat restoration was the lack of grants for capital projects and the difficulties that farmers experienced in gaining grants from environmental land management schemes (ELMS). Alternative methods for funding restoration were sought, eg the Landfill Tax, which provided resources for habitat restoration schemes that could demonstrate public benefit.

Habitat fragmentation can be reduced at the farm scale but the competitive nature of some ELMS does not encourage the establishment of habitat corridors across farm boundaries. The implications are that farmland BAP targets will be very difficult to achieve given the current funding levels of agri-environment schemes.

Overall the project achieved the following:

- a succinct summary of BAP and Natural Area targets for the trial area landscape in map form, which showed landowners what these targets might mean for their own holdings in relation to a landscape they knew and provided valuable discussion points;

- a project officer-centred focus to the delivery of BAP, vital in the initial years, which brought in more than twice the cost of running the project in additional funding and achieved good working relationships with landowners through providing practical and financial assistance;

- 212 ha and 60 km of restoration and creation work in 260 schemes over three years, largely where it was identified as desirable, making major contributions to the hedgerow, field margin and limestone grassland targets locally;
- an increase in the proportion of the trial area supporting BAP priority semi-natural habitat from 6.5 ha (0.06%) to 161 ha (1.5%), and a slight decrease in the overall level of habitat fragmentation;
- obtained a greater understanding of the types of landowners who will carry out habitat restoration under what circumstances, incentives and timescales;
- confirmed that restoration targets were easier to achieve than creation targets and therefore both land ownership and land use are critical in achieving habitat restoration;
- identified the greatest obstacles to achieve BAP targets nationally including the poor fit with farm business, insufficient funds to cover both Biodiversity and landscape objectives, inadequate incentives in relation to potential farm income, complex application procedures for funding and poor targeting;
- initiated a 10 year programme of site based ecological monitoring.

**The key learning points are as follows:**

- The vision map provided a useful conservation tool.
- Farmers are willing to restore ponds, hedgerows and field margin corridors.
- Restoration of blocks of land is easier where farming for profit is not the only aim, eg on public land.
- Knowledge of conservation techniques were poor amongst farming community at the start of the project.
- Farmers find access to agri-environment schemes difficult; rejection of applications causes huge loss of interest.
- A small, broad, capital grant scheme is required.
- Existing agri-environment schemes are under-funded and are therefore greatly restricting potential habitat restoration for BAP farmland species.
- A project officer can bring added value to agri-environment funded schemes, securing additional sources of grant aid for habitat restoration but it is a high cost approach.

# 2. Background to the project and key lessons derived from the trial

## 2.1 Background to the project

When the UK Government signed the International Biodiversity Convention at the Rio Earth Summit in 1992, it committed itself to reversing declines in habitats and species. Following the summit the Government set national targets for restoring threatened habitats and species in the UK through the Biodiversity Action Plan. This plan recognised that in order for species to thrive, they must be able to move between habitats and it states that 'the fragmentation or isolation of key habitats [is] to be avoided and wherever practicable past fragmentation [is] to be reversed.'

English Nature's Habitat Restoration Project was established in 1996 to trial the implementation of Biodiversity Action Plan targets and to investigate those procedures and practices that could be used to achieve habitat restoration and reverse fragmentation.

Four trial areas across the English lowlands are taking part in the Habitat Restoration Project and each area has been chosen to represent a particular type of agricultural landscape typical of lowland England. These are as follows:

1. The Alde trial area in Suffolk – a varied landscape with large areas of important semi-natural habitats including coastal grazing marsh and heathland.

2. The Sherwood Forest trial area in Nottinghamshire – an historical landscape with a mix of land-types including farmland, coal pits, forestry, leisure parks, heathland and wood-pasture associated with old parkland estates.

3. The Blackmore Vale trial area in Dorset – An enclosed landscape dominated by small dairy farms with old hedges and scattered small woods.

4. The Ouse Valley trial area in Buckinghamshire – A river valley dominated by fairly intensive, mixed farms with little semi-natural habitat.

The following report sets out the main learning points gained from the project in the Ouse Valley trial area in north Buckinghamshire.

## 2.2 The vision

An important part of the project's approach was the preparation of a vision map with restoration targets so that the project's aims to trial the delivery of the Biodiversity Action Plan targets for the area could be easily interpreted (Section 4 and Figure 5). The vision was particularly useful as a conservation guide for both the project officer and landowners when discussing options for restoration on a specific area of land.

## 2.3 The most effective methods for stimulating restoration or creation schemes

The achievement of successful habitat restoration on farmland depends upon the use of several complementary methods.

A proactive approach raises awareness of BAP habitats and species and is the most effective way of persuading landowners to undertake habitat restoration. This must be followed up with farm-specific help to plan and cost conservation projects, to obtain grant aid and implement work. Gaining the trust and confidence of a landowner is essential before habitat restoration can occur.

Realistic levels of grant and Nitrate Vulnerable Zone (NVZ) regulations effectively encouraged landowners to create cereal field margin corridors. Restoration and re-creation on land that is not farmed for profit, such as parkland or gravel pits, was maximised because here there was potential to restore larger areas of habitat which were often accessible to the public.

## 2.4 The greatest obstacles to habitat restoration

Whilst farmers are willing to restore farmland habitats for wildlife and landscape, the farm must be a profitable business and the majority cannot therefore afford to carry out large-scale habitat restoration or expensive habitat creation without financial assistance (Section 8).

### 2.4.1 Lack of grants for capital projects

In the Ouse Valley there was no grant assistance for small conservation projects available to farmers and this was a significant obstacle to habitat restoration. These small-scale capital projects do not involve restoring large areas of land but they do often act as catalysts for further habitat restoration on farms where there has been no history of conservation work. Despite this, their importance seems to be under-valued in agri-environment schemes such as Countryside Stewardship. The scheme asks farmers to adopt a whole farm approach and in the trial area this often favoured farmers who already had an interest in the wildlife on their farm and discouraged those who were less conservation minded but willing to carry out some small-scale capital works.

These difficulties could be overcome by means of a national funding scheme for small-scale capital projects. Such a scheme would encourage more farmers to carry out improvements for wildlife and it would perhaps simplify the existing Countryside Stewardship scheme if annual and capital grants were separated into ten-year and five-year schemes respectively. A capital grant scheme should also consider the higher costs associated with re-creating habitats such as hedges, grassland, ponds and wetlands compared to restoring existing habitats. At present there is very little financial assistance available and it is difficult to predict how BAP species can be restored to areas where their habitats have disappeared without grants to assist farmers with re-creation costs.

### 2.4.2 Criteria used by agri-environment schemes

Those farmers who had less potential for whole farm habitat restoration either because of the small size of their farm or because they had already carried out considerable conservation

works, seem to be discriminated against by the Countryside Stewardship scoring system. For example, one farmer whose application was rejected, had applied for whole farm field margin creation, pond creation and a small amount of hedge planting. To increase his score he was asked to include more hedgerow restoration if he re-applied, even though he already had a good network of farm hedges that he had previously restored himself.

### 2.4.3 Level of existing incentive payments

Habitat restoration can require specialist knowledge, be time-consuming and labour intensive and only very large farms have the staff or the skills to carry out the work themselves. Where farmers have to use contractors to carry out the work the cost can be prohibitive. Considerably more habitat restoration can therefore be achieved through a project that is able to organise volunteer labour to help. For many, the payment levels of the existing grant schemes are not high enough compared with the subsidies that they can receive for continuing intensive, agricultural management.

### 2.4.4 Competitive nature of existing agri-environment schemes

Those farmers that were willing to enter into an agri-environment agreement and bear the burden of some of the costs of habitat restoration themselves, were subsequently frustrated when they then found that gaining access to this was competitive, complicated and uncertain.

The national funding allocation for agri-environment schemes is not high enough to meet the current demand from farmers and the resources available are rationalised. Nationally, there are more farmers applying for Countryside Stewardship grants (and meeting their criteria) than there are agreements to be given. In Buckinghamshire as a whole, 30% of applications were rejected in 1997 and 57% in 1998.

This adversely affected farmers in the trial area as elsewhere in the country. Although in 1997 all applicants from the trial area were given agreements, in 1998 only half of the applicants were successful and the remainder were either rejected or recommended to re-apply in 1999 with improvements to their applications. However, the applications all included proposals that met the project's objectives, created habitats for BAP species and three would have created wildlife corridor links between existing agreement areas or other restoration work. Most of these farmers had already been persuaded to include more restoration work than they originally intended at the application stage and had also spent considerable time working on their applications. It was perhaps unsurprising to learn that they felt very disappointed by their application rejections and do not intend to apply again in the future. This effect is possibly worsened where a proactive approach has been used to encourage farmers to restore BAP habitats because they receive conflicting messages from government.

The competitive nature of Countryside Stewardship does not encourage habitat links across farms and these will be difficult to achieve unless the scoring system takes into account the added conservation value from having neighbouring farms in schemes.

## 2.5 The added value of the project in achieving wildlife gain and getting better value for money

It is certain that most of the habitat restoration that has occurred would not have happened in the absence of the project. Through the support of external funding partners such as the Environment Agency and the Commission for the New Towns, the project has been able to target resources using the vision to those areas in the valley that will provide greatest benefit for wildlife. A strategic approach has enabled projects to be matched to the most appropriate funding source so that more is achieved. For example, the Landfill Tax is most appropriately used to fund a new hedge along a public right-of-way, whereas Countryside Stewardship is used more appropriately where a farmer wants to restore hedges and has at least some land of potential wildlife interest that he could enter into a 10 year management agreement.

The larger and more connected the habitats in any given area the greater the wildlife benefit. The habitats funded by agri-environment agreements in the project area have greater potential value for wildlife because rather than existing as islands they are in close proximity to other habitats that are being restored through other mechanisms.

## 2.6 The achievements of the project in comparison to project costs and timescale

The success of the project can only be judged when achievements are measured. For example, in section 5.1 the amount of restoration achieved has been measured against the habitat targets and the developing habitat quality will continue to be measured through the HRP ten year monitoring programme. The number of landowners that are undertaking restoration can also be used to measure achievement. However all of these measures of success must be weighed against the costs of running the project for three years.

Whilst it is difficult to place a value on the newly restored habitat, for comparison purposes we can calculate the amount of money invested in habitat restoration in the valley over the three year period and assess this amount against the running costs of the project. Table 1 summarises these costs and investments.

Although the value of the investments are twice as much as the costs, the short project timescale and the start date meant that only two Countryside Stewardship application rounds had passed and this limited the opportunity to achieve maximum habitat restoration in three years. Any new project spends a larger proportion of funding in the first few years when the project is establishing and it is anticipated that efficiency would increase over a longer timescale. A successful established project can also attract a higher proportion of grants from sponsorship and from new partners.

With time, habitat links cross several farms would develop. Farmers are often quite cautious and reluctant to initiate changes until neighbours or colleagues have done so which means that progress can be slow to start. It is anticipated that the benefit achieved should continue to grow whilst the relative costs decrease and it would therefore be more economic and realistic to run such a project for a minimum of five years.

**Table 1. Cost of running the project over three years compared to financial investment in restoration**

| Source of funding | 3 year project administration costs (£) | The capital spending on habitat restoration over 3 years (£) | The total value of investments in habitat restoration for 3 years (£) |
|---|---|---|---|
| English Nature | 30 000 | 9 892 | 9 892 |
| Milton Keynes Council | 15 000 | 2 840 | 2 840 |
| Milton Keynes Parks Trust | 15 000 | | |
| Countryside Stewardship | | 42 547 | 60 765 |
| Woodland Grant Scheme & Farm Woodland Premium Scheme | | 13 485 | 17 733 |
| Landfill Tax | | 16 660 | 16 660 |
| Commission For The New Towns | | 5 000 | 5 000 |
| Environment Agency | | 6 500 | 6 500 |
| Town & parish councils | | 2 590 | 2 590 |
| **TOTAL** | **£60 000** | **£99 514** | **£121 980** |

It is interesting to note that if a project relies solely on agri-environment schemes for investment in habitat restoration then the costs of that project might only just be covered, but when additional sources of money such as the Landfill Tax are attracted then the project becomes more cost-effective.

This will be tested as the project is continuing beyond its original three-year term with a new funding balance.

## 2.7 The extent to which the project objectives and species targets have been met

New habitat corridors along linear features such as field margins or watercourses were the most successful habitat restoration achievement. They form valuable habitats in their own right and they have even greater potential if they can be extended further onto riparian grassland and linked together. Although extensive areas of this habitat have been created where there were none before it has not been possible to achieve the target of 20% of the arable area in three years. Conversely for hedgerows over double the predicted amount was restored. Target species that will receive the most benefit include corn bunting, grey partridge, tree sparrow, song thrush, pipistrelle, barn owl, water vole and the otter.

The project was successful in persuading non-farming landowners to undertake larger scale blocks of habitat restoration in the river floodplain. Although only 10% of floodplain grassland is being restored rather than the target of 20%, the amount of this habitat has increased by 100%. Target species that will benefit the most include redshank, snipe, lapwing, skylark and flora associated with hay meadows.

Habitats that proved more difficult to restore are woodlands and grassland on farmed land, where only 3% and 15% of their respective targets were met. It was anticipated that these

habitats would be difficult to restore and although conservative restoration targets were set the obstacles for restoration were too great.

Some of the targets were therefore easier to meet than others, which reflects the difficulties of setting realistic targets as much as the difficulties of achieving the restoration itself.

## 2.8 Implications for delivery of international (Habitats and Species Directive), national (BAP) and local (Natural Area Profile) objectives

Each of the target habitats in the UK BAP, list agri-environment schemes as one of the main incentives or tools for achieving restoration. However widespread promotion of these underfunded schemes to landowners should be very carefully considered. At worst there is the danger that they could permanently dissuade farmers from carrying out restoration work when their best endeavours are 'rejected'. At best they will, on average farmland with little wildlife interest, achieve restoration of marginal habitats that do not impact too much on the main farm business.

The agri-environment schemes cannot be solely relied upon to deliver the national restoration targets of BAP habitats such as floodplain grazing marsh or limestone grassland, given their current funding levels and competitive nature. There are also serious consequences for the UK's obligations towards internationally important species such as the great crested newt, which historically relied on ponds on farmland. Due to their restrictive criteria, agri-environment schemes are failing to assist the majority of those farmers who want to restore ponds and this has implications for the delivery of the Habitat and Species Directive. So whilst farmers are willing to restore hedges, field margins and ponds if funding is available, greater financial incentives will be required to encourage them to restore other BAP habitats on productive farmland. The development of a broad and shallow incentive scheme might help here.

If however it was a requirement of subsidies that farmers managed hedges to benefit wildlife and landscape (a form of cross-compliance), and field margins were compulsory adjacent to watercourses, this would reduce the financial burden of these options under Countryside Stewardship and perhaps allow an increase in the level of payments for the restoration of BAP habitats such as floodplain grazing marsh. If cross-compliance cannot be used and agri-environment scheme funding remains the same then alternative revenue must be found to help achieve BAP targets on farmland.

The Ouse Valley Project demonstrates that Landfill Tax funds could be used if the proposed conservation schemes are within 10 miles of a landfill site and accessible to the public. Likewise there are other environmental grants being offered by charitable trusts, sponsors and statutory organisations such as the Civic Trust for conservation schemes that have a strong element of public involvement. Due to their emphasis on community action, environmental awareness and improving quality of life, these grants are predominantly spent in urban or easily accessible areas rather than on wildlife habitats in the countryside, where the majority of land is private. Nevertheless they could play a role in helping to deliver BAP targets on farmland.

Restoring BAP habitats inevitably costs money, particularly when those habitats have to be re-created, and whilst the project has shown that farmers can be persuaded to give up some land or change management, farmers do not have time to investigate alternative funding sources and many do not have the resources to carry out the work. A project officer who can coordinate this work is therefore an essential mechanism in the delivery of farmland BAP targets.

## 2.9 Implication of the project timescale

The project was established in June 1996 and caution should therefore be used when drawing conclusions from two and a half years of work, particularly as this is a very short timespan in farming terms.

It has taken considerable time to gain the confidence and enthusiasm of landowners in the Ouse Valley and there is therefore more opportunity now to capitalise on this. It is perhaps too short a time-scale to give the full results of the project. A minimum of five years would allow us to see how restoration develops and whether landowners that are not currently involved will be persuaded to link the habitats already being restored by their neighbours. Whilst inherent problems with funding of restoration from existing agri-environment schemes have been highlighted, the project does need the opportunity to investigate alternative sources of funding for BAP habitats and species on farmland, particularly sponsorship.

## 2.10 Improvements to the project

There are several improvements that could be made to the project.

### 2.10.1 The vision map

The vision map for the Ouse trial area (Figure 5) could for example, colour code the unshaded (predominantly arable) areas and give landowners a list of ideal options for improving them. A list of clearly labelled options should include:

- arable field margins
- hedge restoration and hedgerow tree planting
- pond restoration
- management of set-aside.

The vision would also be more farmer friendly if it focused less on habitats such as 'limestone grassland' or 'floodplain habitats' and more on the species that are the priority targets in certain zones of the valley.

### 2.10.2 The habitat survey

It would have been particularly useful if the initial land use survey had also highlighted restoration possibilities, such as trees that required pollarding, good field margins or areas of permanent set-aside. Quality control and subsequent capture into a GIS system have identified additional points to consider in future surveys (Bailey & Isaacs 1999).

### 2.10.3 Farm conservation plans

During the first year of the project farm reports were written for landowners giving advice following a farm visit. The reports were simplified whole farm plans and included approximate costings and details of grants for a range of potential conservation works. However, they did not seem to encourage farmers to carry out any more work than if they had not had plans. Farmers seemed to prefer to receive conservation advice as they needed it rather than be swamped with lots of information in one document.

## 2.11 Best means of delivering BAP targets

The project has demonstrated the necessity of a project officer to achieve habitat restoration and links in average lowland farmland, given the current shortage of funding from agri-environment schemes. A proactive approach is essential, particularly in the first years of the project and this needs to be followed with good advice and support to help landowners implement projects. Where possible progressive, influential farmers should be involved but there should also be a range of different types of landowners, eg family run farms, tenanted farms, those with an interest in game, large agri-business farms and non-farming landowners. A vision map gives focus and meaning to restoration and shows landowners how they can contribute.

## 2.12 Best use of money

Given the shortage of funding it is always best to prioritise resources towards protecting existing valuable habitats before restoring or re-creating habitats from areas where they are lost. The Ouse Valley has few rare habitats and as none of the very rare species listed in the UK Biodiversity Action Plan are known to be present, it could be argued that public money should be used to better advantage elsewhere. Yet it is the formerly abundant and common species on the BAP list such as song thrush, skylark and barn owl about which the public most vociferously express concern. These are the species that will benefit from habitat restoration on average farmland because this is where they have declined most severely.

Accepting current levels of funding and the case for restoring habitats on farmland then the best approach is to set up a five year targeted project area because restored habitat blocks in close proximity to one another provide increased benefits for wildlife. Habitats financed through external sources of funding will also give added value to agri-environment schemes in the target area.

# 3. The project locally

## 3.1 Objectives

The River Ouse which is designated as a 'Major Wildlife Corridor' in the Milton Keynes Local Plan (1995), forms the northern boundary of the new city of Milton Keynes for part of its length. It is a good example of a clay river that retains a diversity of wildlife features within the channel but, like many lowland rivers, the land-use in the floodplain has severely reduced the wildlife capacity of the river corridor. The Milton Keynes Wildlife Corridor Report (Wheeler, 1996) recommends that to reduce fragmentation in the Ouse Valley habitat links are needed between the few wildlife-rich areas, most of which are restored gravel workings.

The Ouse Valley Link Project, developed as a partnership between the existing Milton Keynes Wildlife Corridor Project and English Nature's Habitat Restoration Project, was designed to achieve the following complementary objectives:

- To reverse the effects of habitat fragmentation in the valley.
- To trial the implementation of local farmland Biodiversity Action Plan habitats and species.

## 3.2 Location

The trial area covers approximately 100km$^2$ of the valley and follows the River Great Ouse for 25km from Beachampton in the south to Cold Brayfield in the north, encompassing the market towns of Stony Stratford, Newport Pagnell and Olney and a small section of floodplain within the city of Milton Keynes itself (Figure 1).

## 3.3 The landscape and habitats in the Ouse Valley trial area

The landscape is a flat, broad and poorly defined valley with rich pasture and arable land. Beyond the floodplain, the land rises to form a wide, gently undulating plateau either side of the river corridor, and is dotted with the occasional large outcrop of oolitic limestone. Two tributary rivers flow into the Great Ouse within the trial area, namely the River Tove and the River Ouzel. Approximately 4km of the Grand Union Canal also crosses the trial area.

Part of the valley is designated as an Area of Attractive Landscape in the Milton Keynes Local Plan and there are several locally designated wildlife sites. The areas of highest nature conservation interest are restored gravel workings, such as the nature reserves at Great Linford and Stony Stratford or ancient semi-natural woods such as Little Linford Wood. There are no statutory sites of nature conservation interest.

A Phase 1 Habitat Survey carried out in 1996 found the habitats shown in Table 2, Figures 3 & 4 translated into BAP classification types present in the Ouse Valley Trial Area (Hyder Consulting 1996).

The survey revealed the general lack of BAP priority habitats in the valley (6.5 ha, 0.06%) and the predominance of arable and agriculturally improved grassland (6963 ha, 64%). Figure 4 shows the distribution of BAP priority habitats, all semi-improved grassland and all broadleaf, mixed and yew woodland.

## 3.4 Funding and partnerships

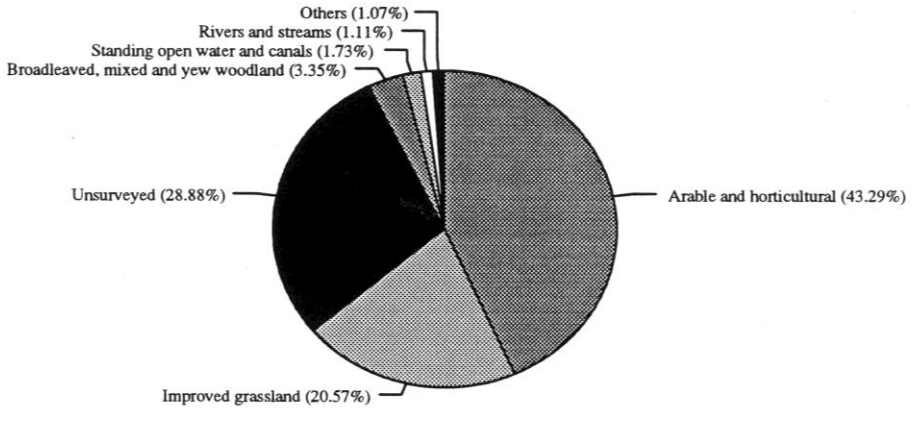
The Ouse Valley Link Project is coordinated by a full-time project officer and a steering group comprising representatives from the core funding organisations: English Nature, Milton Keynes Council and Milton Keynes Parks Trust. An advisory group with representatives from The Environment Agency, Internal Drainage Board, Country Landowners Association, National Farmers Union, Milton Keynes Natural History Society and the Farming and Wildlife Advisory Group, also supports the work of the project. The Habitat Restoration Project Manager has responsibility for ensuring support from partners at a national level. Sources of funding for restoration work have come from a variety of organisations and individuals with an

interest in the countryside including landowners, voluntary conservation bodies, government bodies such as the Farming and Rural Conservation Agency, the Forestry Commission and local authorities. Prior to 1996, the main focus of local nature conservation initiatives had been within the new city with very few resources used in the wider countryside of Milton Keynes Borough. However, Milton Keynes Council took on new responsibilities for the countryside when it gained unitary authority status in 1997 and a greater emphasis was given to the protection and enhancement of the countryside and its habitats.

**Table 2. Habitats found during the Phase 1 survey of the Ouse trial area, translated into BAP types**

| Habitat | Area (ha) | Number of parcels |
|---|---|---|
| Arable and horticulture | 4718 | 487 |
| Improved grassland | 2242 | 362 |
| Broadleaf, mixed and yew woodland | 365 | 227 |
| Coniferous woodland | 3 | 3 |
| Standing open waters and canals | 189 | 87 |
| Rivers and streams | 121 | 43 |
| Calcareous grassland | 6 | 13 |
| Neutral grassland | 3 | 4 |
| Fens and marsh and swamp | 3 | 3 |
| Inland rock | 16 | 6 |
| Built up areas and gardens | 67 | 13 |
| No match between Phase 1 and BAP | 17 | 5 |
| Unsurveyed | 3148 | |

**Figure 2. Habitats found during the Phase 1 survey of the Ouse trial area, translated into BAP broad types**



The project officer also helped to ensure that criteria for grants from external bodies, such as the Farming and Rural Conservation Agency, were targeted towards the restoration of habitats in the Ouse Valley.

# 4. The vision and its implementation

## 4.1 Why a vision?

An ideal habitat restoration vision was produced to give a visual picture of the potential that could be achieved in the trial area (Figure 5). It shows large zones of preferred habitats that would, if restored in the locations shown, reduce fragmentation. The vision was also designed to be used as a strategic tool to help guide conservation work.

The nine target habitats and their associated suite of species were carefully selected to meet national, regional and local objectives. Targets were based on the Phase 1 habitat survey results, the Natural Area profile for the West Anglian Plain (English Nature, 1996), the UK Biodiversity Action Plan (UK Biodiversity Steering Group, 1995) and Buckinghamshire Biodiversity Challenge (Berks, Bucks and Oxon Naturalists', Trust 1995). A list was drawn up which included both nationally important habitats and species such as alluvial flood meadows (flood plain grazing marsh) and snipe, and locally 'special' species such as the wood white butterfly. Physical characteristics of the project area, such as soil type, aspect, drainage and past and present land use such as the historic parks and gravel pits are also reflected in the choice of target habitats and species and their ideal restoration location. It was important to select indicator species of high quality, well-structured habitats that support a wide variety of other associated species so that they would be suitable for monitoring. In most instances the target species chosen were also fairly easy to recognise and 'popular' so that they would act as a flagship for restoration and attract interest from farmers and the general public.

Table 3 gives information on the target habitats and species chosen and which documents they are listed in.

**Table 3. Target habitats and species in Ouse Valley trial area**

BAP = Biodiversity Action Plan; NAP = Natural Area Profile; BC = Biodiversity Challenge; Survey = Found during Phase 1 survey

| Target Habitat | Target Species | BAP | NAP | BC | Survey | Other indicator of habitat quality | Incentives for restoration |
|---|---|---|---|---|---|---|---|
| Cereal field margins and Set-Aside | Brown hare | ✔ | | ✔ | ✔ | ✔ | Countryside Stewardship |
| | Grey partridge | ✔ | | ✔ | ✔ | ✔ | Game Conservancy Trust |
| | Corn bunting | ✔ | | ✔ | ✔ | ✔ | Set-aside |
| | Skylark | ✔ | | ✔ | ✔ | ✔ | Habitat Scheme |
| | Meadow brown | | | | ✔ | ✔ | Environment Agency |
| | Round-leaved fluellen | | | ✔ | | | |
| Ancient and/or species-rich hedgerows and scrub | Gatekeeper | | | | ✔ | ✔ | Countryside Stewardship |
| | Tree sparrow | ✔ | | ✔ | | | Local authority |
| | Song thrush | ✔ | | ✔ | ✔ | ✔ | Game shooting |
| | Linnet | ✔ | | ✔ | ✔ | | |
| | Pipistrelle | ✔ | | | | | |
| Lowland hay meadows and old permanent pasture | Skylark | ✔ | | ✔ | ✔ | ✔ | Countryside Stewardship |
| | Small heath | | | | | ✔ | Local Authority Grant |
| | Yellow meadow ant | | | ✔ | ✔ | ✔ | |
| | Burnet saxifrage | | | | | ✔ | |
| | Bird's-foot-trefoil | | | | | ✔ | |
| | Cowslip | | | ✔ | ✔ | ✔ | |
| | Lady's bedstraw | | | | | ✔ | |
| | Meadow vetchling | | | | | ✔ | |
| | Common knapweed | | | | | ✔ | |
| | Yellow rattle | | | | | ✔ | |
| Alluvial flood meadows | Adder's tongue | | ✔ | ✔ | ✔ | ✔ | Countryside Stewardship |
| | Ragged robin | | | ✔ | | | Environment Agency |
| | Great burnet | | ✔ | ✔ | | ✔ | |
| | Snipe | ✔ | ✔ | ✔ | | ✔ | |
| | Lapwing | ✔ | ✔ | | ✔ | ✔ | |
| | Redshank | ✔ | | | | | |
| | Yellow wagtail | ✔ | | | ✔ | | |
| Standing Open Water (Ponds, Mesotrophic lakes, Reed Beds) | Reed bunting | ✔ | | ✔ | ✔ | ✔ | Gravel Companies |
| | Sand martin | ✔ | | | | ✔ | Local Authority Grant |
| | Ringed plover | ✔ | ✔ | | | ✔ | Countryside Stewardship |
| | Gadwall | ✔ | ✔ | | ✔ | ✔ | |
| | Great crested newt | ✔ | ✔ | ✔ | | ✔ | |
| | Flowering rush | | | ✔ | ✔ | ✔ | |
| | Shining pond weed | | | | | ✔ | |
| | Red-eyed damselfly | | ✔ | | ✔ | ✔ | |
| Rivers | Barn owl | ✔ | | ✔ | | ✔ | Environment Authority |
| | Kingfisher | ✔ | | | | ✔ | Local Authority Grant |
| | Water vole | ✔ | | ✔ | | ✔ | Countryside Stewardship |
| | Otter | ✔ | | ✔ | | ✔ | Set-aside |
| | Black poplar | | | ✔ | ✔ | | |
| | Willow pollards | ✔ | | | | ✔ | |
| | River water-crowfoot | | | | | ✔ | |
| | White-legged damselfly | ✔ | ✔ | | | ✔ | |
| | Spined loach | ✔ | ✔ | | | | |

| Target Habitat | Target Species | BAP | NAP | BC | Survey | Other indicator of habitat quality | Incentives for restoration |
|---|---|---|---|---|---|---|---|
| Broadleaved Woodland | Bluebell | ✔ | ✔ | | ✔ | ✔ | Forestry Authority<br>Farm Woodland Premium Scheme<br>Local Authority Grant |
| | Early purple orchid | | ✔ | ✔ | | | |
| | Herb paris | | ✔ | ✔ | | ✔ | |
| | Wood white | ✔ | ✔ | ✔ | | | |
| | Black hairstreak | | ✔ | ✔ | | | |
| | Great spotted | ✔ | | ✔ | | ✔ | |
| | Woodpecker | | | ✔ | ✔ | ✔ | |
| | Dead wood beetles | | | | | | |
| Lowland parkland | Mature oaks | | ✔ | | ✔ | ✔ | Countryside Stewardship<br>Local authority grant |
| | Common lime | | | | ✔ | ✔ | |
| | Walnut (non- native but characteristic) | | | | | ✔ | |
| | Parkland beetle (Prioncyphon serraticornis) | | ✔ | | | | |
| Limestone grassland | Field scabious | | | | | ✔ | Countryside Stewardship<br>Local authority management regimes |
| | Salad burnet | | | | | ✔ | |
| | Harebell | | | | | ✔ | |
| | | | | | | ✔ | |

For each habitat quantitative restoration targets were set based on the Biodiversity Action Plan and the Natural Area profile (Table 4).

**Table 4. Trial Area targets in relation to national BAP targets and Natural Areas objectives**

| Habitat | Trial Area Target | BAP target | Natural Area objective |
|---|---|---|---|
| Hedgerow restoration | To restore 20% of those hedges identified as gappy | Halt net loss, achieve favourable management of 25% by 2000 and 50% by 2005 | Planting/regeneration to support farm and woodland birds, form wildlife corridors and links between existing and new habitats |
| Hedgerow creation | Replant 10% of hedgerows which have been lost | Halt net loss, achieve favourable management of 25% by 2000 and 50% by 2005 | Planing/regeneration to support farm and woodland birds, form wildlife corridors and links between existing and new habitats |
| Cereal field margins | Achieve sympathetic management of field margins within 20% of the arable area | Maintain, improve and restore 37.5% by 2010 | No target |
| Grassland restoration/ creation | Increase the amount of semi-improved grassland from 2.3% to 10% within the trial area | No target | Manage neutral grassland along traditional lines |

| Habitat | Trial Area Target | BAP target | Natural Area objective |
|---|---|---|---|
| Floodplain grassland restoration | Ensure that 20% of the grassland in the floodplain in managed as extensively grazed, or hay cropped, flood meadow | Maintain existing, rehabilitate 33% by 2000 and create an additional 8% by 2000 | Manage along traditional lines to preserve species-rich habitats |
| Limestone grassland restoration | Ensure that all existing areas of limestone grassland are in sympathetic management | Arrest depletion of lowland calcareous grassland, secure favourable condition of 30% by 2005 and all by 2015 | No specific target |
| Limestone grassland creation | Double the current extent of this habitat | Establish 1000 ha of lowland calcareous grassland at selected sites by 2010 | No specific target |
| Pond restoration/creation | Ensure that every farm in the project area has at least one healthy pond | No target | Create farm ponds and ensure sympathetic management to support great crested newts |
| Gravel pit restoration | Increase the area of gravel pits under sympathetic wildlife management from 22% to 50% | No target | Maintain to support characteristic species, especially birds |
| River restoration | Ensure that at least 25% of the main river meats specified criteria for low energy lowland clay rivers | No target | Restore features of more natural river dynamics |
| Woodland creation | Double the area of woodland in the valley from 2.5% to 5% | No target | Encourage new woodland planting adjacent to or linking existing sites |
| Parkland restoration | Restore all historic parkland areas | Maintain the current extent in favourable condition and restore 2500 ha by 2010. Create 500 ha by 2002 | Encourage arable reversion to pasture |
| Woodland restoration | Ensure that all woods over 2 ha are brought into sympathetic management | No target | Sympathetic management especially of open space and dead wood. Removal of conifers from mixed woodland |

## 4.2 How was the vision used?

After the vision had been adopted by the advisory group it was sent to local farmers and landowners with a project newsletter. During subsequent one-to-one meetings with the project officer the vision helped generate a lot of useful discussion. Farmers were interested because it showed how their conservation efforts would have wider benefits across the whole valley and it helped to raise awareness of the significance of habitat location. The scale of the vision map was important because it covered an area of land that farmers were familiar with and could easily relate to. It acted as a useful strategic conservation guide for the farmer and project officer when discussing ideas for how best a particular area of land could be improved for wildlife.

The target species mentioned on the front of the published map also sparked considerable interest. For example, farmers often talked about the last time they saw snipe on their land or where there were barn owls and this led to discussions about why they have declined, their habitat requirements and how these species can be encouraged.

## 4.3 Farmers attitude survey

Between October 1996 and October 1997 a questionnaire survey was carried out to assess the current use of environmental land management schemes (ELMS) in the project area and the level of interest and awareness amongst the farming community about the effects of farm management on wildlife.

Twenty-eight farmers (52% of those known to live in the project area) took part in the survey. Survey questionnaires were all completed during face to face interviews. The remaining landowners did not respond to letters or telephone calls requesting an interview. A copy of the questionnaire is contained in Appendix 1.

### 4.3.1 Interviewees profile

The majority of those farmers interviewed managed mixed farms with both arable and livestock enterprises. Only two of these mixed farms had a dairy and all of them had either beef cattle or sheep. 71% of respondents were landowners and 75% of respondents managed farms over 50ha in size.

### 4.3.2 Results

The results are summarised below.

- 25% were aware of the Countryside Stewardship Scheme.
- 28% were aware of the Woodland Grant Scheme.
- Previous applications for conservation grants were for

| | | |
|---|---|---|
| ❑ | Tree and woodland planting | 72% |
| ❑ | Ponds | 19% |
| ❑ | Tree pollarding | 9% |

- 78.5% of farmers cut their hedges in the autumn every year.
- 38% grew non-food crops on set-aside.
- 66% felt that farmers had a responsibility to sustain farmland wildlife.
- 93% felt that farmers had a responsibility to maintain an attractive landscape.

Replies to several open questions highlighted important concerns and constraints:

- Over 60% said that CAP payments and policies should help farmers to protect and manage wildlife habitats and landscape features more than at present
- The majority of respondents felt that there were already too many schemes and no more new ones were needed. Respondents said that they would like improved incentives to be incorporated into existing schemes or into a 'one-stop-shop' for conservation grants
- Issues that arose included concerns about management of the river, concerns about pest species and specific concerns about new regulations.

#### 4.3.3 Summary of landowners views

- Awareness of conservation grant schemes was low despite questionnaires coming from interested farmers.
- Of the 39% that had applied for conservation grants in the past, 36% had entered into a management scheme whilst a further 64% had applied for small, capital grants.
- Outside conservation schemes, farmers favoured tree planting and pond restoration. Many also planted game crops to attract pheasants and partridges. This reflects the popularity of game shooting amongst a significant number of farmers in the trial area.
- The shortage of labour to carry out conservation work on the farm was an important issue. A large proportion of the farms in the trial area are family-run mixed farms where there is no slack work period in the year. Costs are kept low by employing the minimum number of staff, often just family members.

# 5. Financial options for restoration

A range of incentives were available to encourage farmers to increase the biodiversity of their land. The most important of these are summarised below:

## 5.1 MAFF Schemes

### 5.1.1 Countryside Stewardship Scheme

This is the main scheme that could be used to fund habitat restoration in the Ouse Valley trial area. The scheme offers grants through 10-year agreements towards the restoration costs of all

of the project's target habitats except woodlands. As it is a discretionary scheme with limited funding available nationally, Countryside Stewardship applications must meet a number of criteria to be successful. The criteria vary across each region and usually reflect local conservation priorities. Those for the Ouse trial area are listed in Appendix 2.

### 5.1.2 The Farm Woodland Premium Scheme

Where a woodland establishment grant has been obtained under the Woodland Grant Scheme a landowner can apply to MAFF for a yearly payment of £250/ha/yr for either 10 years or 15 years depending on the ratio of broadleaves to conifers that are planted. This grant is only available for planting on land that was previously in production (either arable or grassland) and registered in the IACS scheme.

### 5.1.3 Set-Aside

Although the minimum set-aside area requirement was only 5% from 1996-9, permanent set-aside still had potential to provide habitat for a number of the project's target species. It can be sited and managed to complement, buffer or link existing habitats such as woods, hedges, rivers and meadows and is a valuable habitat in itself when managed as field margins or sown with a wild bird seed mix. Rotational set-aside could also provide winter stubbles for farmland birds where it was not being sown to non-food crops such as industrial oilseed rape.

## 5.2 Forestry Commission Schemes

### 5.2.1 The Woodland Grant Scheme

This scheme provides funding for new woodland planting and for woodland management. The standard rate for a one-off establishment grant is £1350/ha for broad-leaved plantations up to 10 ha in size. Where new planting is on arable or improved grassland farmers can also claim a better land supplement of £600/ha. An annual grant of £35/ha/year is available for on-going woodland management in woodlands with a special environmental value.

### 5.2.2 Woodland Improvement Grant

This one-off grant provides 50% funding for restoration measures such as coppicing and thinning to improve the environmental value of existing woods.

## 5.3 Local Authority Grants

### 5.3.1 Buckinghamshire County Council

The County Council administers a Landscape and Conservation Grant, which can provide up to 50% of the costs of small-scale capital improvements such as a pond or meadow creation. This grant was therefore available to the few farms that were in that part of the trial area just outside the unitary authority area of Milton Keynes. For the majority of farmers in the Milton Keynes authority area there is no official grant scheme provided by the Council, however individual applications made by the project are considered on their merit if funds are available.

### 5.3.2 Parish and Town Councils

Although the project was predominantly concerned with achieving habitat restoration on farmland, some worthwhile projects were also funded by parish councils and carried out on public land within the trial area.

## 5.4 The Environment Agency

Discretionary funding was available for some works within the river floodplain although the costs associated with repairs following the floods in April 1998 greatly restricted the EA's conservation budget in the financial year 1998/99.

## 5.5 English Nature

### 5.5.1 Local Team funding

The project received funding for up to 50% of the cost of some capital schemes from English Nature local office.

### 5.5.2 Habitat Restoration Project funds

Where projects could not be funded from agri-environment sources, some capital funds were available from Habitat Restoration Project central funds which were distributed between the four trial areas each year.

## 5.6 Landfill Tax

Funding for capital projects was applied for and obtained through the Environmental Body (Milton Keynes) who are registered with the Landfill Tax regulator Entrust. The projects had to satisfy the board of EB(MK) and Entrust that they would provide wildlife benefit and be accessible to the general public.

# 6. Wildlife benefits achieved

The Phase 1 survey and most of the restoration work from the project was entered onto the GIS database 'Mapinfo' so that maps could be produced and the data analysed.

## 6.1 Before restoration

From the original Phase 1 survey data, the extent and distribution of BAP habitats was plotted and is shown on Figures 3 & 4. All of the grassland found in the project area was species-poor and had largely been improved for agriculture by the addition of fertiliser. Only approximately 286 ha (3%) retained enough floristic diversity to be recorded in the Phase 1 habitat category semi-improved (poor). Most of the semi-improved grassland that did remain was on ridge and furrow outside the floodplain. The survey recorded a few remnant patches of calcareous grassland found on oolitic limestone totalling 6 ha (0.06%).

Ancient woods were the largest predominately semi-natural habitat category in the project area and were present on the heavy clay soils. Many had been re-planted in part, some with coniferous species and all were fragmented by the farm-scape. Numerous small woodland plantations, planted in the past to provide game cover, were scattered throughout the trial area and provided good habitats.

Although a scattering of ponds remained in the project area, flooded gravel pits made up the majority of the wetlands and these had a variety of recreational uses such as boating and fishing. There were two nature reserves.

## 6.2 After restoration

Table 5 shows the amount of each habitat undergoing restoration as a result of the project. The figures are measured against the original habitat targets. Linear features such as field margins, river buffer strips and hedgerows made up the majority of the restoration achieved, along with point features such as ponds.

## 6.3 Where does habitat restoration occur?

Figure 6 shows the location of restoration/creation schemes in trial area distorted geographically to protect landowners confidentiality.

Restoration was most often achieved by changing the management of existing degraded habitats rather than through a process of land-use change, ie restoration was carried out more readily than habitat creation. 90% of the work to enhance the floristic composition of grassland was restoration and only 10% re-creation.

### 6.3.1 Grassland

Farmers and landowners preferred to change the management regime on areas of existing improved grassland to benefit wildlife rather than revert arable land to grassland. The larger blocks of grassland restoration occurred on land managed primarily for conservation, recreation or landscape; for example, on land owned by a fishing club and on riverside parkland. Where grassland restoration occurred on farmland it was usually on either permanent set-aside, or on the least productive land, for example on a wet grassland fen. These areas were often much smaller in size. Only 10 ha (7%) was created from arable. Both riparian grassland and areas of limestone grassland were restored in the preferred zones identified on the vision map.

Figure 7 summarises the types of habitat from which grassland is being restored or created.

**Table 5. Achievements towards restoration targets**

| Restoration targets based on a project timescale of 3 years | Extent of habitat identified from Phase 1 Survey | Restoration Target | Actual amount restored/ created | % of target achieved | % increase in total extent of habitat |
|---|---|---|---|---|---|
| Restore 20% of those hedges identified as gappy | 46km of gappy hedges | 9.2km | 19km | 207% (41% of all gappy hedges | |
| Replant 10% of hedges which have been lost | | | 4km | | |
| Achieve sympathetically managed cereal field margins within 20% of the arable area | 718km of potential field margin | 143.6km | 31.7km | 22% | 100% |
| Increase the amount of semi-improved grassland from 2.3% to 10% within the trial area | 267ha | 1000ha | 152ha | 15% | 66% |
| Ensure that 20% of grassland in the flooplain is managed as extensively grazed, or hay cropped, flood meadow | 980ha | 196ha | 100ha | 51% | 100% |
| Ensure that all existing areas of limestone grassland are in sympathetic management | 7.4ha * | 7.4ha | 0 | 0 | 0 |
| Double the current area of limestone grassland | 7ha | 15ha | 26ha | 173% | 351% |
| Ensure every farm within the project area has at least one healthy pond | 60 ponds in trial area | 60 ponds | 20 | 33% | 33% |
| Increase the area of gravel pits under sympathetic wildlife management from 22% to 50% | 467ha of gravel pit | 130.9ha | 39ha | 30% | 38% |
| To ensure that at least 25% of main river meets the criteria set out in the vision report | 40km of main river | 10km | 9km | 93.5% | |
| Double the area of woodland in the valley from 2.5% to 5% | 235ha of woodland | 500ha | 14ha | 3% | 6% |
| Restore all historic parkland areas | 247.5ha of parkland | 247.5ha | 71ha | 29% | |
| Ensure that all woods over 2ha are brought into sympathetic managmenet | 27 woods | 27 | 4 | 15% | |

* only 7.4 ha of limestone grassland were found by the Phase 1 Survey but there is the potential to re-create much more of this habitat from species-poor grassland where the underlying soils and rocks are suitable.

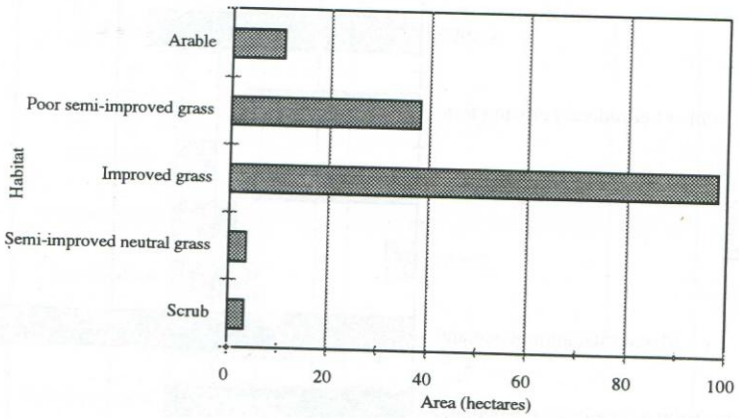



**Figure 7. The different land uses being restored to grassland for wildlife**

### 6.3.2 Woodlands

About 12 ha (25%) of woodland tree planting was on arable or improved grassland or on land in agricultural production and carried out by farmers possibly as a result of the financial incentive provided by the Farm Woodland Premium Scheme. The remainder was in other locations. Farmers usually plant in field corners to help rationalise farm boundaries although one farmer planted a 2ha linear strip as a link between an older plantation and an old hedgerow on arable land. A larger proportion of planting carried out by farmers was either within existing woodlands or parklands or on areas that were not in production as shown in Figure 8. Where individual trees were planted over a large area of broadleaved parkland the analysis has calculated the total amount of parkland and this explains why the figure shown is high. As with the grassland, farmers were reluctant to change their existing land-uses to woodland.

### 6.3.3 Linear Habitats

Linear habitats that had minimal impact on the main cropped or grassland areas on the farm, such as cereal field margins, hedges or river buffer strips were favoured for restoration or creation on privately owned farmland.

The types of hedges or boundaries that are being restored are shown on Figure 9. Farmers preferred to restore existing gappy hedges (*c*80%) than to replant new ones (*c*20%), unless they were along a fenceline. Some hedges that were recorded as intact on the original Phase 1 survey have been found to be gappy in some sections so Figure 9 also includes these.

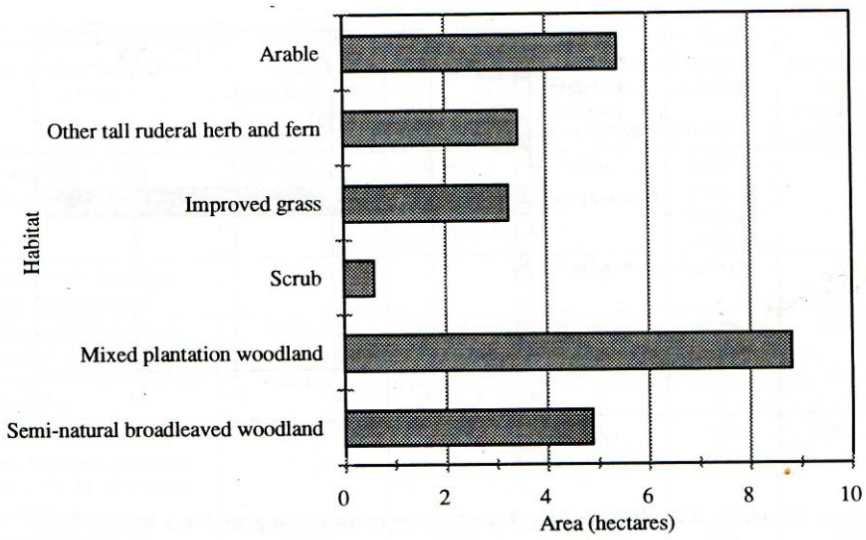



**Figure 8. The land types on which woodland restoration or planting has occurred**

### 6.3.4 Barn Owl Box Scheme

The importance of linear habitats was also given a special emphasis by the project through a flagship barn owl scheme, which may explain why farmers were particularly willing to create these habitats. Barn owls require either whole fields of rough grassland or an extensive network of rough grassland field margins alongside rivers, ditches, hedges and woodlands. These corridors provide feeding habitat and where they are continuous across farms they also act as dispersal networks between isolated populations of barn owls. With funding from the Habitat Restoration Project and the Environment Agency, the Hawk and Owl Trust were employed to erect 12 barn owl nesting pole boxes in suitable locations along the river valley. These aroused a lot of interest from landowners especially when a pair of barn owls nested successfully in one of the boxes in June 1998 and again in 1999.

### 6.3.5 Habitat fragmentation and connectivity

Analysis of the level of fragmentation that exists between BAP habitats within the trial area (Figures 3 & 4) clearly shows that the majority of these key habitats are isolated by arable or improved grassland. The effects of isolation are severe because semi-natural habitat only covers approximately 1.5% of BAP priority semi-natural habitat (or 7% if all broadleaved woodland is included) and the size of each habitat patch is small (*c*1.5ha). If these small habitat patches existed within close proximity to each other some species could migrate between them, however the data shows that in the Ouse trial area the habitat patches are widely spaced.

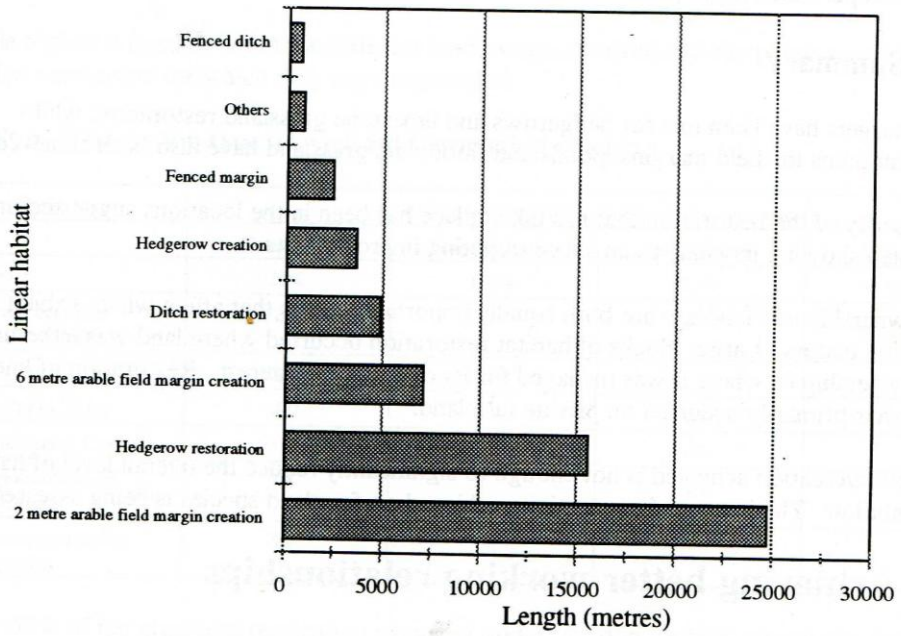



**Figure 9. Types of hedgerows and linear features that are being restored/created**

Broadleaved woodland, the most extensive semi-natural habitat in the trial area, only covers 2% of the trial area and 90% of these woodland patches are under 3 hectares in size. Although 53% of these woods are connected to other habitats only 14% are connected to other woodlands. They are an average distance of 340 metres apart and only 4% of the habitats found within 500 metres of all the woods were also woodland. The hedgerow and woodland creation in the trial area made little difference to these figures.

The fragmentation analysis for ponds in the trial area shows that they are on average 290m apart. Whilst the maximum likely dispersal distance for juvenile great crested newts is 500m, adults are more likely to move only 250m through suitable habitat between ponds. The survey has shown that many of these ponds are of low conservation value because of a lack of management so the crucial distance between suitable amphibian ponds in the trial area is likely to be greater than 290m and thus too far apart to maintain interbreeding great crested newt populations.

As a result of the various habitat restoration schemes, especially those that created linear features, wildlife corridors were established along farmland streams and hedges to link larger blocks of land being restored around gravel pit lakes. These habitats are valuable in their own right but their creation has not been extensive enough to significantly reduce the level of fragmentation within the trial area over three years.

Species monitoring work being undertaken will begin to test the significance of the restoration achieved in delivering farmland landscapes that make a positive contribution to the

conservation of typical farmland species including yellow hammers, skylarks, pipistrelle bats, and gatekeeper butterflies.

## 6.4 Summary

Project targets have been met for hedgerows and limestone grassland restoration, whilst significant gains for field margins, ponds and floodplain grassland have also been achieved.

The majority of the restoration that has taken place has been in the locations suggested on the vision map showing its value as an aid to targeting improvements.

Land ownership and land use are both equally important factors that affect where habitat restoration occurs. Larger blocks of habitat restoration occurred where land was either in pubic ownership or where it was managed for its recreational interest. Restoration of linear habitats has primarily occurred on private farmland.

Restoration/creation achieved is not enough to significantly reduce the overall level of habitat fragmentation. The impact of connectivity achieved on farmland species is being assessed.

# 7. Achieving better working relationships

## 7.1 Involvement of landowners

The distribution of the restoration schemes (Figure 6) shows that work has occurred in a series of clusters which correlate closely with the farms that took part in the initial survey even though these farms had not previously taken up any conservation schemes. This suggests that at least in the first two to three years a proactive approach where a project officer meets farmers is an effective catalyst for achieving restoration and that neighbouring farmers encourage each other to carry out measures to improve the conservation value of their farms.

After the project had established a good network of contacts, the need to be proactive lessened as farms adjacent to those carrying out restoration often showed willingness to become involved themselves. A good example of this was shown by a farmer who did not want to become involved with the project in the first year but by year three was keen to carry out restoration work for barn owls after meeting with his neighbour. If this ripple effect were to continue, eventually a general pattern of habitat linkages could develop across farms throughout the valley. A proactive approach was however essential to start this process and it is likely that continued support from the project would be required to sustain it.

## 7.2 Land ownership type

During the first Countryside Stewardship application round in 1997, the largest applications were made by Milton Keynes Council and Milton Keynes Parks Trust. They are both project partners and wanted to demonstrate their commitment to its aims and objectives and had the potential to do so. They also shared a common objective of enhancing the conservation value of land in their ownership. Although there were two applications from private farmers in 1997, the majority of the restoration work planned or carried out by farmers was in 1998. It is possible that it took the first two years for farmers to overcome their initial scepticism but it is

more likely that the delay was due to the fact that it took this length of time for the project to become established and known within the farming community.

Table 6 gives a breakdown of the different landowners involved and the percentage of the total habitat restoration for which they were responsible.

**Table 6. Restoration type by each land ownership category**

| Owner type | % of total restoration carried out by area/length | | | |
|---|---|---|---|---|
| | Grassland | Cereal field margin | Woodland | Hedgerow |
| Farmer | 29% | 100% | 85% | 85% |
| Private occupier (non-farming) | 2% | | 3% | |
| MK Council | 23% | | | |
| MK Parks Trust | 40% | | 4% | 15% |
| Town/Parish Council | 0.08% | | 6% | |
| Recreation-based landowners | 1% | | 1% | |
| Mineral extraction companies | 5% | | | |

Over 60% of the grassland restoration occurred on farmland in 'public' ownership, for example, the extensive riverside meadow parkland managed by Milton Keynes Parks Trust at Old Wolverton or the flood meadows at Olney owned by Milton Keynes Council. Where these large blocks of public land were farmed by tenants or licensees, public bodies offered incentives such as a reduction in rent to their tenants if they farmed the land to achieve wildlife and landscape objectives.

Landowners who managed their land for recreation were also willing to restore habitat blocks. An attractive environment is an asset to these land owners and because their main income is not derived from farming, habitat restoration does not normally incur the cost of profit forgone.

Private farmers were reluctant to take land permanently out of production and therefore grassland restoration occurred on set-aside or marginal land and woodland was planted primarily in locations convenient to the farm management rather than where it was best suited for wildlife. Private farmers planted the majority of woodland concentrating it where woodland was already a feature of the landscape, for example amongst parkland and adjacent to hedgelines. Additional payments under the Farm Woodland Premium Scheme encouraged planting on arable and improved grassland.

All cereal field margins were installed by private farmers. They were popular because:

- they could be achieved without altering the main income generating areas of the farm;
- the grant payments for field margins were high relative to the area involved;
- arable field margins provided ideal habitat for game-birds;

- field margins along watercourses helped farmers to meet new regulations being introduced under the recent Upper Ouse Nitrate Vulnerable Zone designation;

- they offered agronomic benefits to farmers such as improved control of annual weeds.

Field margin and hedgerow restoration were also often achieved together reflecting one of the conditions of Countryside Stewardship grant aid. An analysis of the influences of grant aid on habitat restoration is given in section 9.

### 7.2.1 The landowner's view of the vision

As the questionnaire survey was carried out before the vision map was produced there is no data available on the farmer's opinions of the vision map. However during informal discussions the project officer found that farmers and landowners showed considerable interest in the vision map because it put their land and the restoration work that they wanted to carry out in a local context and showed the importance of habitat links. The map also covered an area that they were familiar with and consequently they could offer the project useful insight when discussing restoration. For example, which land flooded most frequently or descriptions of historical land uses.

Often farmers already had vague plans to either restore ponds or plant trees on a specific area of their land. In some instances however, landowners had an area of land that they were prepared to take out of production and were seeking advice. In these circumstances the vision map was an extremely useful conservation guide for both the farmer and project officer alike. One example was a river 'island' that the farmer occasionally grazed when his sheep could gain access in the summer. The vision map suggested woodland planting on this river island with the aim of securing more cover for otters and the farmer was happy to proceed with this idea.

Although there were no farmers or landowners that had specifically heard about the Biodiversity Action Plan, many were aware of the publicised declines in farmland birds such as skylarks and lapwings. Most were unsure of the reasons for their decline or how they could specifically help. The target species listed on the vision map therefore generated much discussion during one-to-one meetings and enabled the project officer to approach this subject more easily and explain how the farmer or landowner could help. It also gave the farmer or landowner an opportunity to openly express their views and concerns about these conservation aims.

The conservation advice given was tailored to each farmer or landowner depending on the level of interest shown. During a first farm visit this may not have been 'whole farm' advice but during subsequent visits or through further correspondence additional suggestions would be made for improving a farm's conservation potential.

### 7.2.2 Sharing the vision

Milton Keynes Council and Milton Keynes Parks Trust were the main land owning organisations in the trial area with a commitment to nature conservation and with the specific objective of carrying out conservation works to enhance the value of their land within the trial area. As project partners, this obviously helped the project to achieve its aims.

The project partners were asked to give their views on the vision and involvement with the project. Partners said that the project provided an opportunity to gain added value for the area by sharing expertise and resources with others and the vision helped to promote sensitive, sustainable and 'wildlife friendly' management of land in and around the new city. Milton Keynes Parks Trust said that being a partner helped to foster good relations and communication with other partners, advisors and the local community and, perhaps most importantly, it enabled the Trust to help to 'make a difference', improving the quality of the local 'green' environment, an objective that is at the heart of the Trust's approach to land management.

The project was actively supported by the organisations represented on the advisory group. For example, Country Landowners Association gave the project very valuable promotion by hosting a woodland walk and helping the project to secure space in the CLA tent at the Buckinghamshire County Show. Environment Agency Conservation and Flood Defence Officers helped the project to gain consents for work and helped to raise funds for capital schemes. The Internal Drainage Board and the National Farmers Union helped to raise the profile of the project with key members from within the project area. For example the NFU and the project officer together organised a meeting and farm walk to discuss the aims of the project and demonstrate the practical conservation measures that could be carried out.

Other organisations that were not members of the Advisory Group, such as the North Buckinghamshire Agricultural Association and the Moulsoe Farmers Group, also played an important role and assisted by inviting the project to events that they were holding. This proved a very effective, informal way to meet local farmers and promote the project further. Unfortunately FWAG did not become involved in the project because of a shortage of staff and therefore did not use the vision.

Although not an Advisory Group member, FRCA were the administrators of the main funds for works on the ground and as such were crucial to the success of the project. At all levels, FRCA offered support and advice to the project officer and to farmers making applications. FRCA established the project trial area as one of the target areas for Countryside Stewardship grant aid and most of their target habitats reflected those shown on the vision. Overall eight out of 11 (73%) applications for Countryside Stewardship were successful during the course of the project compared to 47 out of 86 (55%) for Buckinghamshire as a whole.

## 7.3 Summary

It takes considerable time for a new project to gain a degree of acceptance within the farming community.

Experience has shown that the proactive approach was necessary to gain the initial interest from landowners although the importance of this lessened as the project became more established. The support given by respected local farmers and local farming groups was equally important.

The vision map and targets were successful in attracting interest from landowners and a useful conservation decision-making tool for the project officer. However, more work was probably needed to encourage local project partners to adopt the vision more fully.

# 8. Value for money

## 8.1 Habitat restoration achieved without grant aid

Not all of the conservation work on farms is externally funded and so before the different types of grant schemes and their take-up in the project area can be examined, it is first necessary to determine the extent to which habitat restoration relies on external funding. When landowners were asked whether they had carried out any work that benefitted conservation without the support of grant aid, in the questionnaire survey, 82% said that they had. The types of wildlife habitats that were created or restored prior to the project are shown in Figure 10. Small-scale tree planting especially for game cover, and pond restoration were the most popular improvements. Some landowners had also carried out work on their hedgerows but no work restoring or creating semi-natural grassland had occurred.

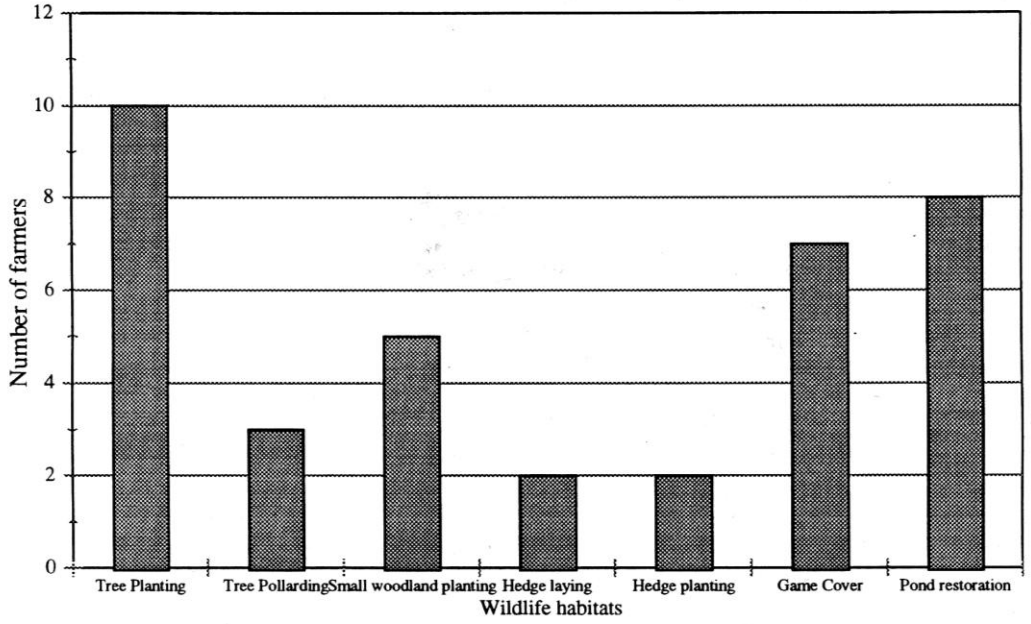



**Figure 10. Wildlife habitats that farmers created without the use of grant aid prior to the project**

During the course of the project there were only four schemes that landowners were willing, or able, to fund themselves; one each of grassland restoration (2.6ha), grassland creation (1ha), pond restoration and woodland management (3ha).

## 8.2 Grant-aided restoration work

### 8.2.1 General funding for restoration work

Most of the work initiated in the trial area depended on funding from some form of grant aid. There are several possible explanations for this:

- The recent fall in agricultural incomes has meant that there is less money to spend on non-income generating work on the farm.
- Farmers are under increasing pressure to increase productivity and have less time to spend on time-consuming conservation work that may reduce the area of cropped land.
- Actively promoting schemes and assisting farmers to obtain grant aid the project may have raised expectations that financial assistance would be available with the effect of discouraging landowners from funding works themselves.
- The availability of grant aid has perhaps encouraged farmers to carry out work that they might not otherwise have undertaken in those 2-3 years.

During the project's term it was not possible to fund all of the conservation work that landowners were willing to undertake. Whether landowners will go ahead with these projects in the absence of grant aid or project support is an important question that needs to be addressed through future monitoring.

Figure 11 and Tables 1 & 7 summarise the value of grant aid used for different types of work during the duration of the project.

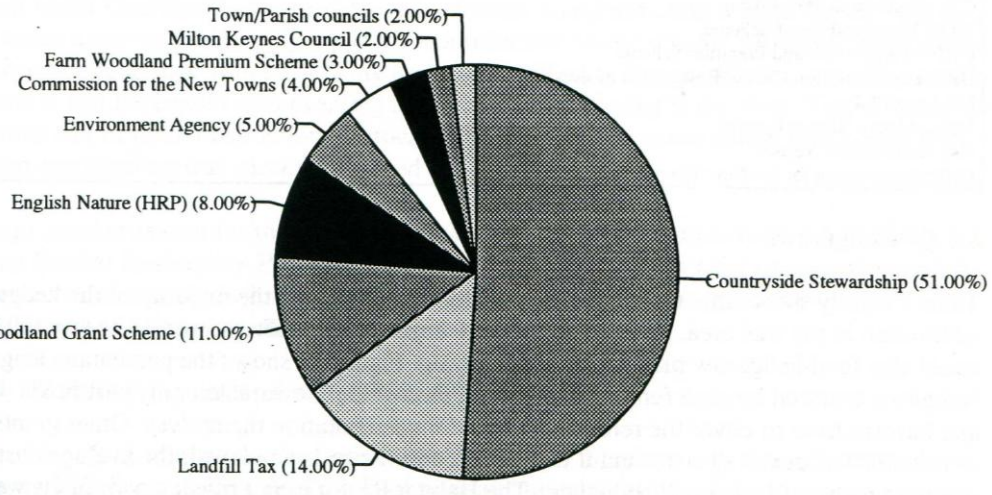



**Figure 11. Sources of capital and revenue funding spent on habitat restoration in the Ouse Valley**

Countryside Stewardship has been the main source of grant aid used to achieve large-scale habitat restoration in the project area. Where annual payments were made for changes in management practices such as on grassland or arable field margins, Countryside Stewardship was the only source of grant aid available.

Grants from a wider variety of sources have however been used for the restoration of some habitats such as hedges or ponds.

**Table 7 Funding sources for habitat restoration**

| Habitats Restored | C.S | C.S (Deferred agreements) | WGS | FWPS | HRP | LT | MKC | EA | CNT | Parish/ town councils | Own funds |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Field margins | 100% | | | | | | | | | | |
| Hedges | 65% | 20.5% | | | 1% | 14% | | | | | |
| River buffer strips | 54% | | | | 24% | 22% | | | | | |
| Grassland creation | | 0.6% | | | 9% | 22% | 3% | | 45% | 21% | |
| Grassland restoration | 98% | | | | | | | | | | 2% |
| Ponds, wetlands and wader scrapes | 43% | 4% | | | 8% | | 14% | 31% | | | 0.2% |
| Woodland and scrub | | | 50% | 23% | 2% | 8% | | 3% | | 1% | 13% |
| Barn owls | | | | | 87.5% | | | 12.5% | | | |
| Historic parkland | | | | | | 97.5% | 2.5% | | | | |

C.S: Countryside Stewardship
WGS: Woodland Grant Scheme
FWPS: Farm Woodland Premium Scheme
HRP: English Nature Habitat Restoration Project
LT: Landfill Tax
MKC: Milton Keynes Council
EA: Environment Agency
CNT: Commission for the New Towns

### 8.2.2 Hedgerows

Table 7 clearly shows that Countryside Stewardship has funded the majority of the hedgerow restoration in the trial area. Where hedges were adjacent to public footpaths the Landfill Tax could also fund hedgerow planting or hedge laying. Figure 12 shows the percentage length of hedgerow restored by each funding category. Countryside Stewardship only part funds work and farmers have to cover the remaining cost of implementation themselves. Other grants such as Landfill Tax cover all costs and if therefore a contractor is employed, the average cost to restore a metre of hedge will be higher. The Habitat Restoration Project's own funds were used to fund small sections of hedgerow restoration where neither Countryside Stewardship or Landfill Tax was available.

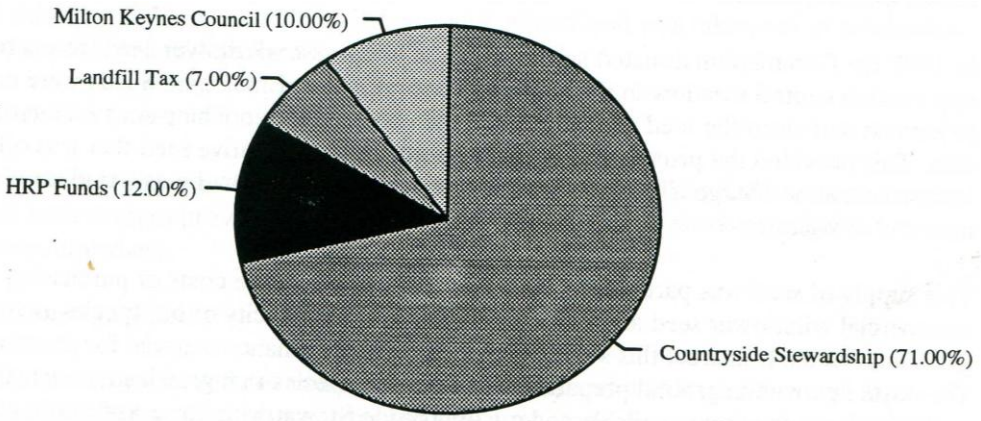



**Figure 12. Percentage of total hedgerow length restored by each funding source**

### 8.2.3 Funding of fenced buffer strips

Funding for the riverside buffer strips came from a variety of sources as shown on Table 7. The Countryside Stewardship Scheme funded the fencing of river margins as part of larger areas of floodplain grassland restoration. Due to FRCA's funding criteria, they could not grant aid fenced river strips unless they formed part of a larger 'whole farm' restoration scheme. Either English Nature or the Environment Agency therefore funded the other fenced strips which usually included the cost of a contractor to erect the fencing.

Except under Countryside Stewardship, a landowner could not claim a grant for the strip of land taken out of production, this was his 'contribution' to the scheme. However, landowners that kept sheep in their waterside fields were often willing to forego this 6m strip of bank-side because it had the benefit of preventing livestock from drowning in the river. To overcome the potential risk of flood obstruction by stock netting, a post and seven strand high tensile wire fencing specification was successfully used.

Perhaps another reason for the preferential take-up of riverside buffers funded by English Nature Habitat Restoration Project funds, was that farmers did not need to enter into lengthy agreements that required a lot of paperwork which was one of their criticisms of agri-environment grant schemes throughout the survey.

### 8.2.4 Funding of grassland restoration and creation

90% of the work to improve the floristic composition of grassland was through restoration and only 10% through creation; largely of riparian grassland or grassland with some existing wildlife value.

Countryside Stewardship funded all grassland restoration through ten-year agreements for changes in management practice on existing areas of grassland. It did not however, fund any of the grassland re-creation schemes.

The largest proportion of the grassland re-creation was funded through a partnership scheme with the Commission for the New Towns that subsequently provided a cheap supply of locally native wildflower seed.

In 1997 the Commission donated sufficient funds to harvest wildflower seed from a remnant species-rich neutral meadow in the south of Milton Keynes. Emorsgate Seeds were contracted to harvest and clean the seed so that it could then be used for enriching sites within the trial area. This provided the project with a cheap source of locally native seed that was offered to landowners at no charge if they were willing to manage the donor site as a traditional hay meadow or pasture.

This supply of seed was particularly valuable, firstly to offset the costs of purchasing commercial wildflower seed and secondly, because of the paucity of old species-rich grasslands in the trial area, this source provided local provenance material for creation sites. The costs involved in ground preparation to establish species rich grassland are usually prohibitive and the grant available under Countryside Stewardship for grassland re-creation through seeding was not high enough to attract take-up. For example the cost of preparing and seeding a 1ha site is between £1,000 and £2,000 (depending on seed mix and density sown) but the scheme offered landowners just £40 per ha towards the cost of the seed. In 1999 a new payment of £250 per ha for one year for wildflower seed was introduced. Although grants are available under Countryside Stewardship for the management of enriched grassland (£85/ha/yr for existing grassland and £285/ha/yr for reversion of arable to grassland) these are not set at a level which takes into account the high establishment costs involved with grassland re-creation.

The project also trialled the spreading of species-rich hay as a mechanism for re-seeding grassland. Fortunately the hay was also a donation and originated from a SSSI flood meadow in Milton Keynes, close to the trial area. This was spread on an existing riverside grassland site that had been prepared by spraying, ploughing and harrowing. English Nature and Milton Keynes Council funded the costs of site preparation. The project was relatively cheap but very labour intensive and the viability of the seed was not as good as that harvested from the species-rich neutral meadow.

### 8.2.5 Funding of pond and wetland restoration

Unfortunately it became clear that the types of habitat restoration that were most popular with landowners such as pond or wetland creation, were not easy to fund. Small-scale projects such as these cannot be funded by Countryside Stewardship unless part of a package of whole farm habitat restoration, and Milton Keynes Council, whilst keen to support these projects, had a very limited conservation budget available. The funding sources for pond restoration are shown in Table 7. The number of ponds shown are those that have received funding, there are at least another seven that farmers would like to restore but are currently awaiting some form of grant aid.

The Environment Agency funded a variety of other wetland work including pollarding willows and black poplar and the creation of wader scrapes and otter holts.

### 8.2.6 Woodland and scrub

Predictably, as discussed previously under 6.3.2, funding for woodland planting was largely provided through the Woodland Grant Scheme and, where land was taken out of production, from the Farm Woodland Premium Scheme.

### 8.2.7 Barn owl boxes

These boxes were funded by Habitat Restoration Project funds and the Environment Agency (see 6.3.4) both sources providing discretionary payments towards work not eligible for funding from elsewhere.

### 8.2.8 Historic parkland

One significant scheme to restore a historic avenue in parkland was funded through the Landfill Tax as public access was available but was not a large enough scheme to obtain funding through Countryside Stewardship.

### 8.2.9 New funding options

A new 'pasture margins option' was made available under Countryside Stewardship in 1999 which offered grants comparable to arable field margins and compensated farmers for either taking margins in existing grassland out of production or managing them extensively. Had this option been available to the project earlier, development and improvement of habitat corridors along the main rivers and tributary streams would probably have been much more extensive.

The arable stewardship scheme could also bring additional benefits if it were extended into the trial area. In particular it could encourage more sowing of wild-bird cover on arable land, which it was difficult to fund from elsewhere. However grants for spring-sown crops would probably not be taken up widely in the project area where a large percentage of the arable land is found on heavy clay and there is therefore a long history of winter-sown crops.

## 8.3 Value of a Project Officer

The project officer, or a council employed countryside officer, were involved in helping farmers and landowners to submit all of the grant applications in the trial area during the three years. One farm had a Whole Farm Plan prepared and the FWAG officer submitted the subsequent Countryside Stewardship application. It is certain that none of the farmers would have submitted applications without this help because:

- The application pack for Countryside Stewardship is too cumbersome and encompasses many habitat options that are not relevant to farmers in North Buckinghamshire, e.g. saltmarshes. Farmers are also uncomfortable with the specialist terminology used, for example wet fen.

- The time taken to read and understand all of the information, to measure field boundaries and assess condition of hedges etc. and then to complete the application form is too time consuming and complex.

- Farmers are often unsure how to complete the section that asks what benefits will result because they do not feel confident in their knowledge of wildlife and conservation.

The involvement of the project officer or a countryside officer was essential in securing all the other grants used in the trial area, for example, the landfill tax grants from Environment Body Milton Keynes, the donations from the Environment Agency and Commission for New Towns and the funding from Milton Keynes Council. This was because there was no formal grant scheme for small, capital projects. Consequently in the absence of countryside staff, or a project officer, only the Countryside Stewardship Scheme and Woodland Grant Schemes were accessible to those farmers keen enough to apply.

Further, many farmers required assistance with the design and implementation of schemes, particularly new ponds, hedges or tree planting. In these instances volunteer help was organised for the landowners through the New Deal scheme run by BTCV or contractors were brought in, briefed and supervised by the project officer. Only a handful of landowners had either the time or the staff to complete the works themselves.

### 8.3.1 Value of good advice

It is difficult to assess how significant the advice was to the success, or otherwise, of the grant applications as all applicants received advice from the project. The project officer was able to draw on local experts from Milton Keynes Natural History Society to carry out detailed botanical surveys of areas with existing wildlife interest and this information helped to support grant applications. For example, a 3.5 ha field of ridge and furrow not thoroughly surveyed during the Phase 1 survey was found to hold over 60 different plant species including several that are locally scarce and this helped the farmer to secure a Countryside Stewardship grant to manage the field for its wildlife interest.

### 8.3.2 Value of 'one-stop-shop' for grant and site management advice

Despite the project and Milton Keynes Council being the main sources of conservation advice in the local area at its inception (both FWAG and the Wildlife Trust were concentrating their efforts elsewhere and there had been no conservation advice to farmers in the trial area prior to 1996), quite a number of farmers said that they were becoming confused by a plethora of organisations offering conservation advice to them. Latterly ADAS offered whole farm plans to farmers on their mailing list while FWAG contributed one Whole Farm Plan.

Many farmers said that they would prefer a 'one-stop-shop' for advice and for grant aid and that they preferred to receive conservation advice from someone with local knowledge. Many farmers admitted that they threw away most of their mail without reading it and it was therefore essential to discuss conservation at either a one-to-one meeting at their farm or informally during an organised farm event. The project provided an important networking and information service that could answer queries efficiently and co-ordinate work across the trial area. The Ouse Valley Project was also able to back up advice given by organising and securing external sources of grant aid for specific projects. In most instances the project was able to co-ordinate advice to ensure that local farmers received the best and most relevant information that was available to them.

## 8.4 Benefits arising from previous projects

Although the Milton Keynes Wildlife Corridor Project had not specifically targeted the farming community before 1996, it had publicised the importance and value of habitat links in Milton Keynes. This helped to smooth the progress and establishment of the Ouse Valley Project and raise the concept of wildlife corridors and habitat links.

The project officer's previous experience in the area also ensured a good knowledge of the locality and an enthusiastic steering group was keen to see the implementation of recommendations made for the Ouse corridor in the Wildlife Corridor Report. Milton Keynes Council gave further support and funding because the project was adopting policies relating to wildlife corridors and the countryside that were contained in the Local Plan for Milton Keynes.

## 8.5 Role of the farm economy

Difficulties within the livestock sector appear to have affected the uptake of agri-environmental schemes, with a consequential impact on grassland restoration. Farmers with beef enterprises, operating with a low profit margin, have found that the rate of grant from Countryside Stewardship for grassland management has not balanced the financial loss resulting from the extensive grazing system required under the scheme. In 1997, this loss was estimated to be around £230 per hectare (based on gross margin figures in Nix 1997). In other cases, grassland has been taken out of livestock production because of the impact of BSE and falling prices. Although Countryside Stewardship is over subscribed nationally, the fact that grants do not fully cover loss of profits appears to be a disincentive from entering the scheme.

The current uncertainty in livestock farming and CAP reform has made farmers reluctant to commit themselves to ten-year management agreements. In addition, landowners are put off by having to consider and comply with yet more rules and regulations involved with these agreements.

Conversely, for arable farmers, grain prices have dropped in the same period and the relative grant payments for arable field margins have therefore increased in value. This has possibly attracted farmers to take up this option although there are also other good reasons why farmers are creating field margins, such as to help control pernicious weeds or to comply with new Nitrate Vulnerable Zone regulations. These regulations have played an important role in persuading farmers to take up field margin options along watercourses.

The changes in the set-aside requirement have also affected the extent to which project targets could be met. In 1996-97 the requirement was 5% and in 1998 this was predicted to decrease. The fluctuation in the rate, coupled with the uncertainty over the future of set-aside, has meant that farmers are reluctant to create permanent habitats on set-aside.

As a general conclusion it is clear that new incentives are needed for habitat re-creation works and better incentives are required for woodland creation and grassland restoration in order to persuade more farmers to diversify and extensify. There is an urgent need for small capital grants to implement what seems to be a backlog of conservation projects that farmers want to implement.

## 8.6 Summary

Without any grant aid or help with labour, landowners are unlikely to carry out large-scale habitat restoration but may undertake small improvements such as tree planting or pond restoration over an unknown period of time. The availability of grant aid or cheap supplies of materials such as wildlflower seed acts as a catalyst for achieving conservation improvements.

Countryside Stewardship funded the largest proportion of restoration but was less successful in achieving habitat re-creation. Grassland re-creation was funded by the HRP and through a scheme to supply 'free seed'. Countryside Stewardship funding criteria can discriminate against smaller farms or farmers that have previously carried out conservation work and therefore limit the extent of habitat restoration that can be achieved over a three-year period. Small-scale capital projects are extremely difficult to fund through existing ELMS.

The majority of the restoration and re-creation work depended on the proactive approach of a project officer to act as an enthuser, enabler and to co-ordinate schemes to create habitat links

Farmers would prefer a one-stop-shop for both conservation advice and grant aid.

The farm economy and new regulations have encouraged the creation of field margins but uncertainties over the future structure and funding of CAP have also effected caution.

# 9. A vision for the future

## 9.1 Extending the scope of the project

It would be useful to find out to what extent local communities and farmers could work more closely together to achieve habitat restoration. Although farmers are used to working in isolation such a partnership could have the following benefits:

- community conservation projects can raise awareness of wildlife issues and lead to a better understanding of the countryside and farming;
- the general public could help with practical conservation work that a farmer could not tackle on his/her own;
- the general public could gain improved public access to features of interest in the countryside;
- the conservation projects are more likely to attract media attention and grant aid;
- sponsorship of BAP species projects on farmland could become possible.

Historically landowners have usually fought any proposals for increased public access to their land and changing attitudes may therefore be a difficult process.

It is however important to enlist the help of the general public in restoring BAP habitats and species and because 80% of the UK is farmed, the restoration cannot be limited to islands of

public land or urban areas. The dilemma occurs when habitat restoration depends for funding on public involvement but the public cannot gain access to private farmland.

One solution might be to either purchase or lease habitat corridors from landowners. For example, a 20-50m strip of land adjacent to the River Great Ouse could be obtained and managed primarily for informal recreation and conservation of farmland riparian species.

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# Appendix 1. Farmer questionnaire survey

Between October 1996 and October 1997 a questionnaire survey was carried out to assess the current use of ELMS in the project area and the level of interest and awareness amongst the farming community about the effects of farm management on wildlife.

Out of 58 potential farmers known in the project area, 28 took part in the survey. Survey questionnaires were all completed during face to face interviews. The remainder did not respond to letters or telephone calls requesting an interview.

**Part 1. Interviewees profile**

From Figure 1 it can be seen that the majority of survey participants were managing farms that had both arable and livestock enterprises.

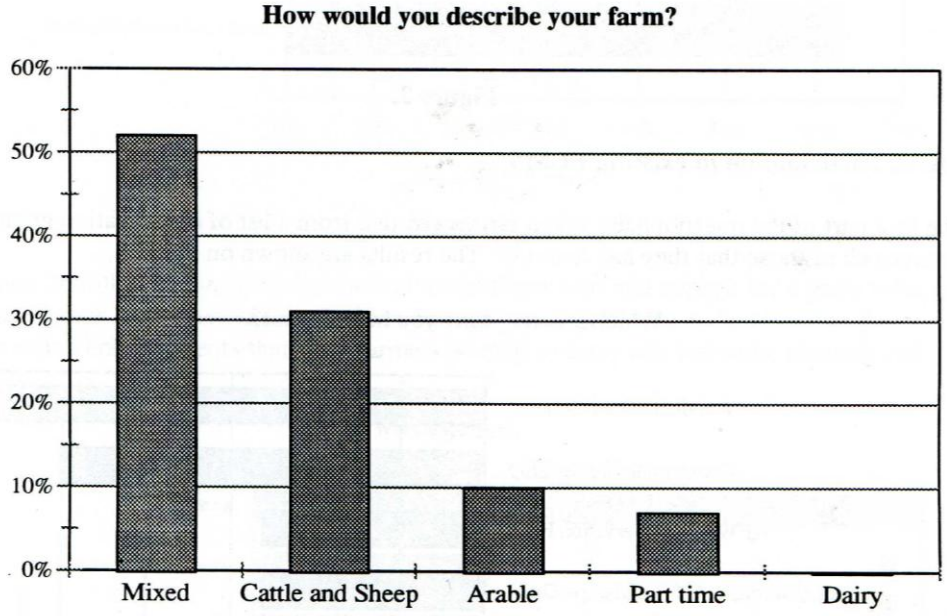



**Figure 1.**

Farm sizes varied greatly although the majority of farms were more than 50 ha and 37% were over 200 ha as shown below.

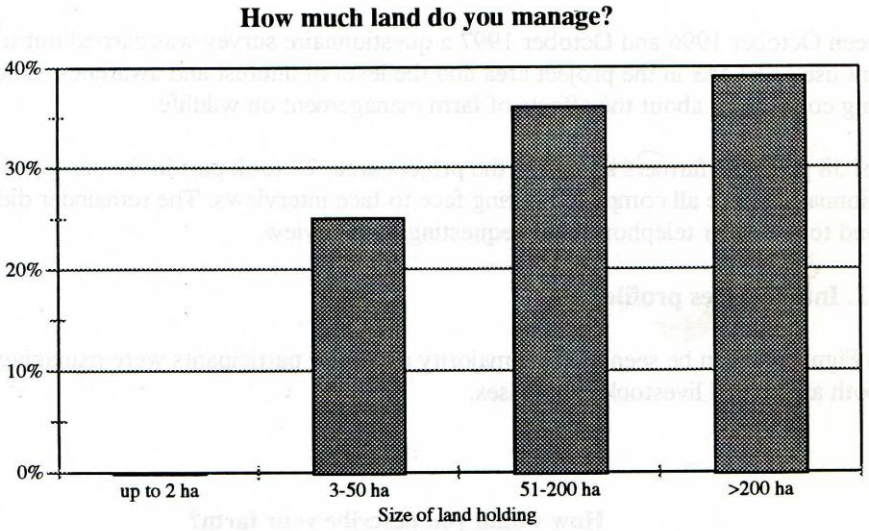



**Figure 2.**

## Part 2. Participation in existing ELMS

The first part of the questionnaire asked farmers to tick from a list of conservation grant schemes all of those that they had heard of. The results are shown on figure 3.

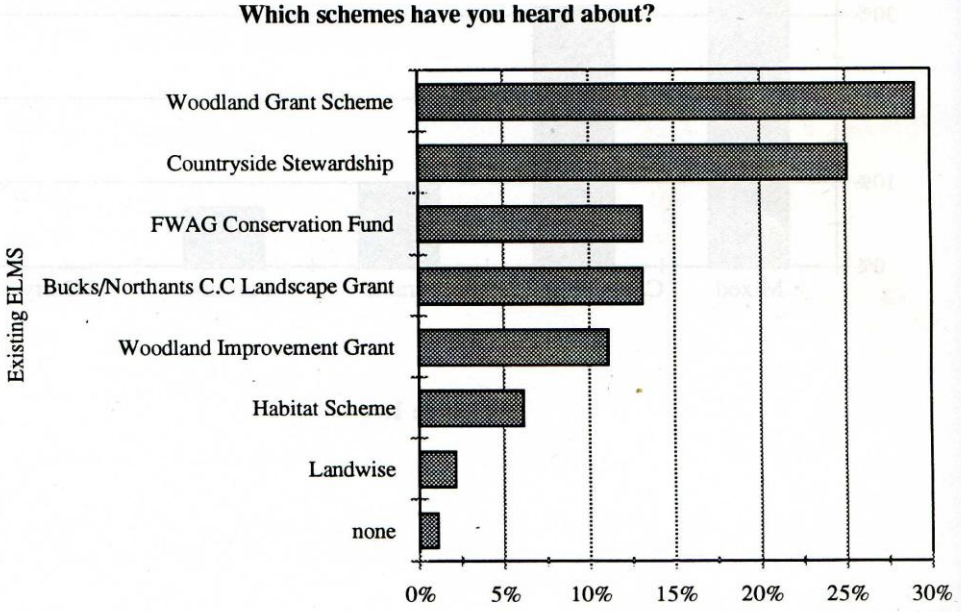



**Figure 3.**

Many of the respondents stressed at the time of the survey that while they had heard of the names of these schemes they didn't know much or anything about them.

The second question asked if they had ever applied for a conservation grant and 39% said that they had. Grants that had been applied for are shown in figure 4.

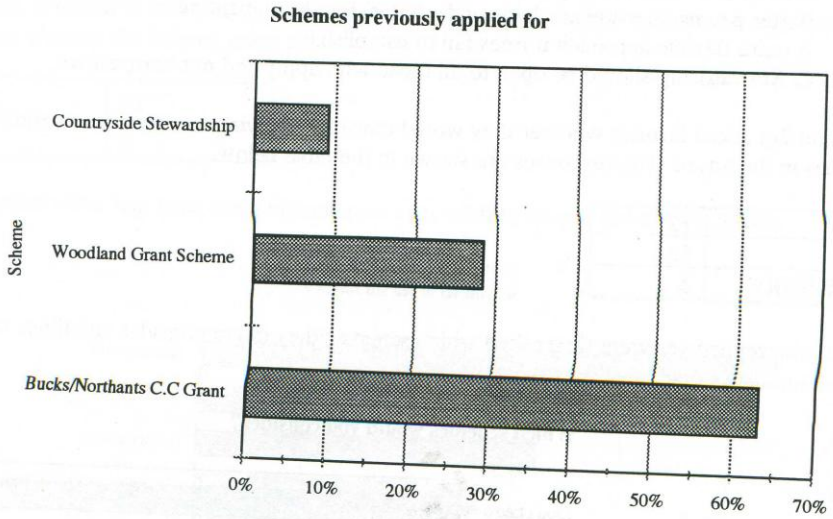



**Figure 4.**

Question 2b followed the previous one and asked those who had applied for a grant what type of conservation work they had applied for. From figure 5 below it can be seen that the conservation enhancements that most farmers wanted to carry out were tree planting and ponds.

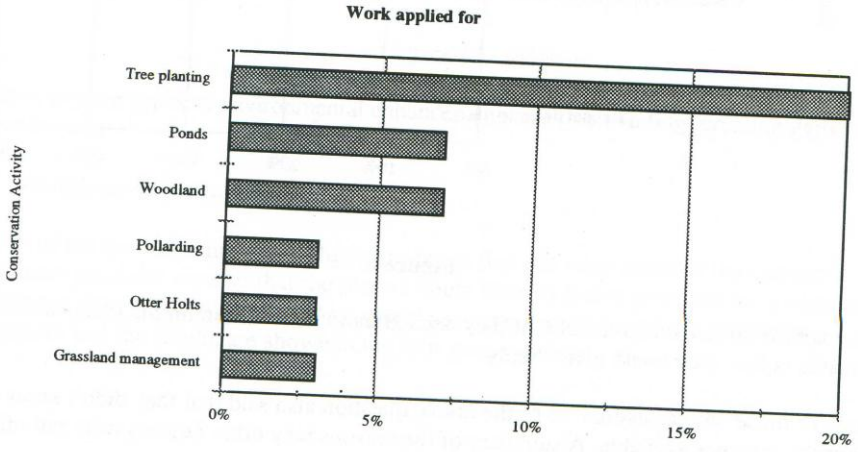



**Figure 5.**

When asked whether they had experienced any problems with the grant scheme, most replied no. Of those that answered yes the main difficulty given was poor advice on tree planting.

Improvements that respondents would like to see made to the grant schemes are as follows:

- A simplified application process for WGS.
- Better payments made available under WGS for shrub planting.
- A more flexible approach if trees fail to establish.
- C. Stewardship should be open to all those who apply and not competitive.

Question 2e) asked farmers whether they would consider applying for any conservation schemes in the future. The responses are shown in the table below.

| | |
|---|---|
| **YES** | **12** |
| **NO** | **13** |
| **NOT SURE** | **3** |

Those who replied yes were then asked which schemes they might consider and those who replied no were asked what puts them off.

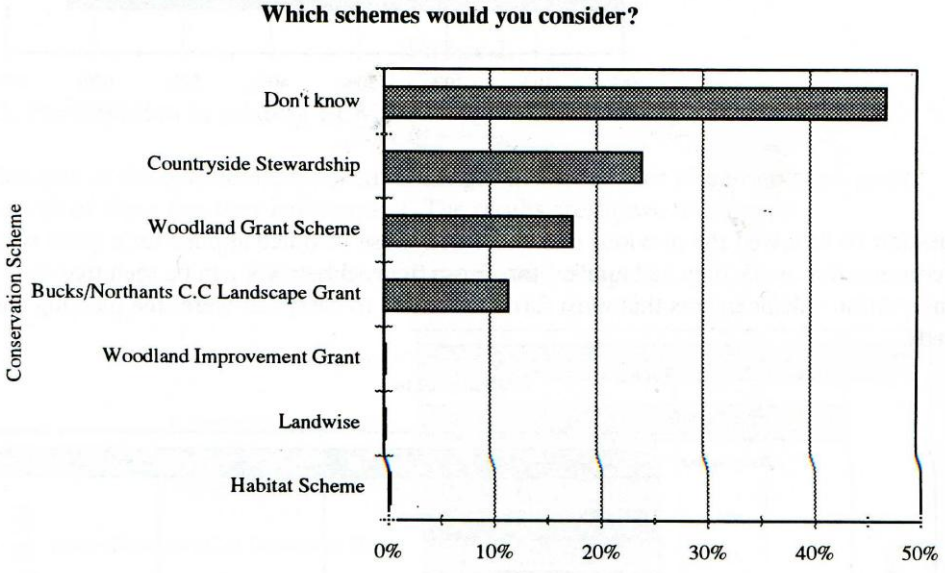



**Figure 6.**

The majority of respondents felt that they needed more information on the grants and schemes available before they could give a reply.

Three of those who answered no to the above question also said that they didn't know enough about the schemes available. A summary of the reasons why other farmers were put off of conservation schemes is given below.

- Other than WGS no other schemes seem relevant to the farm x 1.

- Concern about attracting further public access x 3.
- C.S grants - payments too low x 2
- C.S management requirements too restrictive x 3.
- Not enough labour to carry out the amount of work required for C.S x 2.
- Reluctance to take land out of production x 3

The last question in this section asked farmers whether they had created or managed wildlife habitats without the help of grant aid.

| | |
|---|---|
| **YES** | **23** |
| **NO** | **5** |

The habitats that had been created/managed with wildlife benefit are shown below.

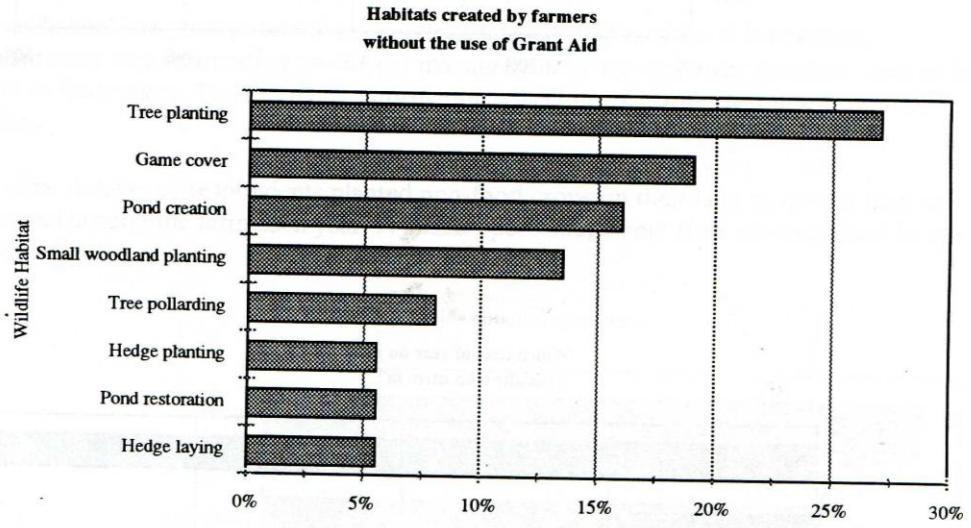



**Figure 7.**

The most popular types of environmental enhancements are tree planting, creating game cover and pond work.

## 3. Hedgerow management

This part of the questionnaire was designed to try to find out what some of the current management practices were so that the project could identify future priorities for awareness raising and action. To do this four simple questions were asked about farm hedgerow management and the results are shown in the four graphs below.

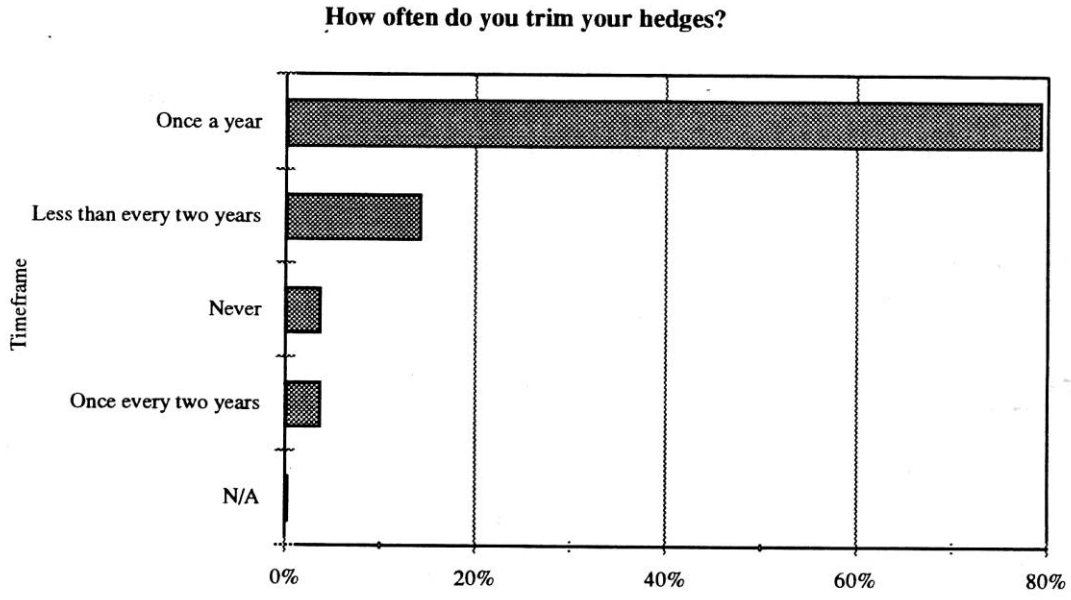



**Figure 8.**

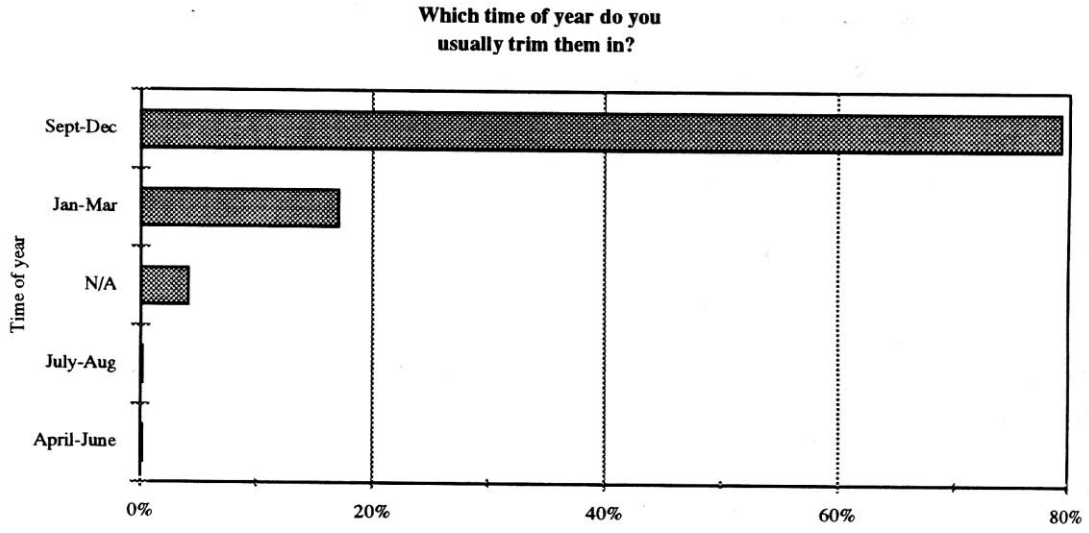



**Figure 9.**

***Do you lay any of your hedges?***

| | |
|---|---|
| **YES** | **10** |
| **NO** | **17** |
| **N/A** | **1** |

*Do you coppice any of your hedges?*

| | |
|---|---|
| YES | 3 |
| NO | 24 |
| N/A | 1 |

The results show that most farmers who took part in the survey cut their hedges once a year (78.5%), before December (82%). Over 35% of farmers had carried out some hedge laying in the past although quite a few mentioned at the time of the survey that they hadn't done this for some time. The question could have been more precisely worded as 'have you carried out any hedge-laying on your farm in the past 10 years?' to obtain more useful results.

## Part 4. Set-aside management

Set-aside land has great potential to benefit farmland wildlife where it is managed appropriately and information on current management of set-aside was therefore seen to be useful to the project. The following information was collected from the questions in this section.

The same number of respondents planted non-food crops on their land as moved their set-aside land around the farm each year. A smaller percentage kept their set-aside land in one place each year.

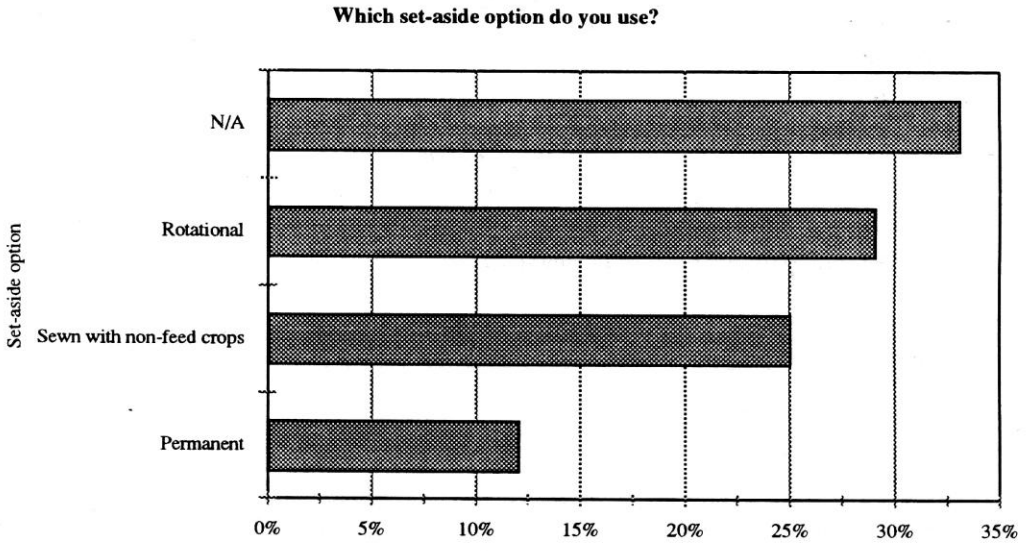



**Figure 10.**

The following question asked whether wildlife was a consideration when they were deciding where to site their set-aside.

| | |
|---|---|
| **YES** | **4** |
| **NO** | **14** |
| **N/A** | **9** |

For the majority it was not a consideration.

The third question asked how they usually established a green cover.

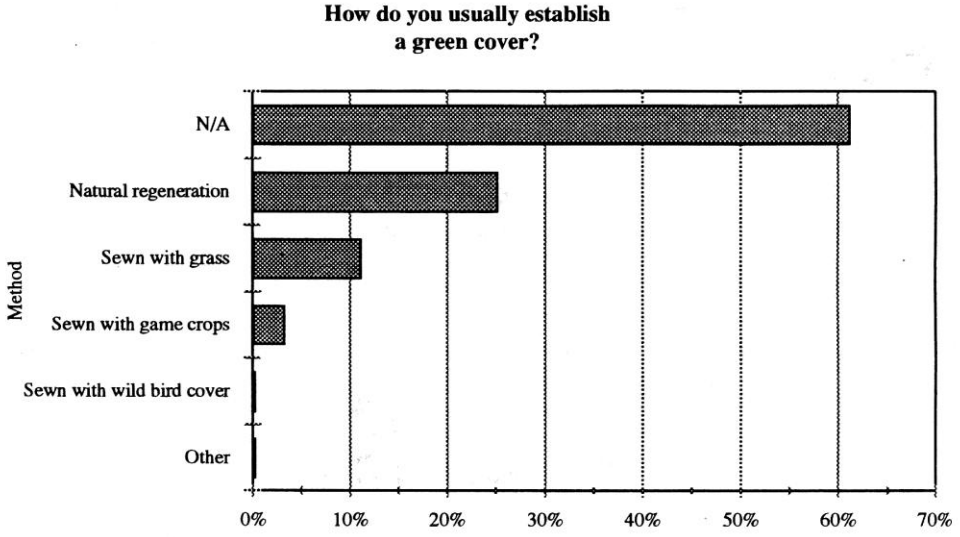



**Figure 11.**

*Those who did not have any arable land or who planted their set-aside to non-food crops were categorised as Not Applicable in this instance.

Although the figures aren't very high for any category, natural regeneration seems to be the preferred option for the farmers who took part in the survey.

## Part 5. General opinions towards farm wildlife conservation

This brief section with several open-ended questions was included at the end of the questionnaire so that a discussion of broader issues was encouraged. However in the first two questions farmers were only given the option of a yes or no answer. Many struggled with these two questions and with hindsight a graded list of options from 'Strongly Agree' to 'Strongly disagree' would have been more useful and appropriate.

***Do you feel that farmers have a responsibility to maintain an attractive landscape?***

| | | |
|---|---|---|
| **YES** | **26** | **92.8%** |
| **NO** | **2** | **7.2%** |

***Do you feel that farmers have a responsibility to sustain farmland wildlife?***

| | | |
|---|---|---|
| **YES** | **18** | **64.3%** |
| **NO** | **10** | **35.7%** |

***Do you think that CAP payments and policies should help farmers to protect and manage wildlife habitats and landscape features more than at present?***

The responses to this open question generally fell into six broad categories that are summarised below.

| | Response | No. of farmers who gave this reply |
|---|---|---|
| 1. | Yes, but policies should not be compulsory or place restrictions | 7.1% |
| 2. | Yes, subsidies should be encouraging more environmentally-responsible farming | 10.7% |
| 3. | Yes, extra incentives/better payments needed to encourage this.<br>a) especially for less intensive grazing<br>b) especially for hedge management<br>c) especially for existing wildlife features on a farm/ land out of production<br>d) especially for hill farmers | 60.7%<br>(11.8%)<br>(17.6%)<br>(11.8%)<br>(5.8%) |
| 4. | No, farmers should do this anyway/ better without restrictions or outside interference | 14.3% |
| 5. | Policies should follow one direction and not be contradictory | 3.6% |
| 6. | Don't know enough about it | 3.6% |

The majority felt that the existing incentives were not enough and better payments were needed to help with management of wildlife features.

***Do you think there is a need for any other types of conservation schemes? Please give suggestions.***

| | |
|---|---|
| No | 50% |
| No, but banks should help farmers take-up conservation schemes where there are cash-flow difficulties | 3.6% |
| Don't know | 17.9% |
| Yes, smaller field sizes should be encouraged | 3.6% |
| Yes, encourage wildflowers in set-aside | 3.6% |
| Yes, a 10m set-aside headland option | 7.1% |
| Yes, smaller schemes and tiered payments | 3.6% |
| Yes, annual payments for woodlands and uncropped areas | 3.6% |
| Yes, help with predator control | 3.6% |
| Yes, subsidies based on land area not stock numbers | 3.6% |

The majority of respondents felt that there were already too many schemes and no more new ones were needed.

***Are there any other comments that you would like to make?***

| | |
|---|---|
| Concerns about new hedgerow legislation, increased public access – too many restrictions | 3.6% |
| Should be a 10m set-aside option | 3.6% |
| Countryside Stewardship Scheme – 10yr commitment too long and too complicated | 7.1% |
| NVZ regulations and restrictions should apply to all not just parts of the country | 3.6% |
| No help with pest control is offered especially with Canada geese grazing | 10.7% |
| The Environment Agency don't dredge the river properly anymore because of conservationists | 10.7% |
| No labour to carry out conservation work such as pollarding and hedge-laying | 7.1% |
| Would like to see more woodland/tree planting | 7.1% |
| Would like further advice | 7.1% |
| Had ADAS plan but felt that it was too general | 3.6% |
| No further comments | 39.3% |

The new issues that arose here were 1) concerns about management of the river, 2) concerns about pest species and 3) specific concerns about new regulations.

# Appendix 2. Countryside Stewardship criteria for application years 1997-1998 in the Ouse Valley trial area

Applications should include at least two of these:

- Whole farm field boundary restoration and management.
- Enhancement and management of old meadows and pastures.
- Careful grazing management of fen areas.

Applications are also enhanced if they include proposals for any of the following:

- Sympathetic management of old ridge and furrow land.
- Creation of uncropped and grass margins to link and buffer existing wildlife habitats including river.
- Restoration and creation of landscape and wildlife features such as pollards, ponds and the creation of otter holts on tributaries to the River Great Ouse.

Applications are also scored on their ability to meet the overall objectives of the scheme and priority is given to those which:

- Offer benefits for landscape, wildlife, history and public amenity.
- Involve positive changes in management.
- Allow people to see and enjoy the benefits produced.
- Include land with some special interest.
- Involve a whole farm approach.

**Ouse Valley Link Project**

**Figure 1** **Location of Trial Areas**

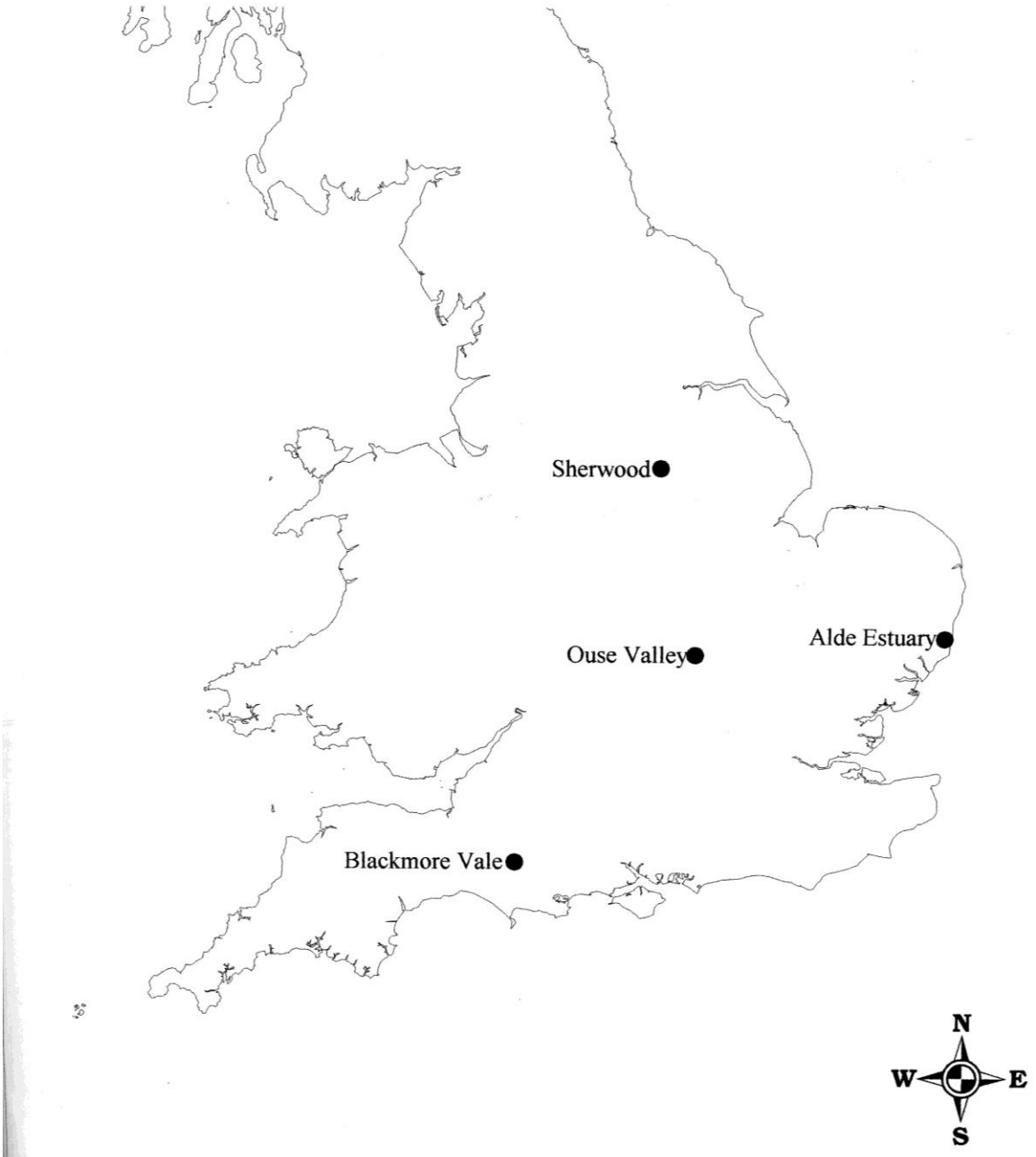
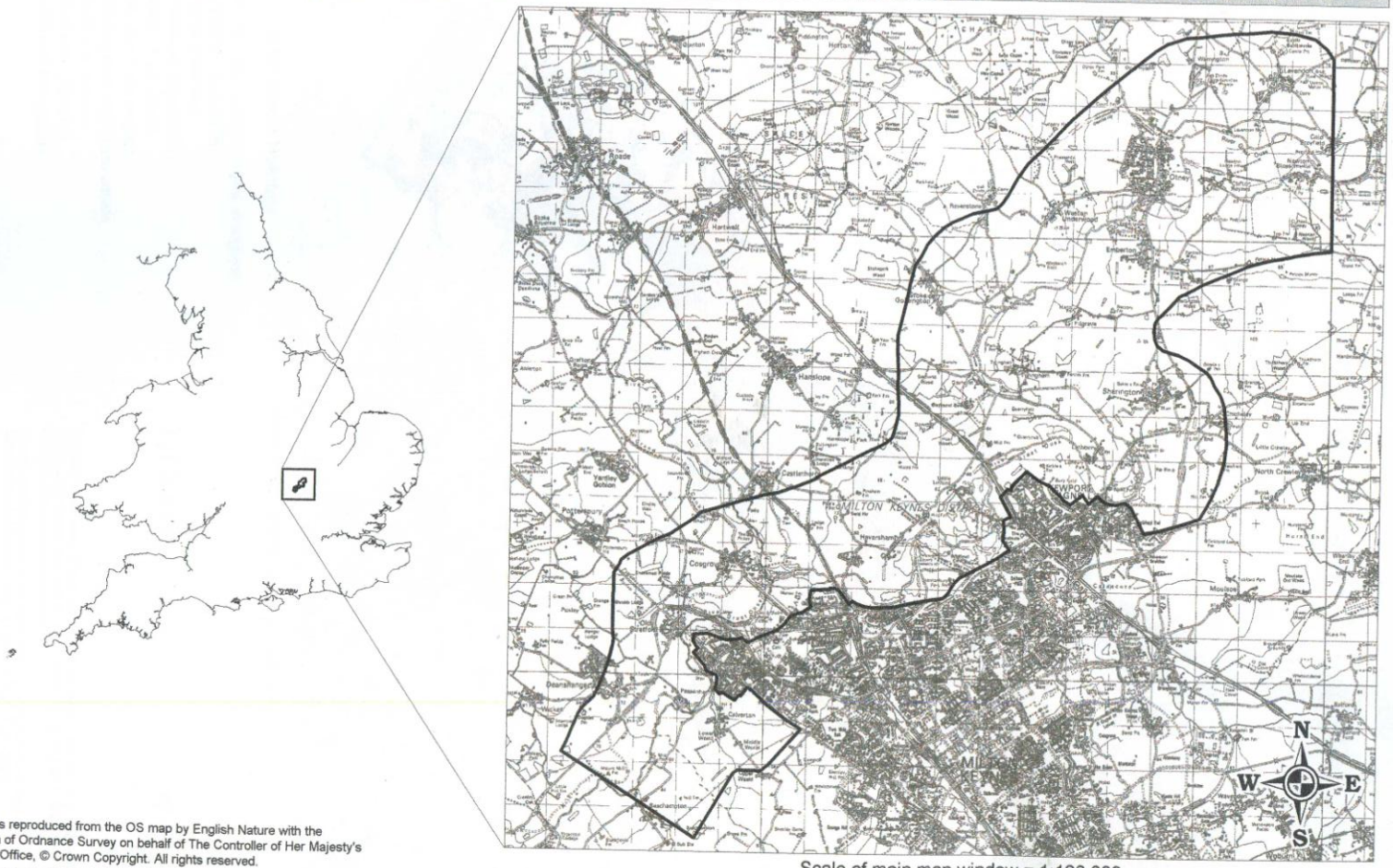


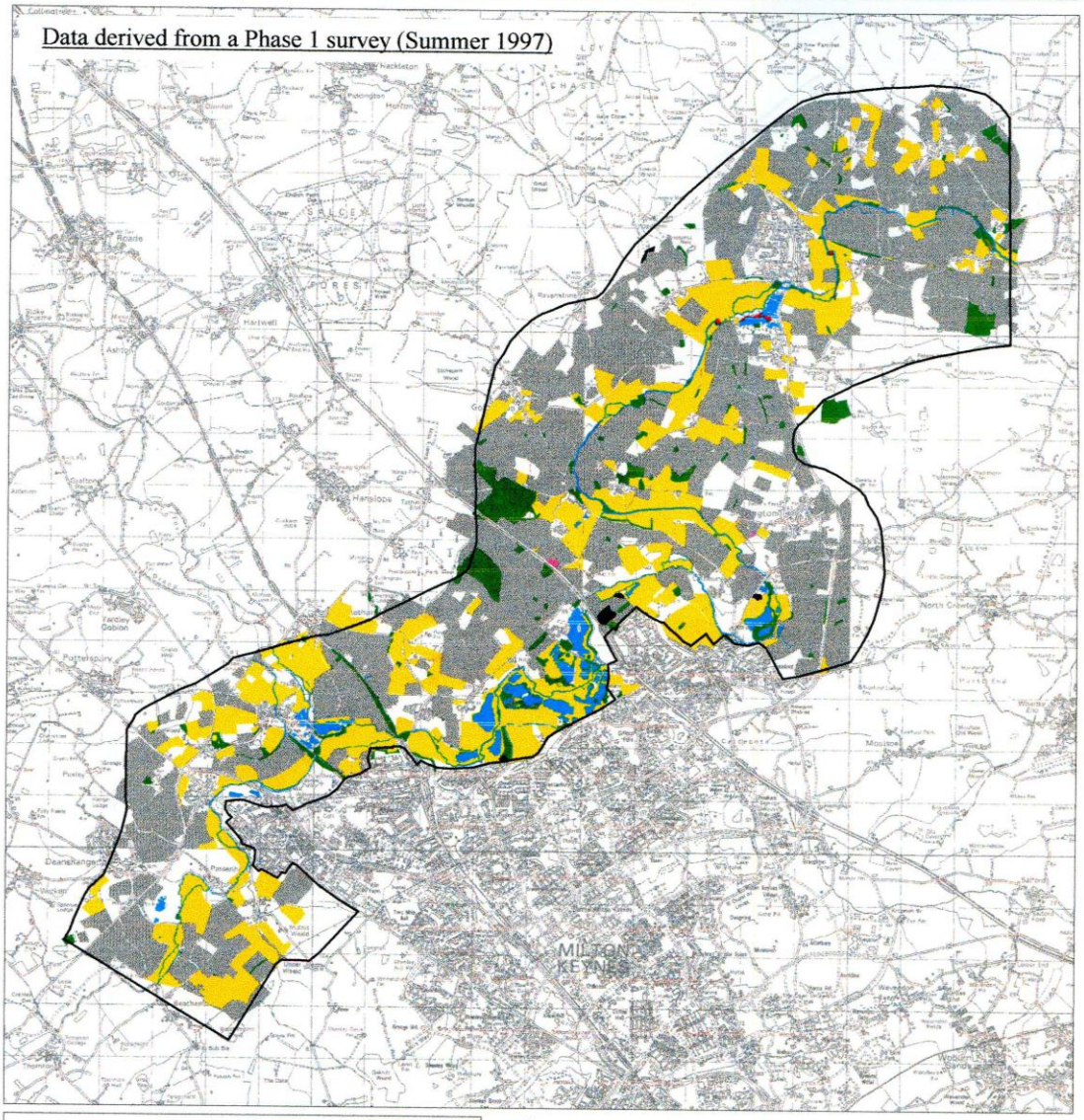
**Figure 2** **Ouse Valley Link Project - Location of Trial Area**




Scale of main map window = 1:120,000

## Ouse Valley Link Project

## Figure 3 Distribution of BAP Broad Habitats




BAP Broad Habitats

- Broadleaved, mixed and yew woodland
- Coniferous woodland
- Neutral grassland
- Calcareous grassland
- Improved grassland
- Fen, marsh and swamp
- Standing open water and canals
- Rivers and streams
- Inland rock (Quarry)
- Arable and horticulture

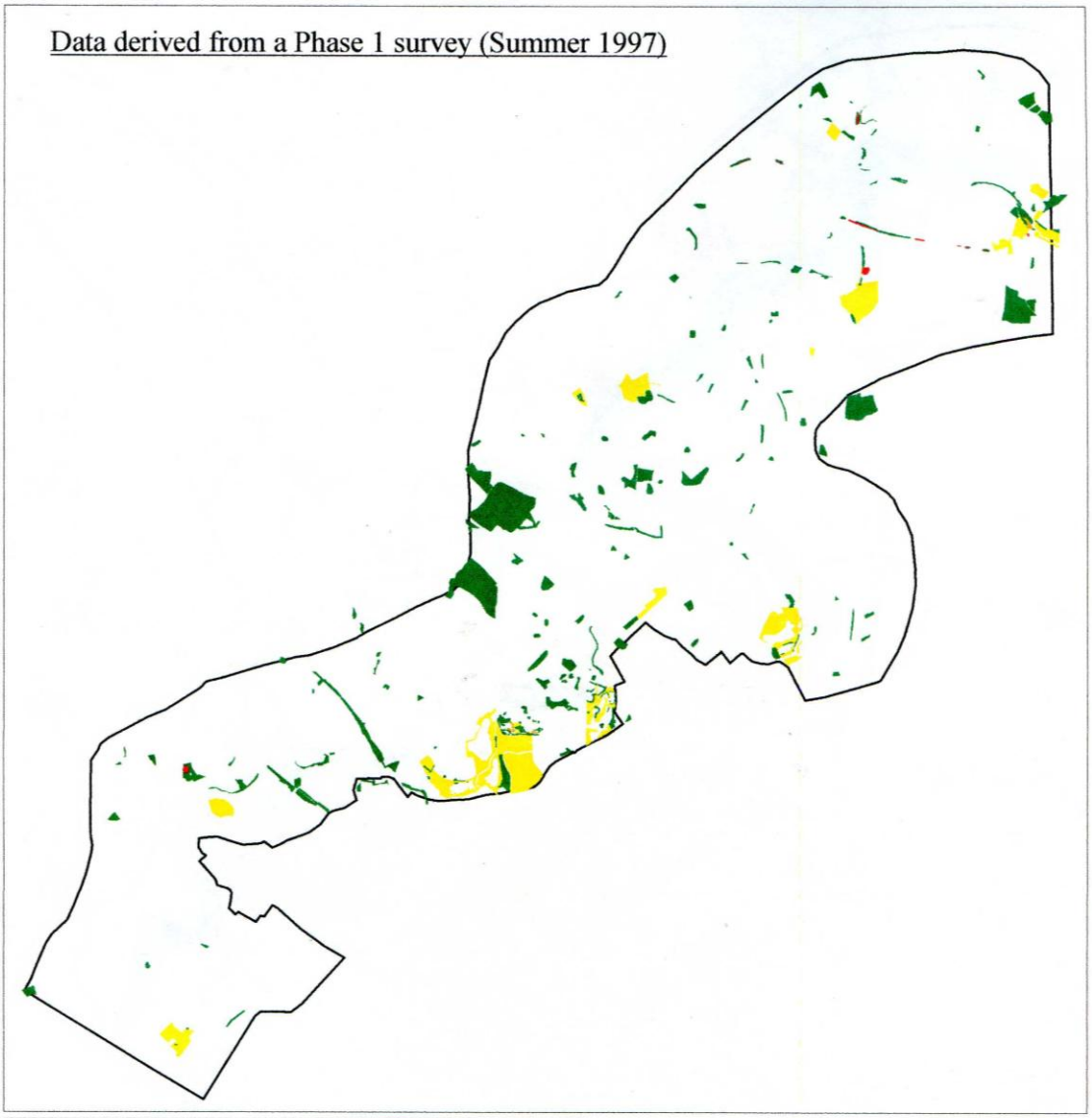
White space represents unsurveyed or built up areas

1:100000

N
W E
S

**Figure 4** **Ouse Valley Link Project**

**Distribution of BAP Priority Habitats with Semi-improved Grassland and Broadleaved, Mixed and Yew Woodland**




Lowland calcareous grassland

Other semi(un) - improved grassland

Fens

Broadleaved, mixed and yew woodland

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N

W E

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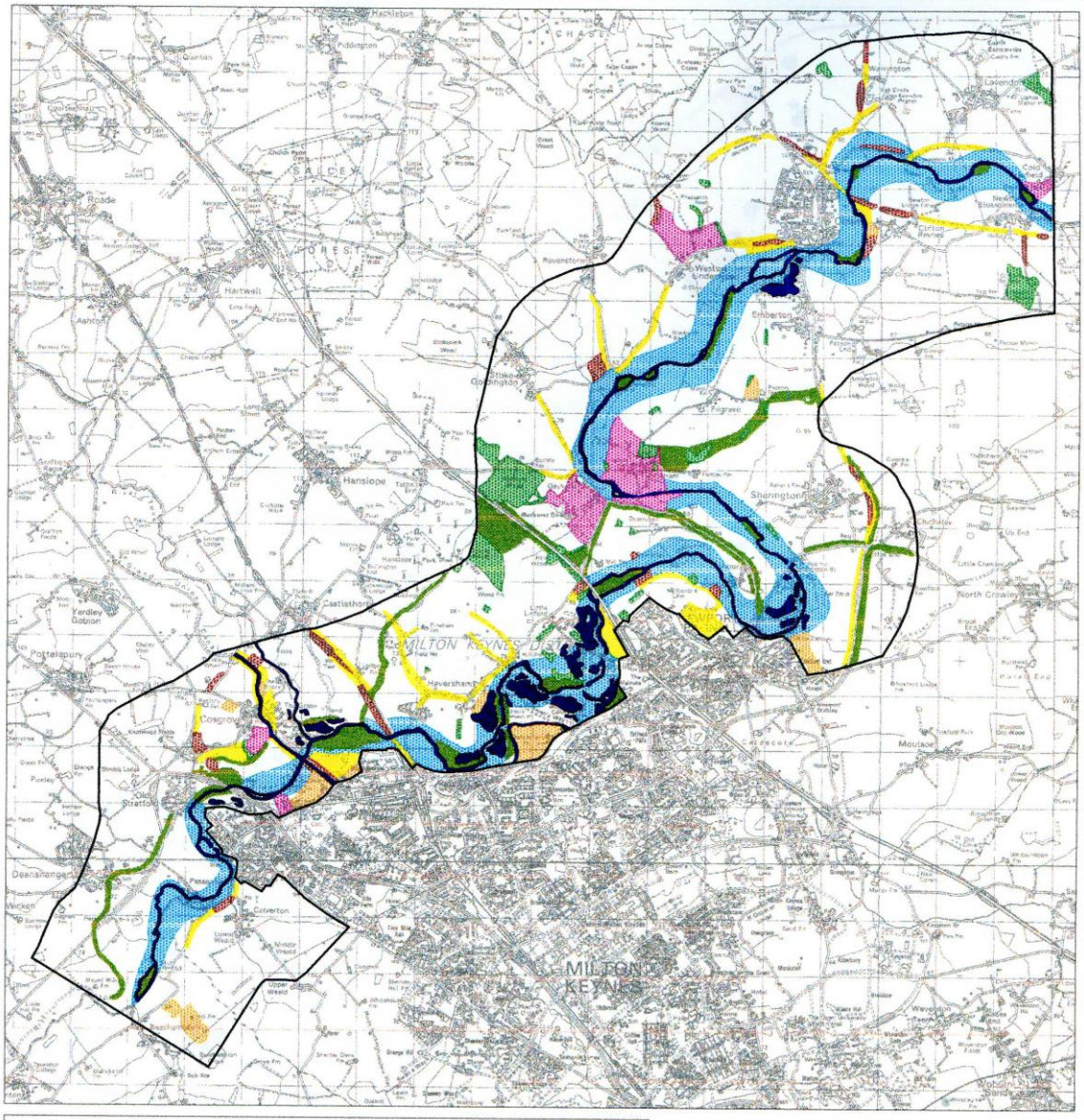
## Ouse Valley Link Project

**Figure 5** — **A 'Vision' for Habitat Restoration**




Existing Habitats Suitable for Restoration Management

- Rivers, Streams and Lakes
- Woodland
- Parkland
- Meadow on ridge and furrow
- Limestone grassland

Zones where Habitat Creation should be Technically Feasible

- Floodplain habitats (floodplain forest and alluvial grassland)
- Woodland
- Limestone grassland

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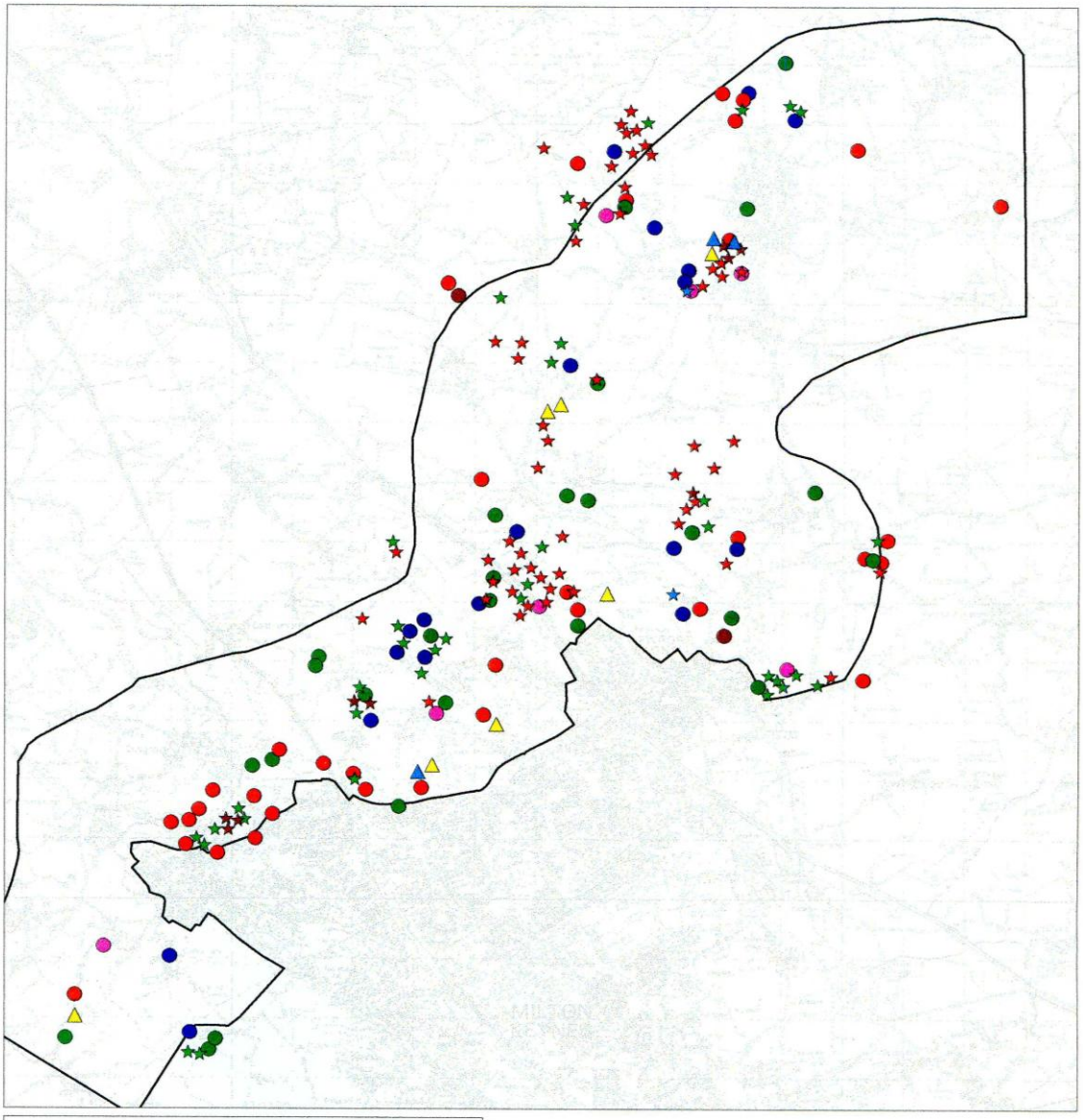
## Ouse Valley Link Project

**Figure 6** **Distribution of restoration/creation schemes**



- Woodland restoration/creation
- Grassland restoration/creation
- Otter holts/wild bird covers
- Fen/swamp restoration/creation
- Pond/standing water restoration/creation
- Arable field margin creation
- Hedgerow restoration/creation
- Ditch restoration
- Stream restoration/creation
- Barn owl box
- Wader scrape

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W E
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