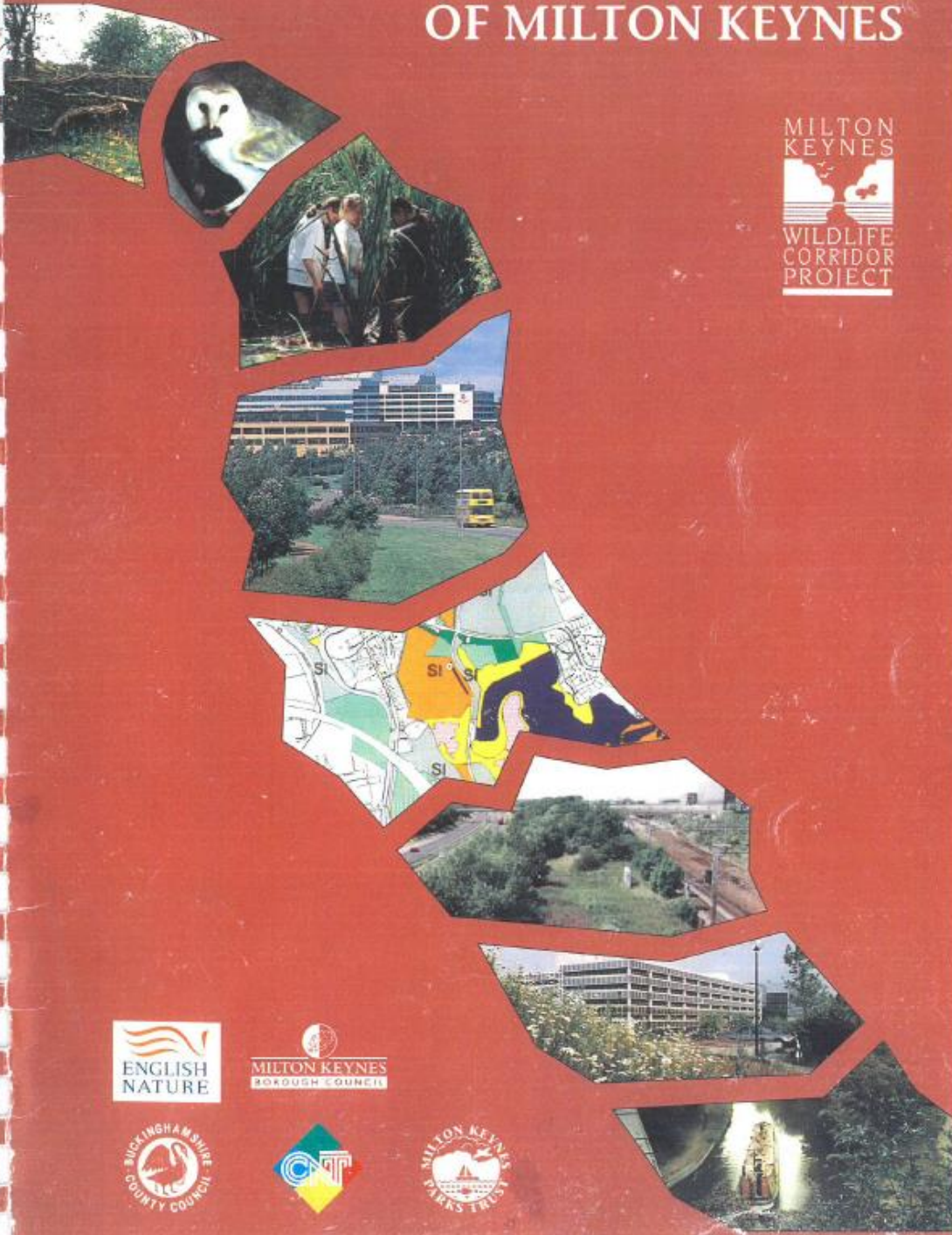
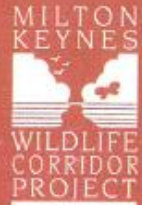


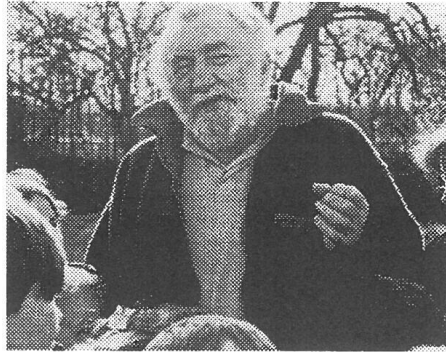
THE WILDLIFE CORRIDORS OF MILTON KEYNES



1. INTRODUCTION

1.1 THE MILTON KEYNES WILDLIFE CORRIDOR PROJECT

The Milton Keynes Wildlife Corridor Project was initiated by Milton Keynes Borough Council after the concept of Wildlife Corridors was included in their Local Plan. Set up as a partnership between themselves, Bucks County Council, The Commission for The New Towns, English Nature and Milton



David Bellamy launches the Project

Keynes Parks Trust, the project has successfully encouraged these different organisations to work together to record, survey and improve the natural environment of the borough.

1.2 THE BOROUGH OF MILTON KEYNES AND THE ROLE OF WILDLIFE CORRIDORS

The Borough of Milton Keynes forms the most northerly part of Buckinghamshire, encompassing the new city of Milton Keynes as well as extensive areas of countryside around it. Rural areas are characterised by villages situated in a mix of arable fields and pasture on fairly fertile, alkaline, chalky boulder clay and alluvial soils, with small woodlands often remaining as green islands.

The City

The area for the development of the new city of Milton Keynes was designated in 1967 and since then it has become the largest urban area between London and the West Midlands. Landscape quality and the use of open space have been carefully considered throughout development of the new city. Linear Parks associated with streams, rivers and the canal have been created, grid roads have been landscaped, woodlands retained and many former hedgerows have been incorporated into the urban environment. Whilst the main concern was to create an attractive landscape for people living and working in the city, a significant benefit for wildlife has resulted from the continuity of green space throughout the urban area.

This continuity of green space creates wildlife pathways through the urban area, bringing animals and birds to gardens which can themselves create further green links, allowing residents to enjoy the richness and variety of nature close at hand.

The Countryside

In rural parts of the borough, wildlife corridors can provide important links between woodlands, meadows, ponds and other habitats which are isolated by intensively farmed land. Small, isolated habitats usually support fewer species than large inter-connected areas and if species are lost, they don't recolonise because the number of new species which can reach these habitats is much lower.

By defining and promoting a network of wildlife corridors throughout the borough, the project aims to integrate the city into the surrounding countryside, enabling people to live in close proximity to attractive wildlife habitats. Instead of concentrating all resources on maintaining small, individual, isolated patches of good habitat, the vision is to take a much more sustainable approach to nature conservation, maintaining and enhancing a large patchwork of interconnected wildlife areas where species are less restricted and free to colonise new sites.

1.3 AIMS OF THE PROJECT

The Project was established in November 1994 to achieve a number of specific aims, which are considered below:

1.3i To identify and map a network of Wildlife Corridors which link Sites of Importance for Nature Conservation

Wildlife Corridors

Wildlife corridors are linear pathways containing habitats which provide food and shelter for wildlife, and which encourage the movement of plants and animals between important wildlife sites. Examples of wildlife corridors include rivers and streams, canals, linear parks, railway embankments and roadside and footpath verges.

The Value of Corridors

Corridors containing many different habitat types will benefit a wide range of wildlife. For example, grassland butterflies and insects will use flowers growing along grass verges while moving between meadows; invertebrates such as snails and slugs will use the shelter of vegetation to avoid crossing concreted areas; amphibians such as frogs and toads need to be able to move

between ponds in spring, long grass in summer and safe hibernation sites in winter.

Many small mammals such as bank voles prefer to move along the cover of hedgerows, and a continuous area of woodland is required by the scarce dormouse which moves through the canopy and understorey. Larger mammals such as deer and badgers are shy of humans and therefore prefer continuous, relatively undisturbed habitat to allow them to forage for food and colonise new sites. Otters require extensive, undisturbed wetland, scrub and woodland habitats along river corridors so that their populations can increase and spread.

Wildlife corridors also bring benefits to people. They provide excellent outdoor "nature classrooms" for local schools and they can have environmental benefits helping to absorb air pollution, reduce noise levels and lessen the visual impact of the built environment. They also provide areas for informal recreation and contact with the natural world.

The Wildlife Network

Throughout the borough, wildlife corridors interact and connect to form a network of habitats. Within this network there are many different types and sizes of corridor. In Milton Keynes the wildlife corridors have been classified into two equally important types.

- ***Local Wildlife Corridors***

These are narrow, localised corridors which are usually of a single habitat type and they form an intricate "finergrained" network between the major corridors. For example, hedgerows, path verges and gardens could be categorised as local corridors.



present there is one LNR in the borough: Blue Lagoon, Bletchley, a rich mosaic of habitats developed on a former brickyard and clay pit site.

The project aims to identify any new sites within the wildlife network which are suitable for Local Nature Reserve designation.

Sites of Importance for Nature Conservation (SINCs)

These are sites within the borough which are important at a county wide level on account of their special features of habitat, plant or animal communities, species or geology. Although SINCs are not statutorily designated, they receive protection through policies within development plans. They are referred to as Biological Notification Sites on the Alert Sites Register and Map which have been prepared and maintained by the Environmental Records Centre at the County Museum. There are currently 207 sites covering 1755ha in the borough of Milton Keynes. The project recommends that sites within the wildlife corridor network which have a significant nature conservation value are given SINC designation, where this is not already the case.

Other Greenspace

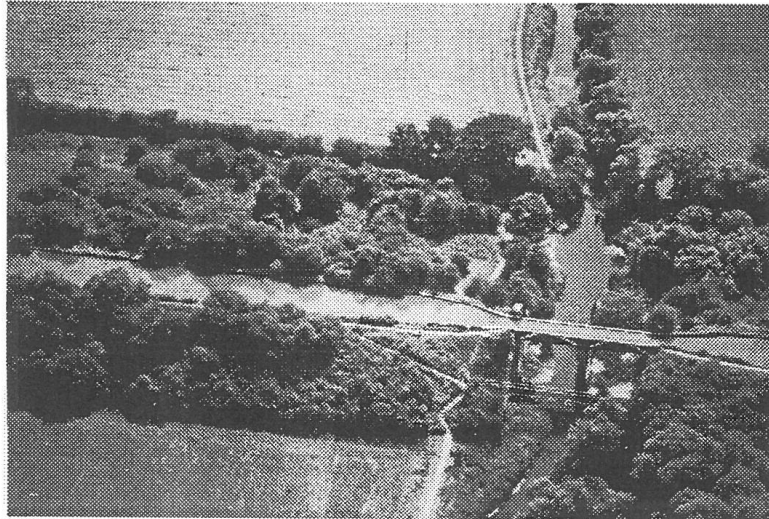
As well as wildlife sites with a formal designation, the Borough of Milton Keynes has many other pockets of habitat which help to make up its nature conservation resource. These may be small spinneys, ponds, hedges, areas of grassland or scrub. For the purpose of this report, these have been collectively termed "other greenspace". Some areas of "greenspace" may have a lower value for wildlife, for example short, regularly mown grass or non-native shrubs and trees. (Although it must be recognised that some non-native species such as firethorn and sycamore provide good food sources for birds, whilst others such as Leyland cypress provide bird nesting habitats.) Some of the valuable areas may be too small to be considered as SINCs but may support great crested newts a species which, along with its habitat, is specially protected by law. In order to help safeguard this declining species, a list of ponds known to support breeding newt colonies is given in Appendix 4.

1.3iii To produce management guidelines for the Wildlife Corridors identified and to develop planning guidelines to help protect and conserve the most important habitats and corridors

By surveying and evaluating wildlife corridors in the borough, the project will provide the information needed to help protect and improve the wildlife network. The guidelines given at the end of the description of each corridor will help to ensure that resources are targeted to the areas which will have the highest benefit for both wildlife and people.

- ***Major Wildlife Corridors***

These are larger corridors which link rural and urban areas and contain a variety of semi-natural habitats. They usually connect important wildlife sites and may be linear parks, disused railways, canals, rivers and larger streams. Most of these wildlife corridors also cross administrative boundaries and they are therefore significant on a regional scale.



1.3ii To identify and map sites which may have status or potential as either Sites of Special Scientific Interest (SSSIs), Local Nature Reserves (LNRs), or Sites of Importance for Nature Conservation (SINCs) in the Borough of Milton Keynes

Sites of Special Scientific Interest (SSSIs)

These are nationally important wildlife sites designated by English Nature which receive special statutory protection. There are three such sites in the Borough of Milton Keynes, Howe Park Wood (ancient woodland), Oxley Mead (wet meadow) and a small part of Yardley Chase (ancient woodland).

Local Nature Reserves (LNRs)

The Borough Council with English Nature's approval, can confer statutory LNR status on sites with nature conservation interest which are also important for educational purposes and for community enjoyment of their wildlife. At

1.3iv To identify and map areas in the borough deficient in wildlife interest

A recent English Nature report highlights the benefits to people which arise from greater contact with nature. Milton Keynes Borough Council's Local Plan suggests that urban residents should be able to enter a natural greenspace of at least 0.5ha within 1km of their home (Policy LR12). The Project will identify any areas which do not meet this minimum target and put forward proposals to remedy the situation.

1.3v To seek out opportunities to create new habitats and encourage community participation in environmental projects

People can gain much enjoyment and a great sense of achievement by being involved in the planning and management of wildlife sites. The Wildlife Corridor Project identifies many opportunities for creating and managing wildlife habitats and will encourage the involvement of local communities and businesses to help carry out these improvements.

During the project's first year, local residents and businesses have already been helping to improve the wildlife corridor network. Children from schools throughout the borough helped to gather information on wildlife corridors by surveying their local hedgerows. Otter holts were designed and built on the River Ouse by local volunteers and by staff from a local firm, E.D.S Ltd. It is hoped that as otters spread from neighbouring river catchments back into the borough of Milton Keynes, they will be able to use these holts to help them to establish new territories.

The project also received generous sponsorship from local companies: **Skoda UK** provided a survey vehicle, **Laser Care** printed all of the project's leaflets and **Municipal Cleansing** gave a donation towards core costs. **East Midlands Electricity** have funded the production of a "Wildlife Sites" leaflet and the project has also had donations from **The Four Winds Trust**, **Laing's Charitable Trust** and members of the public.

1.4 RELEVANT PLANS, POLICIES AND PROGRAMMES

The aims of the Milton Keynes Wildlife Corridor Project are supported by many national, regional and local nature conservation policies. The Habitats and Species Directive, the UK Biodiversity Plan, and Planning Policy Guidelines no.9 all make reference to the importance of wildlife corridors. The Milton Keynes Wildlife Corridor Project will be helping to achieve the aims of policies contained in Buckinghamshire County Council's Nature Conservation

Strategy and Milton Keynes Borough Council's Local Plan, as well as linking into neighbouring projects such as Marston Vale Community Forest and Bedfordshire's Greensand Project. Appendix 1 lists some of the policies which the Wildlife Corridor Project is helping to implement.

1.5 THE TARGET AUDIENCE

Although it is anticipated that this report will be of interest to a wide range of people in the community of Milton Keynes, particularly those with an interest in the natural environment, it is specifically aimed at providing information for the following organisations, for guidance on management and enhancement of land for nature conservation and to help target grants to the areas which will benefit the most.

Milton Keynes Borough Council
Milton Keynes Parks Trust
The Commission For The New Towns
Bucks County Council
English Nature
Berks, Bucks and Oxon Naturalist's Trust (BBONT)
Milton Keynes Natural History Society

It is also hoped that the project will encourage voluntary and statutory organisations such as the Environment Agency, Railtrack, the Highways Agency, the Countryside Commission, Anglian Water, MAFF, the Country Landowners Association, the National Farmers Union, the Inland Drainage Board etc. who exert a strong influence over the management of major components of the corridor network, to adopt Milton Keynes as a focus for efforts to enhance wildlife value through sympathetic management, habitat creation and innovative techniques to link habitats.

2. IDENTIFICATION AND ASSESSMENT OF THE WILDLIFE CORRIDORS

2.1 A DEFINITION OF A WILDLIFE CORRIDOR

To be able to determine which wildlife corridors were likely to be the most important, a definition of an ideal wildlife corridor was needed. Current research outlined the following criteria as being of most importance:

- The wildlife corridor should be as continuous as possible to ensure the survival of those species with little ability to cross inhospitable areas such as roads.
- A corridor needs to be as wide as possible to maximise habitat area, and to minimise the risk of being degraded by events such as fire or being affected by crop spray drift. Narrow corridors will also suffer disproportionately from the effects of heavy predation. For example water voles are easy prey for mink in narrow river corridors.
- A corridor will have the most benefit for the widest range of wildlife if it is predominantly composed of semi-natural habitats.
- A corridor should be as diverse in vegetation composition and age structure as possible, so that there is a wide range of potential users.
- A corridor should act as a conduit for colonisation or recolonisation of sites, linking areas which are reservoirs of species.

2.2 SOURCES OF INFORMATION AND CORRIDOR IDENTIFICATION

Several processes were used to identify the wildlife corridor network. To be able to ascertain where the most important linear habitats were, basic information on the wildlife resource of the borough was needed. A comprehensive Phase 1 survey of the whole of the borough did not exist, and it was not possible to undertake such a survey in one field season with one surveyor. Fortunately, information on selected wildlife sites was available from a variety of sources, the main ones of which are listed below.

Berks, Bucks and Oxon Naturalist's Trust : Habitat survey cards on Biological Notification Sites

English Nature : Grassland Survey 1994

Milton Keynes Development Corporation and Milton Keynes Parks Trust: Ecological Studies Series (Information on habitats in the new city)

Bucks County Council, A5 Survey: Survey of A5 road verges in 1995

Highways Agency M1 Survey: Survey of habitats adjacent to M1

Milton Keynes Natural History Society : Various surveys of flora and fauna at a number of sites

National Rivers Authority : River Corridor Surveys

The information varied considerably in its age and presentation but was generally of good detail and quality.

During the first phase of the project this information was collated on large scale maps and colour coded using the Joint Nature Conservation Committee Phase 1 Habitat notation colours. Specific details about site's species, management or ownership were target noted onto record sheets where necessary.

When all the information was mapped, aerial photographs were used to help identify the main linear areas of semi-natural habitat, and to check that some sites of wildlife interest on the maps still existed. From this process of information gathering, many potential and actual wildlife corridors were identified.

However, some of the potential wildlife corridors identified did not meet a sufficient number of the criteria outlined above. For example, extensive areas of the urban landscape are composed of regularly mown grass and non-native shrubs and plantations. These areas are not of great value to most wildlife and were therefore not included as wildlife corridors.

Also, many of the wildlife corridors originally identified were fairly narrow and composed of only one habitat type, e.g. hedgerows. These are likely to form a corridor for some species and will therefore function on a local scale, making up the detailed wildlife network between larger corridors. However, due to their narrowness and the large number across the borough, these were not selected for designation as wildlife corridors, though their importance is noted and should not be under-rated.

The 18 Wildlife Corridors selected for designation contain a variety of semi-natural habitats, are apart from minor gaps continuous, and in most cases provide links between important wildlife sites. Each corridor varies in width along its length, but is wider than those defined as "local corridors". All wildlife corridors selected to be proposed for designation by Milton Keynes Borough Council are therefore on the "major scale".

As well as identifying and assessing existing wildlife corridors, it was also recognised that additional or enhanced wildlife corridors were needed in some locations to link fragmented habitats.

2.3 HABITAT SURVEYS OF THE MAJOR CORRIDORS

To assess the actual wildlife value of these 18 corridors and identify where management is needed to ensure they achieve their function as wildlife corridors, a site survey of each was required. The site surveys also helped to update existing information on sites of nature conservation interest.

A Phase 1/Phase 2 habitat survey of the 18 corridors was therefore carried out between May 1st and September 31st 1995 mainly by the project worker but with some help from volunteers. All of the volunteers had some surveying experience, and they varied from a recent graduate gaining work experience to an experienced botanist.

The survey data were entered on to a computer based Geographical Information System (GIS) so that the distribution of habitats could be accurately mapped and information about the sites easily accessed for planning purposes and for future monitoring. The GIS mapping also allowed the data to be analysed. For example, the total area of semi-improved grassland in a corridor could be easily found. (See appendix 2 for examples of these habitat maps).

The boundaries of each corridor were drawn so that they followed the edge of the main core habitats.

2.4 WILDLIFE CORRIDOR ASSESSMENT

The selection process ensured that the 18 major wildlife corridors which were chosen for survey were fairly large, continuous and contained semi-natural habitats. The project worked with the Open University to develop an objective assessment system which used the survey data to create profiles of the wildlife corridors based on work by Lane and Carr (1992). The aims of the assessment system and the creation of profiles were to objectively:

Describe the habitats present

Highlight those parts of a corridor which have high nature conservation interest

Target those parts of a corridor which need improving/diversifying for wildlife use

Identify the main links between wildlife corridors

Establish the extent to which habitats within a wildlife corridor are fragmented or connected

Establish the location of the major corridor gaps.

The general aim was to describe the overall value of the corridor by means of a readily understandable visual "profile" which highlights the strengths and weaknesses of each wildlife corridor, allows comparisons and value judgments to be made and acts as a useful planning and management tool.

The assessment criteria were based on the most widely used of those developed by Ratcliffe (1977), and included the criteria for habitat and species rarity, diversity, age, size and naturalness. These were combined with criteria for linearity, proportion of semi-natural habitat, corridor and habitat connectivity and continuity.

Many of the wildlife corridors identified were within the urban area and they also had a recreational and community value. Criteria were therefore developed to take these factors into account. A list of the criteria and the values assigned to them is included in Appendix 3.

2.4i Assessment Methodology

Each corridor was divided into units of assessment. Figure 1 demonstrates the way in which a river corridor could be divided up into assessment units.

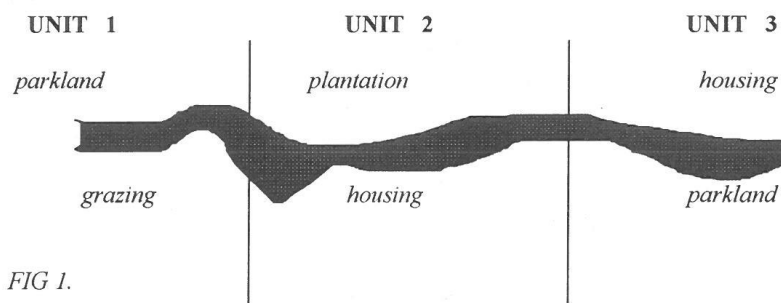


FIG 1.

This division was necessary as an accurate assessment could not be made on a corridor which might extend across the whole of the borough and vary greatly in nature conservation value along its length. Each unit of assessment is

approximately the same size but is mainly classified as a reasonably coherent geographical/ecological unit when looked at on a map or in the field.

The criteria (listed in Appendix 3) were applied to each unit of assessment so that a corridor unit profile was created. This profile gives an informative picture of the quality of the characteristics which make up the corridor unit. The values for each profile are not intended to be summed to give an overall score for a corridor. However, units within the same corridor can be compared, allowing an assessment of the character of a whole corridor to be built up. Examples of corridor units and their evaluation profiles are given in Appendix 3.