



**DACORUM BOROUGH COUNCIL**

# **URBAN NATURE CONSERVATION STUDY**



**Hertfordshire Biological Records Centre**  
March 2006

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### SUMMARY

#### Purpose of study

The environment is one of the four main drivers of sustainable development, and in this context biodiversity needs to be fully integrated into planning policy and delivery. As part of the new planning system known as the Local Development Framework, information on urban wildlife is fundamental given the pressure on land resources in and around our towns. The aims of the study are:

*'To provide a well reasoned and coherent strategy for the protection and enhancement of key wildlife areas and network of spaces / natural corridors within the towns and large villages of Dacorum'.*

The Dacorum Urban Nature Conservation Study considers the wildlife resources within the six major settlements in Dacorum, namely Berkhamsted, Bovingdon, Hemel Hempstead, Kings Langley, Markyate and Tring. They were mapped using existing habitat information, additional sites identified from aerial photo interpretation and local knowledge. The areas adjacent to each settlement – up to a distance of 1km – were also mapped in a similar fashion to place the urban areas within the context of their surrounding environments. This process identified the most important sites already known such as Sites of Special Scientific Interest, local sites meeting minimum standards known as 'Wildlife Sites', and other sites or features of more local significance within the urban areas known collectively as 'Wildspace'. These incorporated Hertfordshire Biological Record Centre's 'Ecology Sites' where appropriate, old boundary features such as hedgerows and tree lines, as well as significant garden areas or open spaces which may survive. Other urban areas designated as Open Land with some ecological potential are also shown.

## **Results**

This process identified a complex resource of ecologically valuable sites, stepping stones, corridors and green wedges throughout each settlement. Together they represent a network of valuable wildlife resources which allow ecological processes to be sustained within the urban areas. Areas of deficiency are also identified.

This is set in the context of English Nature's 'Accessible Natural Greenspace Standards', which propose minimum standards for biodiversity resources for biodiversity and communities at a range of scales. In practice these may be aspirational given that the nature of open land and biodiversity resources is a legacy of evolving development rather than an issue which has been fully considered and planned from the outset. However, they remain a standard against which to achieve, and plans, policies and management opportunities should take them into consideration.

## **Recommendations**

A review of the Local Plan policies for biodiversity is provided for the borough and for each settlement. Generally existing policies are considered to provide a comprehensive approach to site protection and management. However, additional views on policy improvements are also given. Some approaches require that biodiversity issues are considered as a fundamental part of a proposal, which is required to meet a sufficient score. Achieving such a 'greenspace factor' is another mechanism recommended to integrate biodiversity into developments.

The identification of biodiversity resources and the policies developed to protect and manage sites is a fundamental approach to the concept of sustainable development, and this requires a positive approach to biodiversity conservation, mitigation and compensation. These are used to guide planning and management opportunities that are described for each settlement in the form of a series of recommendations.

## **Conclusions**

1. The urban biodiversity of the six major settlements in Dacorum needs to be considered with respect to the nature of the ecological resources of the Borough as a whole and their immediate hinterland. The ecological networks and processes that exist at the broad scale are important in helping sustain the habitats and wildlife within the urban areas, and are also important in providing additional resources that can be accessed by local communities.

2. The pattern of biodiversity resources within urban areas should be developed and maintained based upon the maps in Appendices 2 -7. Within the detailed study areas, all known resources are identified. These include those with statutory and non-statutory designations as well as sites or features of more local importance, including Open Land designated within the Local Plan.

3. Sites of Special Scientific Interest, Local Nature Reserves and Wildlife Sites should be protected from adverse development appropriate to their status. The maintenance and enhancement of these assets will be encouraged through management. Ultimately these are the most intrinsically valuable wildlife resources and represent critical capital within the urban context.

4. Locally valuable 'Wildspace' areas should be protected, particularly where consistent with Open Land designated within the Local Plan. Management should seek to enhance their ecological interest. These sites provide the wildlife corridors, networks and stepping stones that help sustain ecological processes within the settlement. Although they can vary in size and ecological function, where appropriate the protection of corridor features should include the standard guidance provided by British Standard 5837:2005 in relation to trees and advice from the Environment Agency concerning wetlands. The remaining areas of designated Open Land may also be important or potentially so ecologically.

5. Links to open countryside and other recognised sites of wildlife value should be protected and enhanced with appropriate management where possible. These help to sustain the ecological processes to and from the settlement itself, as wildlife does not stop at the edge of a settlement boundary.

6. New sites should be enhanced or created for their wildlife value where appropriate, especially where consistent with Open Land. These can help to offset areas of deficiency or improve public accessibility.

7. All opportunities for Local Nature Reserve designation should be explored and suitable sites designated to help towards meeting English Nature's target for their provision.

8. Finer grained wildlife support should be developed and maintained using the 'Greenspace Factor' principle and policies to protect and / or plant trees, hedgerows and other vegetation, which will contribute to the delivery of sustainable development.

9. The principles of sustainable development should be followed across the borough with respect to biodiversity resources, including opportunities to address deficiencies through planning gain.

# DACORUM BOROUGH COUNCIL URBAN NATURE CONSERVATION STUDY

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# 1. INTRODUCTION

## 1.1 The Study

In May 2004 Hertfordshire Biological Records Centre was commissioned by Dacorum Borough Council to undertake an urban nature conservation study of the six principal settlements within the Borough. The aims of the study are:

*'To provide a well reasoned and coherent strategy for the protection and enhancement of key wildlife areas and network of spaces / natural corridors within the towns and large villages of Dacorum'.*

The study was to provide a review of the resource, guidance on policies and recommendations on planning and management issues to take forward urban biodiversity both in the context of the next Development Plan process but also in terms of practical land management and community issues. The study will assist the preparation of the Local Development Framework (LDF) and Community Strategy which will be delivered through the Local Strategic Partnership (LSP). The growing role of the LSP can be harnessed as a means of linking communities to their local environment and their wider aspirations to achieve a better 'quality of life'. Also of significance is the Countryside Agency and Groundwork's emerging vision and focus of action on 'Unlocking the potential of the rural urban fringe' where 'communities meet countryside', and interact with this transitional landscape in many ways (Apendix1).

Recognition of important urban wildlife areas, their protection and management is essential not only in terms of conserving these for future generations, but also to ensure that there continues to be a sustainable urban biodiversity resource in the context of potential development pressures. The study provides a general background to these issues and detailed statements and recommendations for each of the towns and large villages within the Borough. These are **Berkhamsted, Bovington, Hemel Hempstead, Kings Langley, Markyate and Tring**.

## 1.2 Wildlife changes

The present wildlife interests of the Borough must be seen in the context of known changes in wildlife resources within the county. Only 4.2% (1,465 ha) of all of the grasslands in Hertfordshire mapped for the County Habitat Survey between 1994 - 97 is of high ecological value and have been recorded as Wildlife Sites. It has been estimated that this represents a total decline of 98% of ecologically valuable grasslands since the 1930s. The Ancient Woodland Inventory indicates there is 3,281 ha of ancient, semi-natural woodland greater than 2ha remaining in the county, 20% of all of the woodland which exists and 2% of Hertfordshire. The existing nature of river corridors is also degraded through many urban areas, with poor aquatic and associated habitats or low adjacent habitat quality.

Declines in traditional farming, increases in leisure use and development pressure combine directly or indirectly to place sites under pressure, whilst the management of urban land for ecological benefit may be increasingly difficult to achieve. Together these effects gradually reduce the quality and connectivity of individual sites.

To counteract this, fully functioning wildlife sites, corridors and networks should be linked to each other and ultimately open countryside. It is against this background that the Dacorum Urban Nature Conservation Study seeks to provide a positive approach to ecological planning.

## 2. BACKGROUND

### 2.1 ECOLOGICAL ISSUES

#### 2.1.1 Why is urban wildlife important?

People need wildlife, not just in nature reserves but as an accessible part of their everyday lives. As the countryside has been altered to accommodate modern agriculture, the remnant hedges, woodlands, parks, disused railway lines, canals, churchyards and ponds in suburban and urban areas assume increasing value for wildlife and people, where 85% of our population now live.

- Wildlife provides joy, **pleasure** and inspiration and a feeling of naturalness
- Psychological and emotional **well-being** are promoted by contact with nature, natural areas providing peace, quiet and seasonal variation
- Contact with wildlife and wild spaces can provide opportunities for formal or informal **recreation**
- Wildlife sites provide a **social** resource as meeting places for local people or undertaking communal activities
- Contact with wildlife and habitats can be a valuable **education** experience
- Many wildlife sites can have a local **historic value**
- Green spaces create pleasant landscapes and improves local **image**
- Wildlife sites and vegetation helps to provide **environmental health** benefits
- There are **economic benefits** to conserving or creating green environments
- **Nature conservation** itself benefits from the opportunities for the survival of rare species found in specialist or remnant habitats

#### 2.1.2 What is 'Green Infrastructure'?

The size and spatial relationships between habitat patches influences biodiversity. The fragmentation and degradation of semi-natural habitats by modern intensive agriculture and urbanisation has highlighted the importance of providing habitat resources as a series of sites and networks, including continuous, linked areas of habitat where possible. Whilst planning can create

opportunities for habitats, urban form will influence their size and extent. Masterplanning of a community's 'green infrastructure' can play an important role in creating and sustaining ecologically functional habitat networks.

Green infrastructure is the network of protected sites, nature reserves, greenspaces, and greenway linkages. The linkages include river corridors, flood plains, woodlands and hedgerows and other features of the landscape. On a large scale they can be used as migration routes and on a smaller scale are of more local importance as wildlife corridors for movement and dispersal. It can also include species which are protected by statutory designation.

Green infrastructure should provide for a range of multi-functional uses such as habitats for wildlife as well as features which enhance the human recreational and cultural experience. More fundamentally perhaps it provides the basic infrastructure required for the maintenance of essential ecological processes, in effect the earth's life-support systems. These important 'Ecological Services' include:

- carbon sink;
- pollution control;
- air conditioning;
- microclimate control;
- flood protection;
- soil erosion;
- nutrient recycling;
- food production.

With respect to quality of life, natural greenspaces can deliver a range of important social benefits making higher density housing more attractive and liveable, enhancing health and wellbeing as well as social cohesion within communities. Natural greenspaces can have an economic effect in increasing local property values, reducing management costs and potentially healthcare costs.

Green infrastructure should operate at all spatial scales and geographic areas, from large to small and from urban centres through to open countryside. A Green Infrastructure Network is outlined within the Glossary of Terms in Appendix 1.

### **2.1.3 The Nature of Dacorum**

Urban wildlife in any town or village does not exist in isolation. Whilst there are important interrelationships within the built environment, wildlife also has to connect well beyond the settlement boundaries and is a reflection of the ecological landscape of the area generally. A healthy wildlife environment is one where ecological processes are allowed to flourish, which demands space, connectivity and appropriate management. To understand the wildlife of the towns and larger villages in Dacorum and to help provide a context for understanding this, there needs to be an understanding generally of the nature of the Borough within which the settlements have developed. This is described below:

## **i). Countryside Character and Landscape Character Areas**

Understanding landscape character helps identify locally distinct features and understand the conditions for habitat creation. The Countryside Agency and English Nature have divided the country into broad biogeographic and landscape zones, each of which is distinctive and reflects a range of fundamental attributes, including geology, topography, archaeology, ecology, land use and landscape. As shown in Map 1, Dacorum is characterised by two national zones – the Bedfordshire and Cambridgeshire Claylands (Area 88) and the Chilterns (Area 110). The claylands are characterised by the low lying and flat damp grasslands which are situated on the gault clay of the Aylesbury Vale, whilst the Chilterns are dominated by the woods, grasslands and arable fields of the chalk scarp and dip slope. The Chilterns Area of Outstanding Natural Beauty is also shown on Map1.

The Borough has also been described in more detail by identifying and mapping more local ‘Landscape Character Areas’, as shown in Map 2.

## **ii). Borough Landscape types**

Maximising opportunities for biodiversity requires an understanding of an area’s distinctive ecology and local landscape characteristics. The topography is relatively simple but quite profound, as shown in Map 3. The chalk scarp rises from the Vale in a south west – north east alignment, followed by the Icknield Way, an ancient route from central and southern England to East Anglia. This is breached by several gaps cut by the river valleys of the Gade and Bulbourne. These river valleys cut into the dip slope as they flow towards the south east to join the Colne Valley, as does the River Ver to the north-east of the Borough. In between the valleys are gently sloping plateaus with dry and hanging valleys cut into the chalk, sometimes with seasonal spring sources such as the Bourne Gutter at Bourne End. The historic market town of Tring developed where the historic route to the midlands – Akeman Street, a major Roman Road – crossed the Icknield Way. Berkhamsted developed within the Bulbourne Valley where the presence of a number of dry valleys made it a strategically defensible location, whilst Hemel Hempstead is found at the confluence of the Gade and Bulbourne. Markyate is also located on the River Ver. The more general landscape areas of the Borough can be described as follows:

### **Aylesbury Clay Vale**

The Gault clays of the low lying Vale create damp and wet pastures on heavy stagnogly soils, often managed as pastures. A particular feature are the Tring Reservoirs which were created to serve the Grand Union Canal.

### **Chalk scarp and valleys landscapes**

Where present at the surface the overlying chalk produces shallow, well drained rendzina soils creating dry ground directly on the scarp as well as the

INSERT MAP 1

INSERT MAP 2

INSERT MAP 3

river valley sides where chalk soils have been exposed at the surface. These areas are characterised by the steeper chalk grassland slopes of Tring Park, Aldbury Nowers and Ashridge as well as Roughdown and Sheethanger Commons and other valley slopes that are cut into the dip slope.

### **Plateau clay –with-flints and other superficial deposits**

Superficial deposits on the dip slope overlie the chalk. They cover the gently south-east dipping slope and are largely of clay with flints. The palaeo argillic brown earths develop well to moderately drained soils creating damp, sometimes heavy and fairly acid ground, typified by much of the grassland and woodland of Ashridge, as well as more limited heavy arable land. In places sands and gravels create dry acid soils and heathy conditions, often poor land, historically managed as common such as Berkhamsted, Chipperfield, Kings Langley and Tring / Wigginton.

### **Chalk Streams and River Valleys**

The river valley floors of the Bulbourne and Gade contain valley deposits of silt and gravels laid down by the action of glacial meltwaters and the rivers themselves. These would naturally support damp pastures and marshes where the ground is not cultivated. In places they have been dug for gravel and support small gravel pits. They do demonstrate chalk stream characteristics of high wildlife value in places, yet are now highly modified at some locations.

### **Spring Sources**

There are also local spring sources and dry valleys which also influence the local landscape in places. The seasonal Bourne Gutter west of Bourne End, Hemel Hempstead represents a locally distinctive landscape feature. To the east, the River Ver and to the south the River Chess border the higher ground of the dip slope influence the topography of the edges of the Borough.

### **iii). Historic influences**

Iron age activity in the Chilterns has been well documented and was particularly significant in the Bulbourne Valley. Following an intense period of development during the late Iron Age, the Roman occupation also had a strong impact upon the landscape. By this time much of the 'Wildwood' had been cleared and land was under intensive management.

The division of Hertfordshire under Danelaw led to a number of distinctive landscape patterns, one of which is the large area of common land in the west of the county. There are or have been a number of important commons within the Borough, such as Tring (Wigginton), Berkhamsted, Chipperfield, Boxmoor, Sheethanger and Roughdown, all of which were present as late as 1822.

The Normans built castles at strategic locations across the county, and Great Berkhamsted was one of the foremost, guarding the Tring gap. By this time the landscape was well settled, with farming practices developing into the medieval period. Hunting parks – primarily for food – became major features in the landscape and Hertfordshire probably has a higher density than any

other county. Ancient deer parks in Dacorum include Ashridge, Kings Langley, Berkhamsted, Pendley and Golden Parsonage, Great Gaddesden. Relict features associated with these parklands still survive today in several places and can have considerable biodiversity value.

The Dissolution of the Monasteries saw much of the land confiscated by the Crown from St Albans Abbey conveyed to courtiers and businessmen, keen for status and a healthy retreat from the capital. This accounts for a growth in country house building from the mid 16<sup>th</sup> century, when numerous properties, parkland and large gardens became established. These - or remnants of them - have survived in both urban and rural areas alike, where they still contribute to the local character and biodiversity of the area, such as Grove Park, Tring, Northchurch Hall and Haresfoot, Berkhamsted, and Gadebridge, Shendish and Westbrook Hay at Hemel Hempstead.

Hertfordshire's proximity to London continued to exert a significant effect with buildings and great houses constructed, abandoned and destroyed, a process still in evidence today. From the 17<sup>th</sup> century onwards lands were enclosed creating the regular patchwork pattern of fields within the landscape in addition to the ancient boundary hedges. Communications improved as canals, roads and later railways were built, most often along the river valleys. This is reflected in Dacorum with the Grand Union Canal and the London to Birmingham Railway using the Gade / Bulbourne Valley as a route through the Chiltern Hills. The railway provided a focus for new settlements around stations and light industry. Rivers were an important transport route particularly when roads became impassable in wet or winter weather. Rivers also provided the power for the watermills, which generated flour production, wool fulling and paper milling, a prominent development in Apsley, Hemel Hempstead.

The poor state of roads throughout the county demanded significant financial input. A parallel system of drove roads – used for animals rather than vehicles - is still partly visible in the green lanes and footpaths, often with the name 'green', 'travellers' or 'bull' attached. These still retain locally significant wildlife interest. It is recorded that in 1766, 992,400 head of beef cattle were driven to Smithfield, London, many of them through Hertfordshire, so these tracks were an important part of the transport network.

During the 20<sup>th</sup> century the towns and villages expanded, particularly Hemel Hempstead which was developed as a New Town to accommodate London overspill.

#### **iv). Land use**

Hertfordshire has always been an agricultural county, heavily influenced in more recent centuries by the proximity of the London markets. It was described in 1785 as being 'generally enclosed...(with) many small common fields...laying intermixed in small pieces...cultivated nearly in the same way as enclosed lands'. Agriculture and forestry in places – particularly in the Chilterns – was the main source of employment. Parliamentary enclosure was

the last major transformation of the rural landscape before the ploughing out of hedgerows in the mid 20<sup>th</sup> century. In south and west Hertfordshire where early piecemeal enclosure had already transformed arable land, formal enclosure consequently turned to the surviving commons of which the majority were in the west of the county.

Before 1900 the major impact on the landscape other than agriculture was parkland. Medieval parkland was ploughed up whenever there was no permanent resident on the estate. Parkland could be wooded, cleared for farming, returned to open woodland as a deer park and then cleared for farming again, depending on the fluctuations of agricultural economics. In the 20<sup>th</sup> century the greatest threats to parkland have been from housing development and transport infrastructure. Arable farming of former wood pasture at least retains woodland boundaries and frequently the outline of the park.

Agriculture is still an important land use although it has become increasingly intensive to remain viable. There has been a considerable loss of land to development and the increased demand for leisure – a locally significant impact due to horse use and golf courses. The continued decline in small scale traditional farming also means the infrastructure required for managing the traditional landscapes has reduced the ability to manage sites of wildlife importance.

## **2.2 PLANNING ISSUES**

### **2.2.1 Green Belt, Open Land and open spaces.**

Green Belt is a fundamental planning designation which prevents the spread of development into areas of open countryside. However, designation does not necessarily ensure the continuation of appropriate land management that is needed to maintain a particular character. It remains, nevertheless, a valuable planning tool that will influence the future development possibilities around existing settlements.

Within the Local Plan, designated Open Land is a powerful planning principle which protects open land within settlement boundaries. It can include many different types of sites and uses, such as woodlands, grasslands, playing fields, school grounds, informal and formal amenity land, allotments and church grounds. Open Land areas represent a considerable resource where there is a formal policy presumption in favour of their retention. Given this position, they could include important areas – or potentially so – for biodiversity. Consequently Open Land with identified Wildlife Site interest is especially valuable.

Other open spaces will also exist that are not designated as Open Land but may still have ecological interest. The local authority has identified such areas with a functional leisure use, although they are also found beyond settlement boundaries. These may be in public or private ownership, but the latter are more difficult to influence in terms of management. Once ecological resources

have been mapped, opportunities for appropriate conservation management can be considered.

### **2.2.2 Rights of Way**

Rights of way may exist across or adjacent to sites or areas of ecological value. However they do not in themselves provide a true measure of accessibility as they do not reflect the extent of access which would be available. RoWs are, however, described for each settlement and shown on one of the maps.

### **2.2.3 Population levels**

Population levels are provided for each settlement, as at the 2001 census. The total population of Dacorum Borough is 137,799.

### **2.2.4 Future development sites**

New development is directed to urban areas by the Local Plan, and on occasion there will inevitably be a conflict between biodiversity objectives and development objectives. However every appropriate opportunity should be made to secure ecological benefits that could result from development where appropriate, although development may degrade an existing interest in the first place. Policies within the Local Plan support mitigation, including using mechanisms such as TPOs. Persuading private owners to conserve existing interests given the pressure for development and the value of land is invariably difficult, but planning policies can be used to protect important nature conservation interests.

## **2.3 URBAN BIODIVERSITY**

### **2.3.1 English Nature's Accessible Natural Greenspace Standards**

English Nature have developed a number of standards for biodiversity and access to it, which in turn provide targets for its provision. These are as follows:

- No person should live no more than 300m from their nearest area of natural greenspace of at least 2ha in size;
- Provision of at least 1 ha of Local Nature Reserve per 1000 population should be made;
- There should be at least one accessible 20ha site within 2km from home;
- There should be one accessible 100ha site within 5 km;
- There should be one accessible 500ha site within 10km.

### **2.3.2 Considerations**

- Natural Greenspace

This is land, water or geological features which have been naturally colonised by plants and animals. Such land presents an image of a predominantly green, vegetated area which has 'natural' origins or is supporting largely natural ecological processes and may even be relatively untamed.

Ancient common land or encapsulated countryside within urban areas should immediately be recognised as such and is likely to have a locally valuable wildlife interest. Smaller scale features such as ancient hedgerows or tree lines may also survive, are more natural and may also have a locally high ecological value, but are of a different scale and type of wildlife resource.

However, estate grounds of large houses now managed as parkland, formal sports pitches or school grounds, amenity grassland and planted trees are also usually considered 'greenspace' but these do not usually exhibit semi-natural habitats and may be ecologically limited.

All of these clearly contribute to a concept of greenspace, but their size, nature, use and ecological value can vary considerably and it is difficult to consider them as one, uniform resource.

English Nature do not appear to provide a clear definition of the nature of the greenspace itself, although associated pictures within their literature and conference presentations imply rather 'rough' areas of long grass, tall herbs, bushes and trees. Whilst this easily meets a concept of 'natural greenspace' it is also clearly a function of management. Regularly mown grassland within 'tidy' sites resembling manicured parkland, is without doubt structurally limited. However such areas may consist of species-rich unimproved grassland, naturalised scrub and old hedgerows or trees where a change in mowing regime would immediately provide a site perhaps of more typical greenspace character.

Consequently, in this study, natural greenspace attempts to embrace all recognised sites and features of existing biodiversity value as well as others with potential which could, nevertheless, contribute to this resource. This is made up of the following:

i). Sites of Special Scientific Interest, Local Nature Reserves, and Wildlife Sites. These are the most important semi-natural habitats of recognised value nationally and more locally.

ii). 'Wildspace', a term currently used within the Local Plan to reflect resources of more general biodiversity interest. These will include sites and features of more local value, such as significant hedgerows, small fields surrounded by trees, scrub or tree belts. Their nature and location provide an important ecological resource and help sustain ecological networks and processes. They may vary in quality and composition, but their existing or potential role should be recognised.

iii) Open Land, a formal designation within the Local Plan. It may or may not coincide with land already identified as i) or ii) above, but nevertheless can be an important contributor to overall natural greenspace being structurally open

land in terms of land use planning. Management can be designed to improve biodiversity where opportunities arise.

- Accessibility

It is important to recognise that a 300m distance around any such Greenspace could apply to both wildlife and people, and operate in both directions. Wildlife from any particular site can use surrounding areas whilst its hinterland can in turn help to sustain the wildlife on that site.

i). Following the ANGST principle, areas up to 300m away from Natural Greenspace could be accessed by more mobile wildlife species, and such 'biodiversity zones' could therefore be influenced by a reservoir of wildlife from any particular site. Consequently some of this wildlife will potentially be made available (depending on extent of habitat quality and quantity present) to people also living or working within that zone. Such zones must be richer in biodiversity due to the presence of a significant resource than they would be without; conversely areas beyond or without a biodiversity zone are likely to be comparatively poorer in their biodiversity. Biodiversity zones of 300m have therefore been shown on settlement maps for all Wildlife Sites, as well as identified Wildspace greater than 2ha. The same principle has been applied to larger sites and zones within the borough as a whole.

ii). With respect to human use of a site, some Greenspace sites may have open access, be accessed by public footpath only, be seen from an adjacent footpath or be public land but with restricted access such as a school playing field. This places emphasis on the human experience.

Barriers exist to both wildlife and people in very different ways. It is therefore important to be clear about the resources and their accessibility when assessing existing or potential urban wildlife.

- Size of Greenspace

Size is a legacy of what has survived by accident or been planned by design. 2ha of ecologically poor formal playing field is not necessarily better than 0.25ha of ancient meadowland that may be present.

- Local Nature Reserve (LNR).

It is an admirable target to achieve a minimum 1ha per 1000 population provision of such sites. However, this assumes that:

- i). There are sites with sufficient ecological quality;
- ii). These sites are subject to local authority legal agreement or control;
- iii). The local authority has sufficient resources to ensure that management for nature conservation is the primary objective, including support of local Friends groups.

All of these are requirements for LNR status; not all can be satisfied on open spaces within existing urban areas, because there will be competing demands for space, such as formal recreation. It is therefore not necessarily realistic to assume LNR targets can be achieved within existing land resources or to have expectations of doing so in future.

However, a deficiency of LNR status can still be used to target or review opportunities to improve biodiversity resources, their management and access, even if this cannot be delivered within existing settlement boundaries.

### 2.3.3 Woodland access

A detailed report ‘Space for People: Targeting action for woodland access’ has recently been prepared by The Woodland Trust (2004). This sets out the Woodland Trust’s detailed analysis of access to woodland in the UK and presents a new Woodland Access Standard. It is based upon wide-ranging surveys of public use and opinion of woodland, although the report has not – as yet – included woodland with rights of way given the lack of availability of GIS coverage for this aspect. The results are nevertheless of interest:

Location	Accessible woods		Inaccessible woods		Woodland creation			
	% population with access to 2ha+ wood within 500m	% population with access to 20ha+ wood within 4km	Extra% population with access to 2ha+ wood within 500m if existing woods opened	Extra % population with access to 20ha+ wood within 4km if existing woods opened	% population requiring new woodland for access to 2ha+ wood within 500m	% population requiring new woodland for access to 20ha+ wood within 4km	Minimum area of new woodland required to ensure access to 2ha+ wood within 500m (ha)	Minimum area of new woodland required to ensure access to 20ha+ wood within 4km (ha)
<b>England</b>	10.18	55.18	26.08	26.74	63.74	18.08	48,683	15,392
<b>Hertfordshire</b>	14.36	70.13	30.02	24.24	55.63	5.63	1,104	180
<b>Dacorum</b>	31.44	70.98	11.10	28.38	57.46	0.65	169	40

Dacorum is better served by woodlands in comparison with figures for England and the county as a whole.

### 2.3.4 Provision of Wildlife Sites within Urban Areas of Dacorum.

Only two LNRs have been designated within the whole of Dacorum, although this does not reflect the extent of ecologically valuable resources. As this present study is primarily concerned with urban nature conservation, it is considered that the presence of a biodiversity resource of known high quality should be measured primarily by the extent of recognised ‘Wildlife Sites’.

Wildlife Sites meet a minimum standard based upon relatively recent surveys, although of course they can only reflect the best available information. They do not necessarily provide the access or management benefits of LNRs, but

they do represent an important resource which underpins urban biodiversity and that is available to wildlife associated with all kinds of the urban areas, from open spaces to private gardens.

Wildlife Sites that lie immediately adjacent to each settlement boundary are also considered to be a resource available to the town itself. They are important for two principal reasons:

1. They provide a significant biodiversity resource that can be accessed or viewed from the town itself, and as such can be considered to serve the town. They could be considered as a 'biodiversity gateway' into the open countryside.

2. They constitute an important reservoir of potential wildlife that can infiltrate into the urban area either through networks of stepping stones of habitat, green wedges or continuous wildlife corridors, even though in places these may be limited in extent. The resource of open gardens can also be valuable in providing an accessible general network of such habitat.

### **2.3.5 Types of Habitat resource**

Whilst it would be desirable to identify different wildlife resources by habitat that may be available, in practice this was not feasible. Some sites or areas recognised as supporting ecological interest may support a variety of different habitats such as woodland, scrub, hedgerows and grassland, with wetlands such as rivers, lakes and ponds. However, also of importance are the truly urban habitats such as 'urban commons' of previously developed land that is naturally colonised, railways, parks, school grounds, allotments, cemeteries, gardens and road verges. Other habitats created by man's activities can also be important, for example naturally colonised built features such as walls.

The precise areas of each cannot be easily determined unless each habitat type is mapped separately, and this has not been possible with limited resources. Furthermore, the extent of particular habitats may have been historically more or less frequent, so determining what habitats 'ought' to be present with respect to deficiencies will always be difficult. Planning for biodiversity in existing urban areas is further complicated given that the resources are a legacy of what previous development has left undeveloped, as this has already fundamentally modified the character of the land.

Consequently, although achieving a diversity of habitats for both wildlife and people is supported and encouraged, this study has not defined the extent of these different resources nor recommended targets for them. What it assesses is the known ecological resources of high value, and areas or features likely to provide habitats of local wildlife value, irrespective of precisely what habitats they represent.

It should also be recognised, however, that high density built environments can still create the potential for habitats on walls, balconies, roofs, terraces and decks. Private gardens can support a wide variety of wildlife if appropriate plants are present. Benefits of vegetation to building occupiers include

cooling, insulation, rainwater management and reduced microclimate effects. Climbing plants, nesting sites and green roofs each require specific designs to achieve the best results. A 'green point' scoring system could be used to encourage creative solutions to biodiversity and new development (see Greenspace Factor, Appendix 1).

### **2.3.6 Wildlife corridors, ecological networks and stepping stones.**

Wildlife corridors are areas of continuous habitat resource which allow wildlife to move through a landscape and facilitate connectivity of ecological processes. Often these may link sites or areas of higher quality, or simply provide a direct route within open countryside, or from countryside into more urban areas. At a larger scale they are usually identified as a series of 'sites' in the form of connected areas of land, or even as a route of 'stepping stones' along which more mobile species can travel. At a more local scale corridors can be present in the form of a feature such as a mature hedgerow, where they can represent a network of habitat resources which in themselves may not necessarily define a clear corridor. The size of a corridor is very variable, influenced as much by what has survived within urban areas as by what is otherwise desirable as a habitat resource.

However, even individual sites or features still represent an intrinsic resource for wildlife which can also be used as islands or stepping stones for ecological dispersal, particularly for more mobile species. Where towns have developed over time, these resources have survived by accident rather than by design. Consequently in some cases the opportunities for their provision may be more limited than others given the extent or density of development.

Although at different levels of resolution, when viewed together it is the total habitat resources which contribute to the healthy functioning of ecological processes within the town. It is the maintenance of these, along with the protection and management of important sites and species, which will determine whether urban nature conservation is successfully achieved.

Wildlife corridors have been identified within the borough as a whole. The context within which wildlife can move relatively easily within Dacorum – or where important pinch points can be identified – is valuable in helping identify corridors and sites at a more local level within each of the settlements.

### **2.3.7 Accessibility**

The most important Wildlife Sites are reviewed in terms of their accessibility. Not all classified Open Land has open access, such as school grounds. In terms of ecological resources within settlements, greater weight should generally be placed on those accessible open areas which are considered to support locally valuable wildlife or may have the potential to do so. Such sites help to increase the ecological connectivity between Wildlife Sites. Habitat resources are also enclosed within garden areas and grounds of properties, all of which are accessible to their residents or occupiers.

### **2.3.8 Specific sites of local interest within the settlement**

Where known, specific sites of local interest are described.

### **2.3.9 Open Land biodiversity**

Where known, the biodiversity resources of other areas of Open Land is noted.

### **2.3.10 Other private or public open space biodiversity**

This is identified through mapping habitat resources using recent aerial photographs from Year 2000, supplemented by stakeholder feedback and field checks where necessary.

### **2.3.11 Urban fringe corridors**

The context within which each settlement is located is shown by the 1km fringe around each urban area. This helps to identify Wildlife Sites and other ecological resources that feed into the towns and villages, without which future development or conservation management opportunities cannot be viewed sensibly. Key corridors and linking features which enable ecological processes to continue are identified and mapped.

## **2.4 MANAGEMENT ISSUES**

### **2.4.1 Principles**

Wildlife is dynamic and will usually exploit existing or new opportunities as long as basic ecological processes can be maintained. The most important sites relate to the presence and nature of habitat resources and their linkages, either continuously as directly or as stepping-stones. All of these can be maintained, enhanced, created or destroyed just as much by management activities as by development itself.

Consequently, having identified existing or potential ecological resources in terms of biodiversity, it is important to secure - as far as possible - as much appropriate management in order to ensure wildlife has the best opportunity for both surviving within and moving through urban areas.

Factors influencing management including land use, ownership, the human resources available and cost. It is difficult to influence land management when direct control of the land or cost make opportunities limited.

Land in public ownership or management responsibility could immediately secure wildlife resources if management is not in conflict with the existing land use and cost does not preclude certain management operations. Privately owned land cannot be influenced in any way other than through existing legislation, financial inducement or through the planning system, usually in

some form of planning gain, although education can help to influence decisions of landowners be they large or small.

### **2.4.2 Aims**

The study and its recommendations are based on a number of specific principles:

1. To manage all Wildlife Sites designated as Open Land in the Local Plan for their ecological interest;
2. To protect other Wildlife Sites within and adjacent to the urban area and to seek appropriate management to ensure that their biodiversity resources are maintained.
3. To improve the management of publicly accessible Open Land sites with known local ecological value to enhance their wildlife interest.
4. To improve the management of limited access Open Land sites with potential ecological value.
5. To improve the ecological interest of other areas of designated Open Land or open space with existing or potential value.
6. To retain the ecological interest of private open space where possible, such as boundary features including hedges and tree lines within gardens or other open land.
7. To ensure the most valuable wildlife linkages extending from the settlements are maintained and enhanced where possible.

### **2.4.3 Management responsibility**

Management of biodiversity resources falls into four broad areas:

- i). Local authority / public land, including allotments;
- ii). Farming or similar land management practices;
- iii). Private gardens;
- iv). Other land privately or publicly owned but which does not receive or necessarily require active management.

The areas with most immediate potential are those in public ownership, as these represent areas where there is some form of existing control over use and management. Although there are also likely to be competing demands on these open spaces there should also be some opportunity to secure some wildlife benefits, if only around the boundaries of such sites.

Wildlife benefits from farming assume that farming is still present and viable in the first place. If it is, it is unlikely to be providing the sort of traditional management that delivers wildlife benefits, although the ability to manage any

sites by grazing or hay cutting is still most important. Where appropriate farming could be influenced by the new agri-environment schemes, but the opportunities for significant ecological gain could only be determined at a local level.

Generic advice is probably the only way to influence the management of private gardens, although the recognition that certain features are of local importance may be valuable to the house owners.

Other areas – such as roadside verges, hedgerows, small areas of scrub etc.- may also be managed by the local authority, and as such should be considered for protection and enhanced management if appropriate.

## **2.5 EDUCATION / COMMUNITY**

Education about biodiversity issues can take many forms. An opportunity is within the school environment, although this is limited to children of school age and may become merged with the requirements of the National Curriculum and formal qualifications.

Informal education about local wildlife issues can appeal to all ages, and can be achieved in a variety of ways. These can include walks, talks and presentations, practical management or local events. The **Dacorum Nature Conservation Strategy** outlines the following opportunities:

- **Management of Local Nature Reserves or other similar sites** – the formation of a local community 'Friends of' group that can help with or inform management operations;
- **Establishing community wildlife areas** – groups can be encouraged to establish new community wildlife areas, within more formal open spaces, disused allotments, suitable 'derelict' land or available farmland;
- **Community surveys** – simple wildlife surveys of people's local environment;
- **Community tasks** – treeplanting, hedgelaying etc;
- **Parish Warden**;
- **School grounds** – creation of wildlife areas;
- **Wildlife gardening** – maintaining and enhancing this greenspace environment for wildlife;
- **Awareness campaigns** – pressure groups established around a significant local environmental issue;
- **Environmental events** – talks, publicity events or practical demonstrations;
- **Business opportunities** – sponsorship, wildlife on landholdings, corporate training events etc.

Much will depend on the nature of the urban environments that are present, and the interest and opportunities that can be generated from the local community. In practice this can be hard to sustain, but can often provide significant support for specific initiatives, such as the Tring Urban Survey and

the Friends of Shrub Hill Common group. One of the most valuable aspects of pro-active local community projects is that they engender a sense of 'ownership' by the community which is often lacking in local authority led initiatives.

## **2.6 URBAN STUDY STAKEHOLDER CONSULTATION**

Public consultation for the study was undertaken by the following means:

- i). A presentation to Dacorum Environmental Forum on 21 April 2005;
- ii). A public exhibition of the maps and draft study at the Civic Centre;
- iii). Dacorum Borough Council directly consulted Parish Councils directly affected by the study;
- iv). Some local interest groups represented at the Forum were also given sets of maps for detailed appraisals.

Comments received up to the end of June were assessed by the Biological Records Centre and incorporated into the present report and maps.

## **3. METHODOLOGY**

### **3.1 Urban biodiversity**

Following the background principles outlined above, the project needed to address the concept of urban biodiversity in a holistic way. Revisiting known sites or undertaking extensive field work to record ecological resources of very local value has been undertaken in some places before. Although a valuable approach this has not fully addressed the importance of maintaining general wildlife resources and ecological processes themselves across all of the main urban settlements in Dacorum. Achieving a wider vision will help to sustain the function and therefore value of both more important and less important sites. This requires a different approach, and the identification of a wide variety of different habitat resources both within and beyond the settlements themselves is considered significant in sustaining urban biodiversity.

### **3.2 Habitat networks**

An approach to the planning of habitat networks has been pioneered in the Netherlands, and has followed four key steps:

1. Determine priority habitats and species;
2. Determine acceptable risks from weaknesses in the network;
3. Determine habitat networks and dispersal route for priority species;
4. Determine functional conservation potential of the network.

Dutch networks define corridors for species migration and buffer areas to protect habitats from disturbance. While this may be considered from a national or regional perspective for key ecological resources, the same principles can be applied in the approach to local urban biodiversity.

### 3.3 Urban biodiversity maps

The distribution of ecological resources within each settlement was generated by the compilation of maps using the GIS facilities available to HBRC. A number of sources of information were used:

- Wildlife Site coverage at HBRC;
- Ecology Site coverage at HBRC;
- Protected species coverage at HBRC;
- Phase 1 Habitat Survey, held at HBRC;
- Habitat Survey for Dacorum, 1997;
- Tring Urban Survey (Tring Environmental Forum);
- DBC Biodiversity Action Plan (BAP);
- DBC Open Land maps;
- Year 2000 Aerial photographs.

The mapping initially included **Wildlife Sites** and then incorporated **Ecology Sites** from the HBRC database. Photographic evidence suggested several of the Ecology Sites needed updating and so these, along with other areas and features of local wildlife habitat, were defined as a '*Wildspace*' category on the maps themselves. Identification also took into account information from the other sources above. Distribution of protected species was important, not for the locations of records themselves (which could be a private house roof space in the case of a bat record) but in order to justify or demonstrate the importance of local habitat features. Aerial photographs were then interpreted to identify the remaining large or small scale features apparent within the settlements considered to be important.

Formally managed sites not identified by these processes but which were identified by the Dacorum Biodiversity Action Plan are also shown on the accompanying maps where appropriate. Many of these sites could offer considerable opportunities for enhancing local biodiversity but their existing management may not be delivering this. Notwithstanding their potential contribution, they have been shown as a legitimate part of the BAP process and may help to focus land management enhancement in due course.

There will always be a gradation of biodiversity value from genuine 'natural greenspace' such as found within an SSSI or LNR, to formal open greenspace with high amenity use, such as a school playing field. Physically both represent open space, are 'green', have some form of public access and both are of value to biodiversity and general ecological processes. However, both will vary markedly in their appearance and wildlife they support, and this too can change with management. Unlike 'permanent' features such as woods, tree lines and hedgerows which can clearly be regarded as Wildspace for their local ecological value, the contribution to wildlife of a variety of open space grasslands is less distinct. Therefore there may be some instances where Wildspace has been identified on some sites because of their strategic importance, such as in a corridor location, and not on others despite being of a similar character.

### **3.4 Settlement buffer**

The same mapping process was also completed for a buffer around each settlement of 1km. This is because the ecological processes which support wildlife within the settlements do not stop at the settlement edges, and in turn reflect the overall functioning of the wildlife resource at the borough level. The broad context is vitally important when planning for biodiversity proactively on the edges of the settlements, which may themselves come under increasing pressure to expand in future years. Without it, biodiversity resources cannot be identified or adequately protected.

## **4. RESULTS**

### **4.1 The Dacorum Borough context**

#### **4.1.1 Dacorum biodiversity resources**

The recognised biodiversity resources of the borough are shown in Map 4. This also shows statutory and non-statutory designations, as well as 'High Biodiversity Areas' that were originally identified within the Hertfordshire Biodiversity Action Plan. These are areas which support a high proportion of quality wildlife habitats in a county context and provide core areas for biodiversity conservation.

The map also shows biodiversity corridors which are likely to operate at the borough level. It is interesting to note that these generally follow a NW-SE orientation, essentially along the 'strike' of the dip slope following the direction of natural corridors of the rivers valleys and the higher plateau areas where there are greater concentrations of habitats. They provide opportunities for mobile species to disperse, or where improvements to connectivity between sites could better link ecological processes.

#### **4.1.2 Dacorum borough ANGST**

English Nature's Accessible Natural Greenspace Standards have been applied to the borough as a whole with respect to larger Wildlife Sites. The same approach to interpreting access as 'biodiversity zones' has been applied, as not all of these sites will necessarily have open access. However, as an ecological resource their value and influence is reflected in the analysis.

- As a context for applying ANGST, the legal access rights on or near known wildlife habitats and resources are shown in Map 5. This shows the extent to which access of some sort can be gained to Wildlife Sites or their immediate vicinity via the Rights of Way network. It would appear that many if not most sites are accessible allowing contact with such areas and beyond, and in this sense the borough is generally well served with accessible biodiversity.
- There are no 500ha Wildlife Sites within Dacorum.

INSERT MAP 4

INSERT MAP 5

- As shown on Map 6, Tring, Berkhamsted and the western half of Hemel Hempstead are well served by Tring Park and the Ashridge / Berkhamsted Common complex, representing at least one accessible 100ha site within 5km. A series of relatively unimproved pastures within the Aylesbury Vale provides a further large area for relatively accessible biodiversity but only via Rights of Way. Whilst providing a biodiversity zone, Prae wood to the east of Hemel Hempstead has no Rights of Way at all, and is therefore not considered accessible. This reduces the availability of such sites to large areas of Hemel Hempstead and Kings Langley. The remaining areas of the Borough are lacking in large biodiversity sites. The importance of the publicly accessible Tring Park and Ashridge areas cannot be overstated, and are of at least County significance in this respect. Ashridge in particular attracts visitors who may expect to have to travel in some way to a large site. To the north-west of Markyate lie Dunstable and Whipsnade Downs, but these are further than 5km away. Tring is within 5 km of both Pitstone and Ivinghoe Hills to the north and Wendover Woods to the south, all publicly accessible sites.
- With respect to at least one accessible 20ha site within 2km from home, it is apparent from Map 7 that the majority of Dacorum could have access to larger biodiversity areas of recognised ecological value. Indeed, most of the Wildlife Sites shown on Map 7 are known to be on publicly accessible land, whilst other sites have Rights of Way through or close to them. Areas of deficiency are found south and west of Berkhamsted and Bovingdon, and in a large zone north of Hemel Hempstead towards and beyond Markyate.
- An additional, more refined map (Map 8) has been produced showing smaller 10ha Wildlife Sites and a 1km biodiversity / access zone. This again reflects the 20ha site pattern and shows that Bovingdon, most of the northern half of Hemel Hempstead and Markyate are impoverished with respect to larger sites. Tring is particularly well served, whilst Berkhamsted has direct access to Northchurch and Berkhamsted Commons, and Ashridge beyond. Hemel Hempstead generally is impoverished with respect to an appropriately large wildlife area for the size of the town, whilst Kings Langley has rather small, limited biodiversity resources close by.

#### **4.1.3 Dacorum areas of biodiversity deficiency.**

Using the above information, Map 9 shows the main areas of biodiversity deficiency within Dacorum determined by both 20ha sites / 2km biodiversity zone, and 10ha site / 1km biodiversity zone. Although there are smaller Wildlife Sites within or around these areas, their relative impoverishment identifies zones where opportunities for habitat creation would provide an immediate increase in wildlife resources locally. Whilst the conservation of existing resources is important, opportunities to provide new, accessible

INSERT MAP 6

INSERT MAP 7

INSERT MAP 8

INSERT MAP 9

habitats to enhance these deficient areas could be taken through the planning process when appropriate.

#### **4.1.4 Dacorum areas of biodiversity opportunity**

However, given the preceding analysis it is possible to identify strategically important areas where benefits would be especially valuable, as shown in Map 10.

**Enhancement corridors** are considered to be:

- i). existing corridors where additional biodiversity conservation would be valuable to improve linkages between existing sites;
- ii). places where new corridors could be created to improve connectivity between sites or settlements;
- iii). opportunities to provide new, functional habitat resource within biodiversity deficient areas.

All of these will reflect the broader potential movement and connectivity of wildlife through the borough and help consolidate these patterns.

**Enhancement zones** are general locations where biodiversity conservation would secure significant gains. These are found in four broad locations, and would:

- i). consolidate existing High Biodiversity areas;
- ii). link High Biodiversity Areas;
- iii). improve links to settlements;
- iv). provide new habitat resource in biodiversity deficient areas.

## **4.2 Settlement maps**

The result of this process is a series of maps and reports presented within Appendices 2-7 for each of the identified settlements, which outline their wildlife value and make recommendations for their conservation. The detailed maps take this process a significant stage further than the Biodiversity Action Plan. They seek to identify more detailed features which contribute to a network of habitat resources, as well as explain how these features are important in the context of the development of the settlement due to their location, connections and extent.

## **4.3 Settlement descriptions**

Each settlement is described in the same format with respect to:

- Environmental characteristics;
- Planning issues;
- Urban biodiversity provision;
- Management issues;
- Education / community opportunities;
- Conclusions;
- Recommendations.

INSERT MAP 10

For a measure of urban biodiversity provision, resources are compared with English Nature's Greenspace and Local Nature Reserve standards and targets (see Section 2.3, Urban Biodiversity) with a view to demonstrating the importance of existing sites and distribution and securing additional wildlife resources.

The Reports for each settlement in the form of detailed maps and descriptions are given in the Appendices.

#### **4.4 Consultation Responses**

Written responses were received from the following organisations:

- i). Friends of Tring Reservoirs;
- ii). Chiltern Society;
- iii). Three Rivers District Council;
- iv). Kings Langley Parish Council;
- v). Dacorum Environmental Forum Water Group.

Informal comments were received from the Dacorum Environmental Forum as well as the Boxmoor Trust who in turn had requested a further assessment from a local botanist. All the comments have been considered and where possible incorporated into the text of the report and the maps.

## **5. RECOMMENDATIONS**

### **5.1 Biodiversity and the Planning system**

There are a number of fundamental considerations which are important strategically when seeking delivery of biodiversity objectives through the planning system. It is recommended that due regard is taken of the following provisions, as set out below:

#### **i). Planning Policy Statement 9 Biodiversity and Geological Conservation**

The Government's recently published PPS9 sets out the national planning policies on protection of biodiversity and geological conservation through the planning system. The Government's objectives for planning are:

- **to promote sustainable development** by ensuring that biological and geological diversity are conserved and enhanced as an integral part of social, environmental and economic development;

- **to conserve, enhance and restore the diversity of England's wildlife and geology** by sustaining, and where possible, improving the quality and extent of natural habitat; the natural processes on which they depend; and the populations of naturally occurring species which they support.
- **to contribute to rural renewal and urban renaissance** by
  - enhancing biodiversity in green spaces and among developments so that they are used by wildlife and valued by people, recognising that healthy functional ecosystems can contribute to a better quality of life and to people's sense of well being; and
  - ensuring that developments take account of the role and value of biodiversity in supporting economic diversification and contributing to a high quality environment.

## **ii). Regional Spatial Strategies**

The policies set out in PPS9 will need to be taken into account by regional planning bodies in the preparation of regional spatial strategies. Regional Spatial Strategies and should:

- i). incorporate biodiversity objectives;
- ii). Address regional, sub regional and cross boundary issues in relation to habitats and species through criteria based policies;
- iii). Include policies to conserve and enhance biodiversity at the regional and sub-regional levels;
- iv). Include targets for the restoration and re-creation of priority habitats and the recovery of priority species populations; and
- v). identify suitable indicators for monitoring biodiversity.

## **iii). Local Development Frameworks and local policies**

Local authorities should take an integrated approach to planning for biodiversity when preparing local development documents. They should ensure that policies reflect, and are consistent with, national, regional and local biodiversity priorities and objectives (including those agreed by local biodiversity partnerships).

Local Development Frameworks should:

- i). indicate the location of designated sites of importance for biodiversity, making clear distinctions between the hierarchy of international, national, regional and locally designated sites; and
- ii). identify any areas or sites for the restoration or creation of new priority habitats which contribute to regional targets, and support this restoration through appropriate policies.

## **iv). Sites of conservation value**

Planning policies to protect and extend the biodiversity resource should recognise key principles and a range of sites and resources, namely:

- International Sites;
- Sites of Special Scientific Interest;
- Regional and Local Sites;
- Ancient woodland and other important natural habitats;
- Networks of natural habitats;
- Previously developed land;
- Biodiversity within developments;
- Species protection.

#### **v). Local implementation**

At the local level, policies may influence management of land but do not normally control it. They can not only protect an existing valuable site, corridor, wider resource or species but also provide the opportunity or potential for development of the biodiversity resource through more sympathetic land management in the future. Consequently local planning should aim to:

- recognise the assets, functional requirements and potential benefits of the existing green infrastructure;
- protect the best sites within the urban environment from the effects of adverse development;
- minimise the impact of development on other sites or ecological resources;
- enhance ecological resources.

Implementation of policies should take into account the best sites of known ecological value – Wildlife Sites - which can act as primary reservoirs of biodiversity. Other local sites of value, as well as networks of smaller habitats, provide vital links for ecological processes to continue. They act as 'stepping stones' or corridors to allow movement of wildlife and where wildlife can be encouraged. All of these areas are considered as 'wildspace' and are, or should be, adequately protected by local plan policies. Understanding of the pattern of resources both at the broad and small scale is necessary for this to be effective.

Settlements with a recognised deficiency of Wildlife Sites should take account of other ecological aspects when considering development proposals.

The urban fringe has an increasingly important role to play as sustainable approaches to land use planning are developed. Countryside should be easily accessible, derelict land can be enhanced and compensatory green areas provided if open areas are unavoidably lost. Policies should encourage conservation, enhancement, appropriate use and enjoyment of these areas.

## **5.2 Provision of Green Infrastructure**

Green infrastructure can be achieved both at the large scale of the Borough, medium scale within a settlement, and at a smaller scale within a new development or existing building and grounds. It should help to:

- contribute to the quality of life;
- protect and enhance the environment;
- manage the impact of growth on existing communities, wildlife and cultural assets.

Users of natural open spaces within urban areas find them appealing for the same reasons that countryside recreation sites appeal – the naturalness, openness and freedom. Peace and quiet, trees and wildlife are also high on the public's agenda, as research has shown. Such considerations need to be reflected in the local authority planning policies.

In this context, environmental objectives should seek to:

- maintain and enhance quality and quantity of biodiversity resource;
- ensure accessible greenspace / biodiversity targets are achieved;
- maintain and enhance local distinctiveness - a function of ecological diversity, places and our past, present and future relationship with them.

Achieving this requires recognising and providing fundamental ecological processes based on the following:

- food resources – e.g. nectar, leaves, nuts, seeds and berries;
- water – ponds, streams, swales and rainfall catchments;
- cover – dense tree, shrub and tall grass cover, leaves, logs and stones;
- breeding sites – vegetation that protects wildlife from weather and freedom from disturbance.

## **5.3 Existing Local Plan Policies**

Planning should fully consider the most relevant Local Plan policies with respect to urban nature conservation, and which can be summarised as follows:

### **Policy 99 Preservation of trees, hedgerows and woodlands**

Encouragement will be given to the preservation of trees, hedgerows and woodlands (including old orchards) throughout the borough. High priority will be given to the retention and protection during development and future management intentions.

### **Policy 100 Tree and woodland planting**

Encouragement will be given to tree, woodland and hedge planting in appropriate locations, particularly as part of development landscaping schemes. Where possible all planting should be with appropriate native broad-leaved species.

### **Policy 101 Tree and Woodland Management**

Appropriate management of trees as individuals, groups, woodlands or orchards will be encouraged. Ancient semi-natural woodland will be afforded high nature conservation priority.

### **Policy 102 Sites of Importance to Nature Conservation**

Protecting our Biodiversity Heritage reflects the designation framework, which identifies sites of European, National and Local importance. Due consideration needs to be taken of the protection afforded to biodiversity within Policy 102 of the existing Local Plan. Sites of importance to nature conservation will be protected from development in accordance with their designation, value and scarcity. In summary this includes:

- Proposals for development, which may have an adverse effect on an SSSI, will not be permitted unless there is an overriding need for the development. Proposals for development on a LNR will not be approved unless there are reasons for the development which outweigh the nature conservation interest of the site.
- The impact of development on Wildlife Sites and other sites of interest will be an important planning consideration, according to their rarity or value. In urban areas existing local wildspaces will be protected.
- Specified green corridors will be protected and the nature conservation interest of open areas along their length enhanced.

### **Policy 103 Management of Sites of Nature Conservation Importance**

Policy 103 seeks to encourage management of sites of ecological value when development is permitted on or adjacent to such sites, or require compensatory measures. Formal opportunities through the planning process or Wildlife and Countryside Act and other voluntary measures will be encouraged. The Local Biodiversity Action Plan will provide the ecological context for this work.

### **Policy 104 Nature Conservation in River Valleys**

The nature conservation interest of wetlands in the river valleys of the Gade, Bulbourne and Ver will be restored, maintained and enhanced by

- Controlling building and engineering works particularly within the flood plain;

- Safeguarding existing sites of nature conservation value from development pressure;
- Supporting initiatives to improve water quality in rivers and canals;
- Encouraging wetland habitat creation;
- Encouraging maintenance and improvement schemes with nature conservation in mind;
- Restoring culverted watercourses to a more natural state and discouraging new culverting proposals.

### **Policy 105 Lakes, Reservoirs and Ponds**

There will be a presumption against development which adversely affects nature conservation interest of any lake, reservoir, pond or other water body unless the development need outweighs the need for retention.

### **Policy 106 The Canalside Environment**

Development adjoining the Grand Union Canal will be expected to make a positive contribution to the canalside environment and have no adverse impact on its nature conservation interest.

### **Policy 116 Open Land in Towns and large Villages**

Open Land is a specific policy term applied within the urban areas of defined settlements and seeks to provide structural open land within the context of the plan and proposals maps.

Policy 116 relates to open land in towns and large villages, where there should be a presumption in favour of protecting existing open land and the open character of urban areas by applying the general provisions of Policy 9 (Land Use Division in Towns and Large Villages). Uses which include nature conservation will be encouraged. Any proposals to develop on other open land will be assessed on the contribution the land makes to, amongst other considerations, nature conservation.

## **5.4 Current Policy effectiveness**

It is considered that together, the existing policies outlined above provide a strong policy base for protecting most if not all of the ecological resources within the urban areas of Dacorum, and should consequently be retained. However, they do not take precedence in every situation, and there are considerable conflicting pressures which affect the weight given to biodiversity considerations and the outcome of planning decisions. Furthermore, policies do not ensure appropriate management takes place. However, with respect to development proposals, when combined with the maps of Wildlife Sites and other wildspace, there is a strong mechanism to secure essential ecological resources, mitigation, compensation and enhancement where possible.

## **5.5 Additional Policies or Policy modifications**

The Council is, however, advised to consider strengthening the planning policy framework with respect to biodiversity by taking account of the following:

### **Protected species**

Sites or locations supporting protected species or other rare species of acknowledged importance should be fully considered when determining planning applications and in the production of development plans. Development should not normally be permitted which would adversely affect, directly or indirectly, animal and plant species protected by law. Where development is permitted the developer should be required to secure the protection of such animals and plants.

### **Protected sites**

Impacts on protected sites should be minimised, and where unavoidable, mitigated and compensated for. Where development on land adjacent to sites with protected habitats or species is likely to have a negative impact, this should be fully considered and measures presented to demonstrate how biodiversity would be conserved. Adjacent sites can be used to increase the area of valuable habitat available.

### **Ecological Parks**

Where opportunities arise, ecological parks should be designed as functional habitats which reflect natural soils and hydrology and contribute to local landscape characteristics.

### **New development**

New development should be required to demonstrate its contribution to the green infrastructure hierarchy, integrating and establishing links with existing greenspace. Opportunities will be defined by the scale and form of development and its associated infrastructure, but should seek to create finer grain links to the larger network of sites or features. Such provision will need to adhere to principles of good urban design, and resolve the functional requirements of urban form, greenspace provision, habitat networks and ecological services. It should consider Greenway linkages, either woodland, wetland or grassland, based on existing landscape features or designed as new functional elements. Woodland greenways can incorporate pedestrian and cycle routes but must adhere to urban design principles in order to address safety issues. Wetland greenways can be designed as SUDS in order to provide ecological services, but will require management in order to maximise their habitat potential. Buffer strips associated with SUDS can be integrated with linear greenspaces in order to maximise their habitat potential.

### **Street trees**

Street trees can be used to create continuous habitats, making urban neighbourhoods more attractive and providing ecological services. Planning for street trees requires consideration of water requirements and the impact of buildings at maturity.

### **Doorstep spaces**

New development should consider communal 'doorstep' spaces or features of local significance to the development itself. These can create the potential for a mosaic of habitats providing different microclimate conditions, while networks of such spaces create opportunities for more continuous areas of habitat resource to be provided.

### **Greenspace Factor**

New development should demonstrate the extent to which habitat mosaics are incorporated into buildings and communal spaces. A scoring system, the 'Greenspace Factor', can encourage creative solutions which enhance the built environment (see Appendix 1). Hertfordshire County Council have also produced a 'Natural Security' guidance leaflet, promoting improved security of property boundaries with associated biodiversity benefits.

Development should not result in loss of open spaces which are valued for their biodiversity particularly in respect of areas that may also contribute towards:

- preventing coalescence of settlements;
- providing settings for historic or amenity features;
- providing an important visual element within the street scene;
- framing or enhancing important views;
- buffering between non-complementary uses;
- providing important environmental features;
- providing a well defined settlement / countryside edge;
- providing visual relief particularly with respect to ribbon development extending into the countryside.

Biodiversity found in these areas is frequently of great strategic importance ecologically, for example in providing corridors, networks and general resources of habitats at the local level. Consequently development should seek to be planned from an environmental perspective to ensure the aims of sustainability are achieved.

### **Green wedges and corridors**

Green wedges and wildlife corridors must be protected and enhanced. They are important in providing links between town and country and within urban areas themselves. They also help to support important sites or the finer-grained network of biodiversity features. Within these areas development should not be permitted where it would affect their wildlife value or their wider role. They can also serve to provide open character, visual amenity and recreation value.

Development within or adjacent to such features should be discouraged or, if permitted, required to make a positive contribution to them. In this context their habitat characteristics should be recognised and protected at the very least, as follows:

i). Woodland / tree belts. As a principle no built development should be closer than the canopy spread +1 metre in order to conserve the local landscape contribution and maintain the ecological function of the immediate open space

around the feature, particularly the reduction of impact upon root systems. Formal guidance can be found in 'British Standard 5837:2005 Trees in Relation to Construction', where details of determining Protected Areas and their implications are described.

ii). Hedgerows. Large or small scale features - the size of which partly reflects past management – should be protected by ensuring no development takes place within 1 metre of the canopy edge of the hedge. Where hedges contain trees, the guidance outlined within BS5837:2005 above should be followed.

iii). Grasslands. New development should be buffered by appropriate hedge planting where it would adjoin ecologically important open land.

iv). Wetlands. No development should be permitted which would have a negative impact on the natural hydrology of the area or feature concerned. For main rivers the Environment Agency's Land Drainage Consent zone of 8 metres should be protected. Standing water bodies should be protected by a zone of at least 5 metres in accordance with EA advice. Floodplains represent high value corridors and should be protected from development to ensure natural drainage patterns and flows remain uninterrupted. Adjacent development should ensure that sustainable urban drainage systems (SUDS) are fully implemented to minimise impact on the wetland.

### **Urban fringe development**

Any development in the urban fringe should include proposals for protecting existing features and for the positive enhancement of the landscape. Proposals for woodland planting in appropriate locations should normally be supported.

### **Access**

The local authority should actively pursue the establishment of a network of recreational footpaths (including disabled access) where these link green spaces to each other. Appropriate increase in overall accessibility of ecologically valuable land within or adjacent to urban areas is desirable with respect to the Accessible Natural Greenspace Standards, providing there are no adverse effects on the environment.

### **Transport infrastructure**

The design of new road schemes and the conservation of country lanes should ensure that:

- the design of the scheme respects its surroundings;
- there is no adverse effect on sites of nature conservation value;
- there is an integral landscape scheme.

### **Urban development**

In considering new houses or replacement houses in urban areas, the local authority should have regard to:

- the impact on the existing nature of the site and any contribution to urban biodiversity;
- the effect on the ecology of adjacent sites;

- minimising the environmental impact of development on green field sites.

### **Open Space**

The local authority should seek a general improvement in the ecological value of open space and wildlife habitats and bring forward schemes to increase the ecological interest of specific sites and features habitat creation, ecological landscape design and management techniques.

### **Community Involvement**

The local authority should give more encouragement to local communities, schools and voluntary groups to participate in the design, enhancement, management and interpretation of local wildlife sites and school nature areas.

### **Sustainable Development**

In delivering sustainable development the environment is one of the key guiding principles. Consequently, in addition to designing more environmentally friendly schemes, development should seek to ensure that there is no net loss or degradation of important biodiversity resources. Local features in themselves may be less important than the net contribution they make in supporting ecological processes to be sustained in any given area.

Loss of a local biodiversity resource may not be considered sufficient reason for refusal, but its overall contribution to ecological processes should still be considered. Consequently where development is otherwise acceptable, appropriate mitigation and / or compensation should be provided to replace or improve local biodiversity as a result. Furthermore, opportunities for achieving positive contributions to biodiversity should be considered through planning gain particularly in areas where there is a recognised deficiency of natural greenspace.

## **5.6 Dacorum-owned land and potential Local Nature Reserves**

Land within the council's ownership or control and which has an existing wildlife interest of high value should be considered for LNR designation. This would direct future management of such sites for both their wildlife and recreation / educational value, and increase the level of provision of formally recognised sites. Not all Wildlife Sites will be suitable given their private or sensitive management requirements, but all should be part of the critical baseline resource.

## **6. CONCLUSIONS**

1. The urban biodiversity of the six major settlements in Dacorum needs to be considered with respect to the nature of the ecological resources of the borough as a whole and their immediate hinterland. The ecological networks and processes that exist at the broad scale are important in helping sustain the habitats and wildlife within the urban areas, and are also important in providing additional resources that can be accessed by local communities.

2. The pattern of biodiversity resources within urban areas should be developed and maintained based upon the maps in Appendices 2 -7.

Within the detailed study areas, all known resources are identified. These include those with statutory and non-statutory designations as well as sites or features of more local importance, including Open Land designated within the Local Plan.

3. Sites of Special Scientific Interest, Local Nature Reserves and Wildlife Sites should be protected from adverse development appropriate to their status. The maintenance and enhancement of these assets will be encouraged through management. Ultimately these are the most intrinsically valuable wildlife resources and represent critical capital within the urban context.

4. Locally valuable 'Wildspace' areas should be protected, particularly where consistent with Open Land designated within the Local Plan. Management should seek to enhance their ecological interest. These sites provide the wildlife corridors, networks and stepping stones that help sustain ecological processes within the settlement. The remaining areas of designated Open Land are also important or potentially so in this respect.

5. Links to open countryside and other recognised sites of wildlife value should be protected and enhanced with appropriate management where possible. These help to sustain the ecological processes to and from the settlement itself, as wildlife does not stop at the edge of a settlement boundary.

6. New sites should be enhanced or created for their wildlife value where appropriate, especially where consistent with Open Land. These can help to offset areas of deficiency or improve public accessibility.

7. All opportunities for LNR designation should be explored and suitable sites designated to help towards meeting English Nature's target for their provision.

8. Finer grained wildlife support should be developed and maintained using the 'Greenspace Factor' principle and policies to protect and / or plant trees, hedgerows and other vegetation, which will contribute to the delivery of sustainable development.

9. The principles of sustainable development should be followed across the borough with respect to biodiversity resources, including opportunities to address deficiencies through planning gain.

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# APPENDIX 1

## GLOSSARY OF TERMS

### Accessible Natural Greenspace

Accessible natural greenspace is land, water or geological features which have been naturally colonised by plants or animals and which are accessible on foot to large numbers of people.

### Biodiversity Action Plan (BAP) for Dacorum

A Nature Conservation Strategy prepared for the Borough in Sept 2001. This Local BAP complemented the County BAP and identified a number of locally valuable sites in Berkhamsted, Hemel Hempstead, Kings Langley and Tring. There were mapped as Wildlife Sites, Other Natural Greenspaces and Formal Greenspaces. Within the DBC Urban Nature Conservation Study, such BAP sites not otherwise identified within the settlements as Wildlife Sites or Wildspace are shown for completeness and consistency, unless now considered entirely inappropriate.

### Biodiversity zone

Defined area (following ANGST (Accessible Natural Greenspace) principles) around Wildlife Site and larger Wildspace within which biodiversity is likely to be enhanced by virtue of the habitat resource present.

### Green Infrastructure

A network of multi-functional greenspace, both new and existing, providing a linked outdoor environment of habitats, public access areas, formal and informal recreational facilities, historic sites, woodlands and urban landscaping.

A Green Infrastructure Network is described as follows (TCPA 2004):

<b>Typology</b>	<b>Provision</b>	<b>Description</b>
Regional parks and community forests	500 ha, 10km	Large, linked urban fringe habitats with sustainable forestry potential
Park Greenspaces 1. Neighbourhood 2. District 3. Metropolitan	2 ha, 300km 20 ha, 1.2 km 60 ha, 3.2 km	Natural green space park hierarchy incorporating increasing areas of habitat
Ecology Parks – existing or designed Nature Reserves	At least 1 ha per 1000 population	Designed ecology parks and/or Local Nature Reserve provision embedded within greenspace hierarchy
Greenway linkages	Site specific	Linear habitats incorporating routes and waterways
Street tree canopy	80 trees/km road	Continuous canopy linking doorstep spaces to parks

Communal 'doorstep' spaces	At least 1 ha per 1000 population	Habitat mosaics within courtyards and pocket parks
Green buildings and private spaces	Site specific	Buildings and private spaces as habitats

### **Greenspace Factor (TCPA 2004)**

In Malmo, Sweden, a scoring system, the 'Greenspace Factor' was developed to generate creative biodiversity solutions within a new redevelopment area on reclaimed docklands. Each property developer was required to put in place measures to enhance biodiversity and manage rainwater. Every developer had to choose 10 out of 35 Green Points which included:

- At least 50 species of native herbs in the courtyard;
- All walls covered with climbing plants;
- All roofs are green roofs;
- A bird box for every flat;
- Food for birds all year round in the courtyard;
- Facades to have swallow [and swift] nesting facilities;
- Bat boxes in the courtyard;
- A habitat for specified insects in the courtyard;
- Courtyard vegetation selected to be nectar giving;
- A 1m wide pond for every 5 square metre sealed area in the courtyard;
- Courtyard amphibian habitats with space for hibernation;
- The whole courtyard to consist of semi-natural habitat features;
- A section of the courtyard to be left to natural succession.

Developers were also required to establish mechanisms for long-term management and maintenance. Overall this has resulted in a mosaic of habitats including green roofs and walls, wetland retention ponds and courtyard gardens.

**Natural Greenspace** – open space which is predominantly 'green' in character and which may support features of recognised ecological value. The intrinsic biodiversity value of any such area may vary.

**Open Land** – designated within the Local Plan to remain as structurally open within the identified settlement boundary.

### **Vision for the Rural-Urban Fringe**

Unlocking the Potential:

- A Bridge to the Country
- A Gateway to the Town
- A Health Centre
- A Classroom
- A Recycling Centre
- A Power Plant
- A Productive Landscape

- A Place to Live Sustainably
- An Engine for Regeneration
- A Nature Reserve
- A Heritage Resource

**Wildlife Site** – high ecological value of at least District importance.

**Wildspace** – site or feature considered to support some wildlife interest at a local level.

## **APPENDIX 2**

# **BERKHAMSTED**

### **1. SETTLEMENT and ENVIRONMENTAL CHARACTERISTICS**

#### **1.1 Location**

Berkhamsted is located within the Bulbourne Valley between Hemel Hempstead and Tring. The town has developed in a rather elongated fashion along the valley, essentially along the route of the transport corridors of Akeman Street, the Grand Union Canal and the London to Birmingham Railway. Indeed this corridor has a very profound influence on the movement east-west through the town given the open space that at least the railway and canal environments create. This is in contrast to movement north-south across the town, which by comparison is rather discontinuous.

#### **1.2 Topography**

The river valley of the Bulbourne created by cutting into the dip slope of the Chilterns is narrow at this point, with relatively steep slopes rising both sides of the town. One dry valley leads away north from the Bulbourne and at the confluence of both valleys the Normans built Berkhamsted Castle, probably at an important and defensible position.

#### **1.3 Historic perspective**

By 1766 Northchurch had extended as ribbon development north-west along the valley above the Bulbourne. The important semi-natural features at this time included the woodland complex east of Champneys on the western side of the valley and the floodplain pastures on the valley floor, as well as the rough acid grasslands and heathlands of Aldbury Common and the extensive Berkhamsted Common which topped the valley sides. Associated with Berkhamsted itself were Ashlyns Hall, a small but significant house and parkland to the south, whilst Berkhamsted Place and its parkland was a major feature immediately to the north. Leading to it from the castle is the dry valley which probably consisted largely of hillside pastures.

By 1822 little had changed apart from the creation of a medium sized parkland at Burdens. Another small park leading to Whitehill had also been established, following the track to the south end of Berkhamsted Common.

By the 1880s parkland had become established at Northchurch House, and the detailed mapping (1st Ed 6"–1 mile) showed abundant orchards both sides of the main Berkhamsted – Tring road. Berkhamsted itself also had abundant orchards either side of the High Street – indeed these were the most dominant forms of land use which characterised the road. Further

parkland had become established north of New Lodge at the eastern end of the town, whilst remnant features of previous parks remained. A new road had been developed leading from the castle towards the common – appropriately named New Road. There was still a fair amount of open ground associated with the Bulbourne which still remained a separate channel. By then the railway was present and probably created a barrier to obvious movement across the town itself.

#### **1.4 Residential area and urban character**

Berkhamsted has now grown extensively within the valley. There is now continuous urban development linking Northchurch to Berkhamsted and up the valley sides, although some open land helps break up the general mass of development. However there is no open space which provides any form of link across the town and there is little linked open space through the town other than the canal itself, now a rather artificial environment given the man-made character of the feature. Neither are there any open land wedges into the town from the surrounding open countryside which break up the edge of the settlement.

#### **1.5 Landscape character**

Five Landscape Character Areas directly adjoin the town (Map 2), as follows.

**Ashlyns and Wigginton Plateau (110).** This lies to the to the west and south, and is a gently undulating plateau of farmland and woodland. Open land is primarily pasture, and secondarily arable. The historic parklands are a profound feature, such as Ashlyns Hall, Haresfoot, Rossway and Champneys.

**Upper Bulbourne Valley (117)** to the north west. Contained within the distinct steep sided valley, remnant damp meadows and arable on the slopes border the road, railway and canal. Upper slopes to the south west have important ancient semi-natural woodland.

**Lower Bulbourne Valley (118)** to the south east. Contained within a continuation of the steep sided valley between Berkhamsted and Hemel Hempstead. Some grasslands persist in the valley with arable on the valley sides. Occasional ancient woodlands on top of the high ground.

**Berkhamsted Castle and Valleys (119)** are a small area of dry valley and plateau edge. Some remnant parkland features associated with Berkhamsted Place survive. While many of the lower slopes are grassland for grazing and recreational use, upper slopes are arable.

**Ashridge (121)** to the north is dominated by the Ashridge Estate, once an ancient deer park. Berkhamsted abuts this plateau area at Northchurch Common and Berkhamsted Common. A very large and diverse area but with a broad unity based upon its history, much is a Site of Special Scientific Interest (SSSI). There is ancient woodland and former wood pasture in places, but it is the open commons of neutral / acid grassland and acid

heathland which are the most prominent features with respect to the town, providing immediate links to the wooded areas beyond. Some areas are arable, otherwise grassland and woodland is used for recreational purposes.

## **1.6 Biodiversity Resources**

### **1.6.1 SSSIs, Wildlife Sites and Wildspace**

The biodiversity resources of Berkhamsted and its hinterland are shown on Map App.2.1. Additional sites highlighted within the Dacorum Biodiversity Action Plan are also highlighted.

Ashridge Commons and Woods SSSI is just within the town's hinterland, and there are a number of important Wildlife Sites in the area. Alpine Meadow SSSI has been shown on the map for point of reference, given that it represents a nationally important site habitat. The remainder of Northchurch and Berkhamsted Commons dominate the wildlife resource on the high ground to the north above the Bulbourne valley. South of the valley are the Rossway parkland and woodland, ancient woodland at Dickshill Wood, grasslands at Swags Spring, Shootersway, and acid grassland / woodland at Brickhill Green. Hockeridge Wood is a major woodland resource adjacent to the county boundary within Buckinghamshire. Long Green and Sandpit Green are woodland Wildlife Sites either side of the A41 to the eastern end of the town. Sections of the Iron Age boundary Grim's Ditch survive in places to the east and west of Berkhamsted and support semi-natural habitat. Rossway is also noted for supporting mature hedgerows.

Other important Wildlife sites include the 'meadow' by the Bulbourne at Northchurch and the Tunnel Fields grassland complex adjacent to New Road, the last surviving remnant of a much larger area. Two other Wildlife Sites are identified for their protected species – Berkhamsted Castle and the nearby Railway Embankment. Other than the latter, the town itself has no identified Wildlife Sites. Former orchards are scattered primarily along the lower valley sides reflecting the planting of fruit trees in the back gardens of houses. Some of these were probably associated with the former Lane's Nurseries within the town, remnants of which now only survive as occasional trees. Elsewhere within the town there are scattered amenity grasslands, school grounds or cemeteries which provide an existing and potential wildlife resource. In many areas to the south these support frequent tree cover which is important within the residential area. Woodland is limited to a small number of sites. Many of these features have been identified as 'Wildspace' on Map App2.1.

In general, south-west of the town there is a mixture of arable, species-poor semi-improved grassland, species-rich semi-improved grassland and amenity grassland. However it also needs to be remembered that the A41 also provides a significant barrier to continuous wildlife movement, and that the land locked between this and the town is the primary source of ecology for all but the most mobile of species.

To the north, open land is largely arable or improved grassland, with scattered small areas of woodland, tree belts or grassland. To the south and east it is largely arable, with few grasslands and trees belts.

Records of bats are scattered across the southern side of the town, both on the edge and within the urban area. Badger records along the A41 are frequent and they are also present within the town.

### **1.6.2 Wildlife corridors**

Wildlife corridors are shown on Map App.2.2. Apart from the canal and its immediate environs, there are no recognised major wildlife corridors of any size or continuity within the town. The canal and river Bulbourne provides the most obvious linear link through the town but heavy development either side has severely reduced its ecological integrity and opportunities. The Grand Union Canal extends beyond the settlement east and west and adds further ecological interest within the Bulbourne Valley, providing a continuous linear corridor for wildlife to and from more open countryside.

One of the most important links is from the river corridor, via Berkhamsted Castle to Berkhamsted Common, as the open grasslands and tree belts provide a large continuum of habitat linking the urban area to the common. The railway is, however, a feature inhibiting direct contact. Similar links exist at the other end of the town linking Northchurch Common to Berkhamsted, but here the connections are weaker given their smaller size.

Elsewhere smaller corridors largely of roadside tree belts and mature hedgerows provide distinct links through an otherwise urbanised area, although some of these provide locally valuable features along back garden boundaries, probably representing old hedgerows. The A41 embankments also provides a linear habitat corridor of importance along the southern side of the town.

## **2. PLANNING ISSUES**

### **2.1 Green Belt, Open Land and open spaces.**

The whole of the town of Berkhamsted is surrounded by designated Green Belt, although to the north east of Northchurch Farm the area of Northchurch Common and beyond into Ashridge is not. However, the majority of the land to the north and west of the town is also within the Area of Outstanding Natural Beauty, apart from a small number of parcels directly adjacent to the settlement itself.

Open Land within the Local Plan is shown on Map App.2.3. It consists of:

- i). Leisure spaces adjoining the Grand Union Canal close to the town centre, Canal Fields and The Moor;

- ii). Butts Meadow recreation ground, allotment gardens and playing fields of Berkhamsted Collegiate School – the largest single open area in the town;
- iii). Areas around New Road contributing to the setting of the canal and the River Bulbourne.

Other Open Land areas include Westfield School by the High Street, St.Thomas Moore and Greenway School, Langley Meadow near the valley floor, the cemetery by Three Close Lane and the three allotment gardens adjacent to the railway line.

Most open space is associated with leisure use in the form of formal sports facilities including playing fields, cemeteries and allotments. Such land has also been identified beyond the edges of the urban area.

## **2.2 Rights of Way**

There are relatively few Rights of Way to the south of the town as can be seen on Map App.2.3. Those that are present lead away from the valley bottom at right angles, climbing the valley sides onto the plateau. One is adjacent to the town boundary and leads to Long Green, while another goes from Butts Meadow to Brickhill Green. Several follow old trackways and green lanes leading up from the valley, such as Pea Lane and Bell Lane at Woodcock Hill.

To the north, important paths link Bridgewater Road to Northchurch Common and other areas of countryside between Cornerfield and Castle Hill Farm. A ROW leads from Berkhamsted Castle to Well Farm and Berkhamsted Common.

## **2.3 Population levels**

The settlement of Berkhamsted has a population of 16,240 (Ref. HCC, from 2001 census) with a further 129 at Berkhamsted Hill. It is divided into 4 Wards, the populations of which are in excess of the town itself as they extend beyond the settlement boundaries. These are Berkhamsted Castle 5,660, Berkhamsted East 5,388, Berkhamsted West 5,450, and Northchurch 2,661.

## **2.4 Future development sites**

Of the ten housing proposal sites scheduled for Berkhamsted, nine are within the settlement itself, although four are on the edge. Five of these areas have been identified as supporting areas of wildspace as at year 2000, although some of the remaining sites did not have any such interest. Two – H2 and H35 – are adjacent to the High Street and London Road respectively and currently contribute to wildlife along the middle of the town. H2 is particularly significant given its location adjacent to the canal.

## **2.5 Local Plan Policies**

Local Plan Policies 99, 100, 101, 102, 103, 104, 105, 106 and 116 are the principle policies which apply to the conservation of biological resources within Berkhamsted, and reflect the river valley character of the town. Summarised within the general introduction, their application is described in detail within the Recommendations section below.

## **3. URBAN BIODIVERSITY**

### **3.1 Provision of Local Nature Reserves.**

With respect to LNR extent, Berkhamsted ought to have approximately 16.2ha. By ward, this could be further identified as Castle - 5.7ha; East - 5.4ha; West – 5.5ha; Northchurch 2.7ha. The figures demonstrate the relative extents of high quality wildlife resource that should, if possible, be available within the urban areas.

Berkhamsted is totally deficient in this respect as there are no designated LNRs within or adjacent to the town. However, using Wildlife Sites as a basic resource of at least District ecological importance, Berkhamsted currently has 21.9ha of Wildlife Sites, namely:

- Berkhamsted Castle;
- Berkhamsted railway embankment;
- River Bulbourne Meadow;
- New Road allotments;
- Tunnel Fields (NB c.0.8ha proposed to be lost to development).

In this respect Berkhamsted has sufficient Wildlife Site resource which exceeds the ecologically valuable Greenspace provision target for the town. However, not all of these sites are accessible, and they all border the very northern edge of the settlement boundary. The southern areas of Berkhamsted have in effect a deficiency of ecologically valuable sites, although just beyond the settlement is Brickhill Green and a small private meadow near Shootersway.

It is important to ensure that every effort is made to protect and enhance the ecological interest of the Wildlife Sites associated with Berkhamsted. Although they are on the edge of the settlement, they are important for two principal reasons:

1. They provide a significant biodiversity resource that can be accessed from within the town itself and as such have a considerable influence on the ecology of the town.
2. They constitute an important reservoir of potential wildlife that can infiltrate into other urban areas either through networks of stepping stones of habitat or continuous Wildlife Corridors.

### **3.2 Accessibility**

Access to the major Wildlife Site resource is somewhat limited in general given their location on the northern edge of the town, and specifically given their nature. There is no access to the railway embankment, and limited access to the Castle. The allotments site is operated by Sunnyside Rural Trust, and a proportion of the remnant grassland of Tunnel Fields is proposed for development. Consequently the sites do not provide open access to ecology. However the adjacent commons are accessible and provide a large expanse of available amenity and wildlife space.

The southern side of the town has even less accessible wildlife areas and truly open countryside is cut off by the A41. This places emphasis on securing ecological gains where possible in this area of the town and its immediate environs.

With respect to biodiversity zones, Map App.2.4 shows Wildlife Sites and larger Wildspace areas with zones of 300m, reflecting the ANGST approach. This map also highlights areas of deficiency, and these are to be found on the south-west side of the town away from the canal corridor and wildspace areas towards Berkhamsted and Northchurch Commons.

### **3.3 Specific sites of local interest within the settlement**

There are a number of other sites of local wildlife interest recognised within the Dacorum Biodiversity Action Plan, and some are on the edge of the settlement:

- Birchnell Copse
- Canal and Railway field, New Road
- Castle Hill Woodland
- Cox Dell
- Darrs Lane fields
- Grand Union Canal
- New Road Plantation
- Northchurch cemetery and adjacent grassland
- River Bulbourne and associated wetlands
- Shootersway Green Lane
- Sunnyside Allotments
- Tunnel Fields remnants (Northbridge Road)
- Tunnel Fields Wood.

Some sites have been identified within the Dacorum Biodiversity Action Plan but which have not otherwise been identified as Wildlife Sites or Wildspace. These are also shown on Map App.2.1 for consistency, although some may be highly modified and of little biodiversity significance.

### **3.4 Open Land biodiversity**

Most if not all of the Open Land areas within the settlement are managed formally for amenity, as part of school grounds or sports pitches, allotments or as a cemetery. The other Open Land is the canal itself and immediately adjacent land. There may be considerable scope for ecological enhancement, although this would have to be considered with a view to the other land uses on those sites. The only semi-natural habitat resource not currently managed intensively is Cox Dell.

### **3.5 Other private or public open space biodiversity**

There is a reasonable extent of other 'Wildspace' of more local value within Berkhamsted. The canal and river corridor is enhanced by the railway, whose embankments support scrub and some open areas. Both features follow a similar line along the valley floor, and although a visual barrier do not present quite the same physical barrier to wildlife as the A41. Wildspace areas are also associated with land as yet undeveloped, brownfield sites, and garden habitats which support tree and shrub lines, many of which reflect older hedgerows. The latter is particularly prominent in the low density development areas of the Shootersway and Gravel Path areas of the town, and provide small corridors which penetrate into the urban area and school sites from open countryside. In places old orchard trees are known to survive in back gardens within the older parts of the town towards the High Street, probably associated with the historic Lane's nurseries which were present in this part of Berkhamsted.

### **3.6 Urban fringe sites and corridors**

Several general areas can be identified which are of importance in this respect, as shown on Map App.2.2:

- A41 embankments – provide a continuous habitat of relatively low quality but extensive and undisturbed;
- Ashlyns parkland;
- Brickhill Green Wildlife Site;
- Bulbeggars grasslands extending south-east along the river corridor;
- Castle Hill woodlands and grasslands;
- Dudswell /Cow Roast river valley grasslands extending north-west;
- New Road valley grasslands. These provide the only direct link to Berkhamsted Common, and consequently have significant potential of locally strategic importance;
- Norcott Court and adjacent lane – provide a link to Northchurch Common
- Woodcock Hill grasslands and woodlands.

## **4. MANAGEMENT ISSUES**

Management of biodiversity resources in Berkhamsted falls into four broad areas of responsibility:

i). Local authority / public land, including allotments. This also applies to some school sites and several of the other Open Land areas within and on the edge of the town. Current use will keep these areas open and there is considerable scope for enhancement or development of wildlife areas. This may, however, conflict with the existing uses or expectation of these sites.

ii). Farming or similar land management practices. Farming still plays an important role around Berkhamsted in helping to sustain open countryside. However most if not all of this is managed fairly intensively although there are a few open grasslands of Wildlife Site value within 1km of the town. Any meadows subject to intensive horse grazing are not particularly valuable for wildlife but may retain vestiges of botanical interest. There are activities such as motorbike scrambling, vehicle dumping and other activities which degrade the ecology and character of some areas. Sunnyside Rural Trust is a valuable local community group within the town that actively manages sites of local value and encourages an environmental approach to local food production.

iii). Private gardens. These can provide a valuable ecological resource depending on the history and density of development. Historic features such as old hedgerows and particularly orchard trees in Berkhamsted remain in some garden areas.

iv). Other land privately or publicly owned but which may or may not receive or necessarily require active management, i.e. roadside verges, old hedgerows and tree lines.

In general, the only recognisable wildlife corridor within the settlement is along the canal and Bulbourne. Although the A41 embankments to the south and the common land resource to the north provide a relatively secure ecological continuum, the river corridor itself also needs protecting and enhancing, particularly given its urban location and link role within the valley. This must be one of the key management objectives and associated sites need to be maintained and enhanced to achieve this.

There is a lack of ecological routes north-south across the town and the road and urban character of the High Street probably militates against trying to create one. To allow wildlife access to other urban areas towards the centre the best approach would be to secure ecological links radiating from the urban areas towards the most valuable ecological resources beyond the town. These will serve to support wildlife within Berkhamsted and ensure that there are corridors or stepping stones that allow the wildlife resources to be sustained. As such, existing open spaces and other features have been identified which will contribute to and support this process.

## **5. EDUCATION / COMMUNITY**

There is potential in generating a number of links in this respect, and opportunities for different types of project are given in the Introduction. The

Wildlife Site Open Land areas and other Wildspaces are resources that could be understood, valued and managed by the local community as appropriate.

## **6. CONCLUSIONS**

Berkhamsted is an historic town that has an important role in the ecology of the Bulbourne Valley. It is characterised by Berkhamsted and Northchurch commons above the northern side of the valley, and the River Bulbourne and Grand Union Canal in the valley bottom. A prominent dry valley leads up to Berkhamsted common from the historic castle, itself supporting locally important grasslands and protected species. Although the extent of associated Wildlife Sites exceeds the target for quality wildlife areas, in general Open Land within the town is relatively limited in extent and fragmented. Apart from the open river corridor which is very narrow in places, there are no other corridors or green wedges into the town and the southern side of the town is effectively deficient in wildlife areas. This places considerable importance on enhancing those Open Land areas where possible, and ensuring the network of Wildspace in gardens and other places is protected.

The range of biodiversity resources / functions and Open Land / open space designations that should be maintained / sought can be seen on Map App.2.5.

## **7. RECOMMENDATIONS**

### **7.1 Existing Local Plan Policies.**

#### **Policies 99, 100 and 101 Trees and woodlands etc.**

These relate to woodland, orchard, tree and hedgerow protection and management. They should be applied to many of the large and small scale sites and features in and around Berkhamsted where these provide valuable small scale wildlife habitat corridors and networks.

#### **Policy 102 Nature Conservation sites**

- All of the Wildlife Sites within or adjacent to the town will be taken into account when considering planning applications, with a view to their protection unless local need outweighs the relative value of the site.
- Other Wildlife sites within 1km of the village should also be protected in a similar way.
- There will also be a presumption in favour of protection of other Wildspaces where appropriate.

#### **Policy 103 Nature Conservation management**

Currently no known management resulting from development is taking place within Berkhamsted, although any such opportunities will be taken. It is,

however, proposed to translocate the grassland within the lower part of Tunnel Fields when this area of this site gets developed. Redevelopment of Housing and Employment sites identified within the current Local Plan are likely to benefit from nature conservation management agreements, although the extent of nature conservation gain may be limited.

Emphasis will still need to be placed upon compensatory measures to secure ecological gains where appropriate where developments are approved. This could include additional hedgerow planting to militate against the impact of new garden boundary hedgerow management or new woodland planting where suitable.

### **Policy 104 Nature Conservation in River Valleys**

This is a particularly relevant policy given the importance of the Open Land areas adjacent to the Bulbourne and Grand Union Canal. Much of the implementation for this will fall to the Environment Agency with respect to river maintenance, whilst the opportunities to influence the management of private open land within the floodplain may be limited. However, it is important to ensure that there remains a continuum of ecological resources through the valley corridor at this location, and opportunities taken to enhance the river.

In the event of redevelopment of Local Plan housing site H2 (Stag Lane), there is considerable potential to successfully restore the River Bulbourne to an above-ground flow and recreate something of its original course.

The open land habitat that has developed scrub at the end of Valley Road is also locally valuable in providing a semi-natural habitat directly associated with the Bulbourne in the middle of the town. This should be retained.

### **Policy 105 Lakes, Reservoirs and Ponds**

The most important wetland in this respect is the moat associated with Berkhamsted Castle, although this has suffered considerable dry periods in recent years. This is still important for great crested newts, although given their terrestrial lifestyle they can survive for years before returning to a previously dry pond in order to breed when it contains water. There are a small number of ponds scattered elsewhere within the open countryside areas around the town. The pond at Brickhill Green has been restored in recent years.

### **Policy 106 The Canalside Environment**

The built environment immediately adjoining both sides of the canal is relatively extensive, consisting of about 60% of the canalside environment. Opportunities for reducing this may be secured in the course of redevelopment of some of the housing and employment sites, as described within Policy 104 above. Any future development will be expected to make a positive contribution to the canalside environment. The relatively extensive urban environments also demonstrate the importance of retaining the soft

edges to the canal where they already exist and enhance their potential for wildlife where possible.

### **Policy 116 Open Land**

This relates to designated Open Land where uses such as nature conservation will be encouraged, as well as the contribution wildlife makes when considering development on other open land. This needs to be applied to the scattered resources on the southern valley sides as well as the canal corridor. Examples include Butts Meadow and The Moor areas.

### **7.2 Ecological Features**

The only significant urban ecological corridor is along the canal. Smaller scale features need to be considered such as the numerous smaller hedgerows, tree and shrub belts and other features that contribute to providing a network of wildlife resources within the town. These should be protected from adverse management where possible, along with those features that extend from the town and provide a direct connection to other Wildlife Sites and the wider countryside.

### **7.3 Dacorum-owned Land and potential Local Nature Reserves**

There are currently no Open Land areas within Berkhamsted that are suitable for LNR status other than Cox Dell. According to the Dacorum Borough Council Biodiversity Action Plan, this used to be managed as a nature reserve by the old Thomas Bourne school. Adjacent to the town, Bulbourne Meadow at Dudswell could be a most suitable site for LNR status given its nature and location, although it is not owned by a local authority.

### **7.4 Biodiversity Management Recommendations**

#### **7.4.1 Wildlife Sites also recognised as Open Land:**

There are no such sites within Berkhamsted.

#### **7.4.2 Other Wildlife Sites not included within Open Land.**

There is only one site in this category as the others are beyond the boundaries of the town. This is the railway embankment which supports lizards. Management should ensure that this does not scrub over and remove all the areas of open ground important for basking reptiles.

#### **7.4.3 Publicly accessible Open Land with local ecological interest.**

There are several areas with potential but many of these are managed for formal leisure use of some form. Attention should be given to enhancing the Butts Meadow area as well as The Moor, although this may conflict with their existing use. The allotments and cemeteries could also be enhanced where appropriate.

#### **7.4.4 Restricted access Open Land with potential ecological interest**

- Cox Dell requires investigation as to ownership, but there may be an opportunity to improve the habitat diversity on this relatively small site.
- There is considerable potential for wildlife areas in school grounds, particularly associated with habitat networks that link into other developed areas, notably around Shootersway.

#### **7.4.5 Other Open Land and open spaces with interest or potential.**

- Limited to grass verges and small play areas. Enhancement potential where appropriate.

#### **7.4.6 Private open spaces**

Seek to maintain and manage the back garden tree lines and wooded habitats where possible.

#### **7.4.7 Sites adjacent to or linkages from the town**

Wildlife Sites:

- Berkhamsted Castle. Ensure moat remains open and grassland – which is locally valuable in places – remains managed. In recent years the immediately adjacent grassland bordering New Road has not been grazed and is now becoming rank;
- Brickhill Green Wildlife Site. Managed by DBC – consider LNR status if appropriate;
- New Road allotments – continue management;
- River Bulbourne Meadow. Ensure site is not lost through continued scrub encroachment. Selective clearance required to ensure warblers are not lost. Investigate grassland management through grazing or cutting. Take action on low flows affecting the river in order to restore flow to the watercourse, even if only over winter and spring months;
- Shootersway grassland Wildlife Site. Secure appropriate management;
- Swags Spring grassland Wildlife Site. Secure appropriate management;
- Tunnel Fields. Ensure surviving open habitat is managed to retain calcareous grassland communities.

Wildspace of ecological interest or potential:

- A41 embankments – provide a continuous habitat of relatively low quality but extensive and undisturbed. Highways maintenance undertakes a mowing regime;
- Ashlyns parkland. The only extant parkland site in the immediate vicinity of Berkhamsted. Options for habitat enhancement require investigation;
- Bulbeggars grasslands extending south-east along the river corridor. Survey and assess management options;
- Dudswell /Cow Roast river valley grasslands extending north-west. Survey

- and assess management options;
- New Road valley grasslands. Perhaps the most important corridor from the town, providing a direct link to Berkhamsted Common. Their interest could be enhanced with appropriate management and wildlife improvement but only insofar as appropriate grazing is maintained.
  - Woodcock Hill grasslands and woodlands. Investigate potential for Enhancement.

Locally prominent hedgerows within open countryside will be subject to the Hedgerow Regulations Act.

## **8. MAPS AND DIAGRAMS**

Map App.2.1a Identified biodiversity resources, Berkhamsted and surrounds.

Map App.2.1b. Identified biodiversity resources, Berkhamsted (enlarged).

Map App.2.2 Principal existing biodiversity corridors

Map App.2.3 Open Land, open space and Rights of Way

Map App.2.4 Principal existing biodiversity zones and deficiency areas.

Map App.2.5 Principal biodiversity processes and planning.

## **APPENDIX 3**

### **BOVINGDON**

#### **1. SETTLEMENT and ENVIRONMENTAL CHARACTERISTICS**

##### **1.1 Location**

Bovingdon is located within a relatively undeveloped area between Berkhamsted to the north, Hemel Hempstead and Kings Langley to the east, Amersham and Chorleywood to the south and Chesham to the west. It is a very compact settlement rectilinear in shape influenced by the historic pattern of roads. Most of the village is residential in character with very little formal open space.

##### **1.2 Topography**

Bovingdon is situated on a large plateau area towards the southern end of the Chiltern dip slope. Some distance to the north the land drops away into the Bourne Valley, and to the east into the 'Box Lane' Valley, both of which merge into the Bulbourne Valley. Another dry valley closer to the town opens out into Rucklers Lane. Much further to the east lies the Gade Valley, to the south lie Hogpits Bottom and Flaunden Bottom which open into the Chess Valley, whilst to the west is Chesham Vale, one of the dry valleys that radiate from Chesham town. The underlying geology is of clay-with-flints which overlie the chalk, although locally peri-glacial brick-earth forms deep deposits. The clay soils are generally acidic or neutral and are relatively well drained, with some areas of local seasonal waterlogging. The clay supports perched water tables allowing the development of ponds.

##### **1.3 Historic perspective**

In 1766 the main part of the hamlet as it was then stretched along 'Bovington' Lane which linked to Chipperfield. Parallel to this was Bovington Green, where further houses were present along the road. Bovington Bury was a large house to the east, while Westbrook Hay was a large estate to the north east. By 1822 a similar situation prevailed, with the addition of a small parkland on the edge of the Green. By the 1880s little new development had occurred, although orchards were particularly prominent along the roads and attached to the farmsteads. The parkland around Bovington House remained by the Green. The area between the roads was still open fields and hedgerows. The church is set in the second largest churchyard in the county.

Several recent developments have had a considerable impact on the nature of the land use locally, namely Bovingdon Airfield, a second world war airfield established on the flat ground north west of the village, part of which is now The Mount Prison, and the brickworks to the south west. Large fields now

dominate the farmed landscape although pasture still survives around the village.

#### **1.4 Residential area and Urban character**

Bovingdon has developed in a grid-like fashion along four principal roads – Chesham Road, High Street, Green Lane and Hyde Lane. The residential area has been confined by Green Lane and the prison boundary and has expanded along the south eastern sides of Hempstead Road and Chesham Road. Some of the original field patterns survive as roads, but overall much of the development is relatively recent. Bovingdon has a rather sprawling character along the roads to the east and south, although this ribbon development is not included within the settlement boundary. Large areas of the central and southern areas of the village are of moderate to low density, but other sides have a much higher level of development density. A number of large, prestigious houses characterise the north-east fringes of the village.

#### **1.5 Landscape character**

Bovingdon is located entirely within the Landscape Character Area of the **Bovingdon and Chipperfield Plateau (107)**, as can be seen from Map 2. This gently undulating plateau supports a relatively mixed farming pattern, with fragmented areas of semi-natural woodland cover towards the edges of the area. Narrow, tree and hedge-lined lanes are a feature of the smaller roads through the area.

#### **1.6 Biodiversity Resources**

##### **1.6.1 SSSIs, Wildlife Sites and Wildspace**

The biodiversity resources of Bovingdon and its hinterland are shown on Map App.3.1 There are no Wildlife Sites within the urban area, and only a small number on the edge of the 1km buffer zone away from the town. The urban area itself is also relatively impoverished with respect to Wildspace, having retained few older semi-natural features within the quite recent development. However there were limited historic features in this area other than hedgerows and orchards.

Numerous Wildspace areas have been identified in the area. A significant feature beyond the village is the network of old hedgerows, especially south and east of Bovingdon. Typically mixed they include hazel, blackthorn, holly and hornbeam. Woodlands are a feature of the edges of the plateau, such as Coleshill, Strawberry and Great Woods to the north, and Scatterdells and Phasels Wood further to the east. Partly characterised by oak/hornbeam and beech, woodland has become established along the dry valley towards Sheethanger Common. A number of small copses occur to the east, also along the dry valley sides: on the chalk these are frequently dominated by ash, hazel and beech.

Unimproved grasslands are limited within the area, although some remain at Bulstrode, south-east and north-east of Bovingdon. Mostly these are dry neutral grasslands of moderate diversity, characterised by sweet vernal grass and common bent. A particularly important complex locally is the series of grasslands to the north between Bovingdon and Little Hay. The former Bovingdon brickworks site is of local ecological interest with a developing range of grasslands, scrub and ponds on former workings.

### **1.6.2 Wildlife corridors**

Wildlife corridors are shown on Map App.3.2. In general the pattern of Wildlife Sites and Wildspace does not immediately generate the identification of clear corridors, in the sense of linear features showing a high level of connectivity. The old brickworks site is an important site leading into the village from the south-west and there are a number of roadside and field hedges which also provide locally valuable links. Open space around The Mount provides a link around the north-west edge of the village, whilst the adjoining series of pastures and old green lane provide a significant connection to Little Hay and eventually Westbrook Hay to the north-east.

Within the village itself there is little biodiversity resource, although there is a prominent line of trees / mature hedgerow which provides a linear stepping stone which has been identified as a small corridor within the urban area.

## **2. PLANNING ISSUES**

### **2.1 Green Belt, Open Land and Open spaces**

All of the land beyond the recognised settlement area of Bovingdon is designated Green Belt. However, the settlement itself has deficiencies in both formal and informal leisure space, particularly the latter. Two contrasting areas on either side of Church Lane have been described in the Local Plan as forming a green wedge to open countryside and have been designated as Open Land as shown on Map App.3.3.

The school playing fields unofficially help to meet the need for informal play space in the centre of the village, and the adjoining bowling green contributes to the leisure space standard. There is a strong presumption in favour of their retention as Structural Open Land within the Local Plan, and given this they have a potential for biodiversity .

There is effectively little additional open space within the settlement, other than land associated with private property. Persuading private owners to conserve features or areas of local wildlife interests given the pressure for development and the value of land is a challenge.

## **2.2 Rights of Way**

As shown on Map App.3.3 there is only one Right of Way (ROW) within the town and several that emerge from its edges, although routes to the north-west across the airfield are, unsurprisingly, absent. Several areas of open space are recognised beyond the village, Bovingdon Green perhaps with the most biodiversity potential.

## **2.3 Population levels**

The settlement of Bovingdon has a population of 4,611 (HCC, from 2001 census) and is covered by one administrative Ward. The population of this ward itself is well in excess of the village as it extends some distance beyond the settlement boundaries and includes Chipperfield and Flaunden, more than doubling the total Bovingdon population.

## **2.4 Future development sites**

The current Local Plan identifies one small housing site bordering Green Lane. Although there is no specific ecological interest known from this site, its boundary features may be of value locally.

## **2.5 Local Plan Policies**

Local Plan Policies 99,100,101,103 and 116 are the principal policies which apply to the conservation of biological resources within Bovingdon. Summarised within the general introduction, their application is described in detail within the Recommendations section below.

# **3. URBAN BIODIVERSITY**

## **3.1 Provision of Local Nature Reserves.**

Bovingdon has no Local Nature Reserves, so on the basis of English Nature's accessible greenspace standard, the settlement is entirely deficient. Using Wildlife Sites as a basic resource of at least district ecological importance, Bovingdon ought to have a total of approximately 4.6ha of Wildlife Sites. There are no such sites within or adjacent to the village, and so in this respect Bovingdon is also entirely deficient.

There are also relatively few Wildlife Sites within 1km of Bovingdon. There is a field to the south east towards Bulstrode and three ancient woods to the north – Strawberry Wood, Coleshill Wood and Gorsefield / Ramacre Wood. The first two woods are almost entirely isolated, whilst there is only a tenuous link to the grassland Wildlife Site via sections of thin hedgerows.

Bovingdon as a whole is consequently deficient in the form of recognised Wildlife Sites.

### **3.2 Accessibility**

Given that there are no Wildlife Sites in or adjacent to Bovingdon, local accessibility to such sites is entirely absent. What other local ecological resources there are within the village itself are limited and generally within private ownership.

In terms of accessibility to open space land with some existing or potential ecological value, the churchyard has open access but the school playing field may be more limited. The football ground on the southern edge of the village has informal open access as well as Bovingdon Green, south west of Water Lane. The series of ecologically valuable grasslands to the north of Bovingdon are also bordered by footpaths.

With respect to biodiversity zones, Map App.3.4 shows Wildlife Sites and larger Wildspace areas with zones of 300m, reflecting the ANGST approach. This map also highlights areas of deficiency, and these are to be found within a western, central and south-eastern belt through the village.

### **3.3 Specific sites of local interest within the settlement**

The provision of almost any recognised site of even local biodiversity quality or potential within Bovingdon itself is lacking.

### **3.4 Open Land biodiversity**

The formal playing fields (owned by Dacorum Borough Council) and bowling green are unlikely to support anything of special interest, but the churchyard would merit a survey.

### **3.5 Other private or public open space biodiversity**

The biodiversity resource within Bovingdon is generally limited to nothing other than small scale features which act as stepping stones across the settlement. The most important of these are found within private gardens along the back of properties along Chesham Road.

### **3.6 Urban fringe sites and corridors**

There are small parcels of grassland and woodland which border the eastern and southern edges of the village and beyond. There is some information which suggests these are of local importance, and it is clear that surviving interconnecting hedgerows are valuable in maintaining a network of wildlife habitat. Most if not all of these areas are privately owned and not accessible, although they would merit further study.

Bovingdon Green is owned by Dacorum Borough Council. It is largely open grassland used for cricket and informal amenity leisure use. It does have some ecological interest although current management of regular mowing

limits its potential. The pond is regarded as an ancient feature and is also a valuable habitat.

Directly adjacent to the northern edge of Bovingdon is a series of long thin meadows which link to a series of relatively unimproved cattle pastures which in turn border Little Hay Golf Club, owned by Dacorum Borough Council. These hedgerows and grasslands are considered to be of high local value.

Bovingdon Airfield is very limited ecologically. The large open space may be of local value to hares, although there are also large open fields elsewhere around the Bovingdon area.

In many ways the most valuable local site is much of the worked-out Bovingdon Brickworks quarry, which are now subject to a low level restoration scheme and to be managed by the Boxmoor Trust. This lies beyond the settlement boundary but should represent a considerable resource for wildlife and the local community in future years. The area to be managed is around 20ha, which provides a site of substantial size.

Corridors are shown on Map App.3.2 and are relatively limited in extent, so there may be considerable opportunity for selective enhancement.

#### **4. MANAGEMENT ISSUES**

Management of biodiversity resources in Bovingdon falls into four broad areas:

i). Local authority / public land. This applies to the school sites and some of the remaining Open Land areas. The most significant of these is the churchyard, which could be improved with appropriate management. There are unlikely to be any strategically valuable areas within the village which would benefit from improved grassland management.

ii). Farming or similar land management practices. Farming still plays a vital role around Bovingdon in helping to sustain the open countryside and some of the grasslands of ecological value around the village, especially those towards Little Hay. Meadows subject to intensive horse grazing are not as valuable.

iii). Private gardens. They can provide a valuable ecological resource. Historic features such as tree lines and old hedgerows remain as boundaries to some gardens.

iv). Other land privately or publicly owned but which may or may not receive or necessarily require active management. These areas may be provided by roadside verges and old hedgerows.

## **5. EDUCATION / COMMUNITY**

There is some potential in generating a number of links in this respect although there are few sites to focus on within the village itself. Wildlife areas within the school grounds would be valuable in several respects. Perhaps the best opportunity will be when the former Bovingdon Brickworks becomes fully established as a site managed by the Boxmoor Trust. Whilst a very disturbed site, it contrasts to the surrounding landscape and open countryside. The developing wildlife of the site – and its history – could provide a useful local educational resource.

## **6. CONCLUSIONS**

Bovingdon has no local sites of high ecological interest within the boundary or adjacent to the settlement. The target for provision of quality biodiversity resource has not been met, and there is no prospect of achieving the target. The village is therefore highly deficient in accessible greenspace of wildlife value of almost any sort.

There are several sites and areas of importance beyond the edge of the village although the environmental context within which Bovingdon sits is of rather limited value. However the general proximity of open countryside to most areas of the village other than the northern edge is quite high.

This places great emphasis on the few sites of value that are present in the area – particularly the former brickworks site as well as Bovingdon Green and the meadows adjacent to Little Hay. The local wildspace features within the village provide a locally important - although limited - network of habitat resources.

There could be potential to create a new wildlife area on the edge of Bovingdon, although this would be dependant upon current ownership and management capability. If expansion of Bovingdon were ever proposed, a decision could be made to create such a site on the current edge which would then contribute to open space or form part of a corridor within a new settlement profile. In any event existing sites of value further away could still be managed to provide locally valuable wildlife areas.

The range of biodiversity resources / functions and Open Land / open space designations that should be maintained / sought can be seen together on Map App.3.5.

## **7. RECOMMENDATIONS**

### **7.1 Existing Local Plan Policies.**

#### **Policies 99, 100 and 101 Trees and woodlands etc.**

These relate to woodland, orchard, tree and hedgerow protection and management. They should be applied to many of the large and small scale sites and features in and around Bovingdon to secure what wildlife habitat corridors and networks do survive within the town.

#### **Policy 102 Nature Conservation sites**

- Wildlife Sites around Bovingdon will be taken into account when considering planning applications, with a view to their protection unless local need outweighs the relative value of the site.
- There will be a presumption in favour of protection of urban wildspaces where appropriate.

#### **Policy 103 Nature Conservation management**

At the present time, there is no known ecological management in the context of permitted development, other than the major restoration works associated with Bovingdon Brickworks that have been secured through Hertfordshire County Council as the Mineral Planning Authority.

In the context of small scale development, emphasis will be placed upon compensatory measures to secure ecological gains where appropriate. This could include additional hedgerow planting to militate against the impact of loss or poor garden boundary hedgerow management in future.

#### **Policy 116 Open Land**

This relates to designated Open Land where uses such as nature conservation will be encouraged, as well as the contribution wildlife makes when considering development on other open land. These areas are very limited in Bovingdon, but opportunities within the churchyard should be investigated.

### **7.2 Ecological Features**

Any features of local ecological interest should be protected from adverse management and enhanced where possible.

### **7.3 Dacorum-owned Land and potential Local Nature Reserves**

This relates to land within the council's ownership or control, but there is no opportunity for the establishment of LNR status at any site within the village.

Bovingdon Brickworks would be a potential site but it is not within local authority control, although it may be possible to establish a legal agreement that could suffice. It is recommended that the options for such recognition should be investigated given the limited extent of wildlife resource in the area and the appropriate management provided by the Boxmoor Trust.

#### **7.4 Biodiversity Management Recommendations**

##### **7.4.1 Wildlife Sites also recognised as Open Land:**

There are no such sites within Bovingdon.

##### **7.4.2 Other Wildlife Sites not included within Open Land.**

There are no such sites within Bovingdon.

##### **7.4.3 Publicly accessible Open Land with local ecological interest.**

There is no accessible Open Land with ecological interest within the settlement, although churchyard enhancement should be considered.

##### **7.4.4 Restricted access Open Land with potential ecological interest**

Investigate the establishment of wildlife site areas within the grounds of Bovingdon Infants and Mixed Junior School.

##### **7.4.5 Other Open Land and open spaces with interest or potential.**

There are no significant sites within Bovingdon.

##### **7.4.6 Private open spaces**

Seek to maintain and manage the back garden tree lines as appropriate within Bovingdon.

##### **7.4.7 Wildspace adjacent to or linkages from the village**

- Investigate the enhancement of Bovingdon Green through survey and appropriate management.
- Survey the meadows adjacent to Little Hay.
- Ensure continued progress at Bovingdon Brickworks achieves conservation and access benefits.

## **8. MAPS AND DIAGRAMS**

Map App.3.1. Biodiversity resources, Bovingdon and surrounds.

Map App.3.2 Principal existing biodiversity corridors

Map App.3.3 Open Land, open space and Rights of Way

Map App.3.4 Principal existing biodiversity zones and deficiency areas.

Map App.3.5 Principal biodiversity processes and planning.

## **APPENDIX 4**

# **HEMEL HEMPSTEAD**

### **1. SETTLEMENT and ENVIRONMENTAL CHARACTERISTICS**

#### **1.1 Location**

The New Town of Hemel Hempstead has developed around the confluence of the River Gade and the River Bulbourne, and has grown to include several formerly distinct historic settlements. It is one of the largest individual towns within Hertfordshire, and covers a wide range of topographies from river valleys to dry valleys cut into the dip slope of the Chilterns. To the west lies Berkhamsted, to the south Kings Langley and to the east Redbourn and St Albans. To the north up to Markyate and beyond is open countryside bordered by the M1 to the east.

#### **1.2 Topography**

The most distinctive features are the Gade Valley and the Bulbourne Valley, which meet at 'Two Waters' and continue south-east. There are several other major dry valleys which affect the landscape – at Sheethanger Common, Shrub Hill Common, Gadebridge, Woodhall Lane and Longdeans. These drop into or towards the river valleys but in many places their continuity is obscured by built development. Other valley sides remain open as parkland. Towards the east away from the rivers the high ground plateau is more uniform in character as the dip slope flattens out before dropping towards the Ver Valley.

#### **1.3 Historic perspective**

Hemel Hempstead is one of Hertfordshire's largest towns, slightly pre-dated by Stevenage as a New Town. There were numerous old, distinct settlements which have become amalgamated into the modern town. The old town grew up by Hertfordshire's most complete Norman parish church (St Mary's), on a ridge which is the present High Street and well above the meadows of the Gade. By 1766 this linked north to Picotts End, Two Waters, Green End, Crouch Field, Nash Mills, High Street Green and Leverstock Green. Rough grazing was confined to the river valley pastures – still characteristic of Boxmoor - and commons such as Sheethanger, Roughdown and Shrub Hill.

Large estates were present by 1822. These included Westbrook Hay, Gadebridge, Highfield, Bennets End, Shendish and Corner Hall. Regency and early Victorian villas sprang up along Marlowes with views of the distant Chilterns to the west, while terraces of this date line the Leighton Buzzard Road.

By the 1880s new parks included Counters End, Lockers Park and Grove Hill. The wealthier Edwardians developed large houses on the hillside by the railway and common at Two Waters. One of the most distinctive characteristics of Hemel Hempstead High Street and Leverstock Green at this time was the abundance of orchards, small and large respectively.

Although development of the New Town clearly had a major impact on the local environment, many of the former parklands, dry valley and valley sides have remained undeveloped, leaving an important network of open spaces throughout many areas of the town. This approach is similar to other new towns such as Stevenage, and is now a valuable asset to the town. The presence of the ancient Boxmoor lands is of profound importance and the open spaces and woodland left over from vanished estates, separate and add character to the undulating New Town 'neighbourhoods' of Chaulden End, Warner's End, Counter's End and Gadebridge with their fifties housing. Canalside cottages add a further dimension to the environment.

On the eastern side of the town Adeyfield and Bennett's End, also 1950's neighbourhoods, are much larger and lack the natural landscape advantages. The new housing is more standardised around Highfield and Cupid Green. The award winning Water Gardens perhaps reflect an era when it was fashionable to tame the environment in a new urban manner. At Apsley the large sheds of the waterside paper-mills have recently been removed and the area redeveloped for housing and slightly smaller sheds supplying various retail goods.

#### **1.4 Residential area and Urban character**

The urban area of Hemel Hempstead has extended into the high ground surrounding the river valleys, as well as the gently rolling land to the east. The existing urban - rural boundary is quite pronounced on all sides except perhaps the south western edge where it merges with Sheethanger Common, and the eastern side at Buncefield. In general residential areas dominate most of the town apart from the industrial area to the east, the town centre and the Two Waters and Apsley retail and industrial areas. Of the residential boundary with open countryside only about 25% is made up of low density dwellings. There is, therefore, for the most part a very hard urban - rural edge with high density development. This has a degrading effect on the open countryside and is something that any future development should seek to avoid.

Features such as key dry valleys and open ridge lines have been left largely undeveloped. Links with the open countryside have been created; open space and woodland provided buffers between industrial and residential areas and the main roads into the town are punctuated by open land and provided with 'green' entry points to emphasise the 'Garden City' aspect of the New Town. Open land, whether in the form of parks and leisure space or schools, has been located close to neighbourhood centres forming a community focus. Green chains are formed by footpaths and features such as the Nicky Line which have various types of open land adjoining them. The importance of open ridges, river valleys, corridors, chains and green wedges and

countryside links can be seen in the Open Land Strategy diagram within the Local Plan.

The open spaces described above provide a cohesive series of large green corridors and wedges on the western side of the town. Broadly these are Boxmoor, Shrubhill Common, Fields End, Gadebridge and Lockers Park. On the eastern side such large scale connected spaces are not characteristic and the large open spaces are more fragmented. Green wedges still exist, and although the links may be more tenuous, the open spaces are frequently interconnected. One of the most important of these is the disused railway line – the Nicky Line – which is a more or less continuous green chain through the town. At Two Waters, Boxmoor dominates the corridor until development squeezes the River Gade and the canal towards Nash Mills.

### **1.5 Landscape character**

The Chilterns Area of Outstanding Natural Beauty does not directly border Hemel Hempstead but lies just over a kilometre away to the north and west. The Landscape Character Areas that surround the town as shown on Map 2 can be summarised as follows:

The **Lower Bulbourne Valley (118)**, which lies between Berkhamsted and Roughdown, Hemel Hempstead. Set within the relatively steep sided valley – an important transport corridor for road, canal and rail. The slopes are frequently arable but grassland is now characteristic of Westbrook Hay and the ancient Boxmoor meadows. The underlying chalk is exposed on the valley sides, but overlain by clay-with-flints and superficial sands and gravels. The fluvo-glacial gravels of the valley floor display important ‘pingo’ features at Snooks Moor, which are recognised as a Regionally Important Geological Site.

**Little Heath Uplands (120)** encompass the countryside between and including Potten End and Hemel Hempstead. A gently undulating plateau, it gives rise to dry valleys that continue into the town. Arable and horse paddocks characterise land use, with some sheep. Former common land has developed secondary woodland. Chalk is exposed at the head of the valleys, otherwise the area is overlain by clay-with-flints. Little Heath Pit is a geological SSSI.

**High Gade Valley (123)** encompasses the whole of the River Gade Valley to the north-west, and near Hemel includes Piccotts End. Much of the valley sides are cultivated, although grassland exists as sheep and cattle pastures in the valley floor and horse paddocks near the town. Gadebridge Park is a prominent feature of the town, enhancing the river corridor with grassland.

**Gaddesden Row (124)** directly borders Hemel for a short distance, but is more generally associated with the settlements along the ancient trackway and the estates around Gaddesden Place and The Hoo. The geology is largely upper chalk overlain by clay-with-flints, land use is primarily arable with

scattered grassland. Scattered oak/beech/hornbeam woodlands are found, along with a locally characteristic network of old hedges.

**Revel End Plateau (95)** borders the northern edge of Hemel Hempstead. This is a high plateau area with a number of gentle dry valleys, one of which lies directly adjacent to the town while others drop into the Ver valley. Clay-with-flints overlies the chalk and the land use is largely arable, with some isolated scattered woodlands and ancient hedgerows.

The **Upper Ver Valley (96)** leads directly north-east away from the town along a broad dry valley to Redbourn. Generally of clay-with-flints overlying the chalk, the Hempstead Road link is characterised by a more or less continuous strip of horse pastures, while higher ground is arable.

**Buncefield Plateau (94)** borders all of the eastern side of the town. It is a gently undulating plateau of clay-with-flints overlying chalk which gives rise to dry valleys further to the east. Arable farming is dominant and there is little or no woodland. Horse pastures are scattered nearer the town edge and mature hedgerows are also a notable feature.

**St Stephen's Plateau (10)** lies directly south-east of the town and borders the urban area for a short distance. An undulating area of drift and clay-with-flints over the chalk, large woodland blocks between St Albans and Hemel along with remnant hedgerows. Largely arable with limited areas of grassland.

**Bedmond Plateau (9)** also adjoins a small section of the town to the south east. Another plateau, this is overlain by gravels, drift and clay-with-flints over the chalk. Arable and pasture with small blocks of woodland, with heads of dry valleys dropping into the Gade valley.

The **Upper Gade Valley (8)** borders the southern edge of Hemel Hempstead, where the Long Deans Nature Reserve is a prominent feature. The chalk is overlain by clay-with-flints and drift on the higher ground, and alluvial soils and gravels within the floodplain. Characterised by the river corridor, valley sides and dry valleys which lead away from the Gade itself. Sloping ground includes both arable and some areas of pasture, while woodlands are frequently linear and follow the lines of the smaller dry valleys. Hedges and tree lines are also present on the slopes and within the valley floor, following the river Gade and canal.

**Bovingdon and Chiperfield Plateau (107)** lies to the south west of the town. Consisting of clay-with-flints which overly the chalk, this gently undulating plateau supports a relatively mixed farming pattern, with fragmented areas of semi-natural woodland cover towards the edges of the area. Narrow, tree and hedge-lined lanes are a feature of the smaller roads through the area.

## **1.6 Biodiversity Resources**

### **1.6.1 SSSIs, Wildlife Sites and Wildspace**

The biodiversity resources of Hemel Hempstead as identified on Map App.4.1 are influenced by a range of topographic features and other areas of interest. They can be broadly outlined as follows:

- The river valley of the Bulbourne, which includes the Grand Union Canal and most of Boxmoor - wetland and neutral/marshy grassland interest;
- The river valley of the Gade, through Gadebridge Park to meet the Bulbourne at Two Waters and continues through Apsley - wetland and damp grassland interest, but highly modified within central Hemel Hempstead and urbanised at Apsley;
- The calcareous grasslands of the chalk river valley sides and dry valleys – the best examples include Roughdown Common SSSI, Sheethanger Common and Shrubhill Common LNR, Paradise Fields and Long Deans.
- Dip slope plateau grasslands on higher ground – surviving within open parkland or former estates, there are locally valuable sites such as Highfield House and Bunkers Park;
- Woodlands - scattered ancient semi-natural woodlands and secondary woodlands on former commons. Examples are Howe Grove and Shrubhill Common LNRs, and many of the small woodlands scattered throughout the town such as Widmore Wood, Maylands Wood and Warners End Wood;
- Man-made features – such as the disused railway line and numerous new road embankments and verges.

These are set within the context of the location of the town and the surrounding countryside as described within the Landscape Character section above. It is important that the strategic influence Hemel Hempstead has within the two Chiltern river valleys is recognised in order that any future changes to both town and country can be planned well ecologically.

### **1.6.2 Wildlife corridors**

Wildlife corridors have been identified on Map App.4.2. and are found throughout the town. The principle corridors are the Bulbourne Valley along Boxmoor and the Gade Valley, although the latter is degraded within the town centre itself. The disused 'Nicky Line' railway provides an almost continuous habitat from the centre of Hemel Hempstead to the north-east. Other more local corridors link the urban area to open countryside through Shrub Hill Common, Warners End Valley, Leverstock Green and Little Wood. An important corridor along the south-eastern edge of the town runs through Long Deans and Bunkers Park. Elsewhere individual sites can form a variety of possible corridors where they contribute to a linked chain or adjacent stepping stones, although in some places there is not a clear or planned pattern.

## **2. PLANNING ISSUES**

### **2.1 Green Belt, Open Land and open spaces.**

Almost all of Hemel Hempstead is surrounded by designated Green Belt. The exceptions are a small area north of Buncefield which is already in employment use, and a thin section of field south of the reservoir adjacent to the Nicky Line which is reserved for employment. Both of these areas lie within St Albans District, where the Green Belt area east of Hemel is also recognised as a Landscape Development Area. The Chilterns AONB boundary lies over a kilometre further north and west.

Given the legacy of planned development and the retention of open land areas within the town, there are a considerable number of designated Open Land areas within the Local Plan (Map App.4.3). The New Town was planned to provide for sufficient open space in numerical and distributional terms and much of this has survived to the present day.

Within the settlement many of the sites described in Section 1.6.1 are included as Open Land, although the resource is significantly increased by the number of school grounds and other leisure areas that have been identified in the local plan. There are, however, some locally significant omissions, such as Paradise Fields and the adjacent chalk pit, river corridor areas within the town centre. There are other private open spaces which are locally important – such as the existing convent site at Gravel Hill Terrace, a number of school sites and several small open spaces including allotments. There are also a number of existing open land areas with proposals for development as employment or housing land, such as North East Hemel Hempstead as well as the Manor Estate. There are no opportunities to compensate for the loss of these areas immediately adjacent to existing built development areas within the context of the town itself. Recent work to develop Bunkers Park and Westbrook Hay may be considered to have provided some compensation on the edges of the town and beyond.

### **2.2 Rights of Way**

There are a number of RoWs throughout the town as shown on Map App.4.3, but on such a large area their presence is not a good indicator of accessibility given the road systems and Open Land / open space areas that exist. There are RoWs adjacent to Woodhall Wood and within the Maylands employment area. There are a few paths at Leverstock Green, Bennetts End and Apsley. There are scattered paths within the central area of the town and across Boxmoor, Roughdown and Sheeethanger Commons. There is an ancient trackway adjacent to Shrubhill Common and a number of RoWs through Highfield and Grovehill.

There are, however, relatively few Rights of Way that link the town to open countryside beyond, although the areas to the north of Hemel Hempstead towards Gaddesden Row and to the south-west around Sheehanger Common are well served with RoWs.

## 2.3 Population levels

The settlement of Hemel Hempstead has a total population of 82,075 (HCC, 2001 census) which is covered by 15 administrative Wards. The population of all of the wards is a little over this figure (81,143) as the boundaries are largely consistent with the extent of the urban environment.

By Ward, population figures (DBC, 2001 census) are as follows:

Adeyfield East	5,491	Grove Hill	7,796
Adeyfield West	4,930	Hemel Hemp Central	4,865
Apsley	2,916	Highfield & St Pauls	7,269
Bennetts End	5,899	Leverstock Green	7,010
Boxmoor	5,495	Nash Mills	2,658
Chaulden and Shrubhill	5,135	Warners End	4,842
Corner Hall	5,935	Woodhall	5,661
Gadebridge	5,241		

## 2.4 Future development sites

Several housing proposal sites are within open land areas and other open spaces, and some of these will be considerably damaging to wildlife locally, such as the proposals for part of Paradise Fields. Most if not all of the other housing sites have areas of local ecological interest, including old hedgerows and trees.

There are also a number of proposed employment sites which will affect undeveloped land mainly within the area of North East Hemel Hempstead. This will impact upon local scrub and hedgerows.

## 2.5 Local Plan Policies

Local Plan Policies 99, 100, 101, 102, 103, 104, 105, 106 and 116 are the principal policies which apply to the conservation of biological resources within Hemel Hempstead. They reflect the river valley influences of the town. Summarised within the general introduction, their application is described in detail within the Recommendations section below.

# 3. URBAN BIODIVERSITY

## 3.1 Provision of Local Nature Reserves.

With respect to Local Nature Reserves, Hemel Hempstead ought to have a total of approximately 82.1ha which should, if possible, be available within the urban area. The town has two LNRs – Shrub Hill Common (10.8ha) and Howe Grove (8.5ha). This total of 19.3ha is therefore well below the target level, and in this respect the town is deficient to a large extent.

However, using Wildlife Sites as a basic resource of at least District ecological importance, Hemel Hempstead has 192.8ha of Wildlife Sites, namely:

- Abbots Hill School Meadow                      75/009      0.9ha
- Boxmoor Trout Fishery                            65/018      1.8ha
- Bury Wood    74/002      7.5ha
- Cress Beds, Durrants Hill                        66/003      3.4ha
- Disused railway line (Nicky Line)              66/015      6.0ha
- Grand Union Canal                                66/036      4.3ha
- Grasslands south of Roughdown                65/072      3.3ha
- Gravel Hill Spring                                65/038      1.8ha
- Harrisons Moor & Boxmoor                        65/004     58.0ha
- High Wood                                         54/009      2.0ha
- Holy Trinity Church, Leverstock Green        66/052      0.7ha
- Home Wood                                         66/029      1.4ha
- Howe Grove                                        66/001      8.5ha
- Long Deans Meadow                              66/008     15.7ha
- Long Deans Wood                                 66/009     12.0ha
- Maylands Wood                                  66/006      4.0ha
- Paradise Fields                                 66/013      3.4ha
- Rant Meadow / Bennetts End Pit                66/018      3.0ha
- Roughdown Common                              65/001     10.0ha
- Sheethanger Common                            65/002     24.0ha
- Shrub Hill Common                              65/003     10.8ha
- Warners End Wood                                65/031      4.6ha
- Widmore Wood                                  66/005      3.5ha
- Woodhall Wood                                 66/037      2.4ha

In terms of the Wildlife Sites listed above, most do have some form of public access. In terms of quantity it would appear that Hemel Hempstead exceeds the target of high quality wildlife resource. However nearly half of the sites constituting over half of the area are on the edge of the town. There are considerable parts of the the town which do not have any Wildlife Sites.

By Ward, within the urban area or adjacent to the urban area, Wildlife Site resource targets and approximate extents are as follows:

WARD	TARGET	EXTENT	SHORTFALL	SURPLUS
Adeyfield East	5.5ha	10.5ha		5.0ha
Adeyfield West	4.9ha	3.4ha	1.5ha	
Apsley	2.9ha	c48.1ha		45.2ha
Bennetts End	5.9ha	3.0ha	2.9ha	
Boxmoor	5.5ha	c32.6ha		27.1ha
Chaulden and Shrubhill	5.1ha	10.8ha		5.7ha
Corner Hall	5.9ha	-	5.9ha	
Gadebridge	5.2ha	4.6ha	0.6ha	

Grove Hill	7.8ha	2.4ha	5.4ha	
Hemel Hemp Central	4.9ha	-	4.9ha	
Highfield & St Pauls	7.3ha	11.5ha		4.2ha
Leverstock Green	7.0ha	0.7ha	6.3ha	
Nash Mills	2.7ha	28.6ha		25.9ha
Warners End	4.8ha	-	4.8ha	
Woodhall	5.7ha	2.0ha	3.7ha	
<b>TOTALS</b>	<b>81.1ha</b>	<b>158.2ha</b>	<b>(36.0ha)</b>	<b>(113.1ha)</b>

The above figures are only general indications, as areas of Wildlife Sites do not always coincide with Ward boundaries. Some sites are on the boundaries of Wards, and in this respect are also available as a resource to the adjacent Ward. However, the Table generally shows the relative significance of the Boxmoor Trust land within Apsley and Boxmoor, and the importance of the Long Deans complex at Nash Mills. It also shows some areas with no high value wildlife resource.

In any event it is important to ensure that every effort is made to protect and enhance the existing ecological interest of the Wildlife Sites associated with Hemel Hempstead. Although many are on the edges of the settlement, they are important for two principal reasons:

1. They provide a significant biodiversity resource that can be accessed from within the town itself and as such has a considerable influence on the ecology of the town.
2. They constitute an essential reservoir of potential wildlife that can infiltrate into other urban areas either through networks of stepping stones of habitat or continuous Wildlife Corridors.

### **3.2 Accessibility**

Access to the Wildlife Site resource is locally acceptable given that most of the sites do themselves have open access. With respect to biodiversity zones, Map App.4.4 shows Wildlife Sites and larger Wildspace areas each with zones of 300m, reflecting the ANGST approach. This map also highlights areas of deficiency, and these are to be found scattered throughout the town. However, whilst these reflect relative deficiencies of high biodiversity value, many of these areas have smaller Wildspaces and include Open Land which could potentially contribute to higher levels of biodiversity than it does at present.

### **3.3 Specific sites of local interest within the settlement**

There are numerous other sites of local wildlife interest recognised within the Dacorum Biodiversity Action Plan as shown below, within and on the edge of the settlement. The Dacorum Urban Nature Conservation Study has included

these on the basis of their local plan designation as Open Land or their identification as Wildspace.

- Barnacres Bank
- Barnard's Copse
- Bennetts End balancing tank
- Bunkers Park
- Cupid Green Lane meadow
- Fairacre Bank
- Fields End Green Lane & tree belt
- George Wood & hedgerow
- Georgewood Thicket
- Hatfield Dell
- High Street Green Wood
- Hill Common Wood
- Home Wood (Gadebridge)
- Howe Grove extension
- Hunting Gate Wood
- Lawn Lane Wood
- Little Wood
- Maylands Avenue Meadow
- Maylands tank and wood
- Maylands Avenue woodland belt
- North End Lane & hedgerow
- Old Fishery Lane cress beds
- Pratt's Dell
- Pulleys Lane Copse
- Redbourne Road Reservoir
- River Gade
- St Albans Road Wood
- St Albert the Great School and tree belt
- St Margaret's Bank
- Tewin Wood
- The Crofts
- Three Cherry Trees Lane Copse
- Turner's Spinney
- Westbrook Hay
- Woodhall Green Lane
- Yew Tree Wood

Some sites have been identified within the Dacorum Biodiversity Action Plan but which have not otherwise been identified as Wildlife Sites or Wildspace. These are also shown on Map App.4.1 for consistency, although some may be highly modified and of little biodiversity significance.

### **3.4 Open Land biodiversity**

Most if not all of the other open land areas within the settlement are managed formally for amenity, as part of school grounds or sports pitches, allotments or as a cemetery. One of the main areas of Open Land is the canal itself and immediately adjacent land. There may be considerable scope for ecological enhancement particularly in areas of deficiency, although this would have to be considered with a view to the other land uses on those sites. Some recent developments such as at Apsley Lock have limited the ecological potential for some stretches of the canal, placing emphasis on improvements where possible.

### **3.5 Other private or public open space biodiversity**

There is a reasonable extent of other 'Wildspace' of more local value within Hemel Hempstead. The canal and river corridor is enhanced by the railway, whose embankments and cuttings support scrub and some open areas. Both features follow a similar line along the valley floor, and although a visual barrier may not present such a physical barrier as the A41 to the south west of the town. Wildspace areas are also associated with land as yet undeveloped, such as at Paradise Fields, as well as some brownfield sites.

Garden habitats – particularly in some of the older or lower density developed areas such as within Boxmoor Ward - support tree and shrub belts, many of which reflect older hedgerows.

These provide locally important small habitat corridors and networks which penetrate into the urban area and school sites, enhancing the green wedges and green chains through the town which link to open countryside. There are scattered historic orchards mainly within the older central areas of the town and in places old orchard trees may survive in back gardens, especially towards the High Street.

### **3.6 Urban fringe sites and corridors**

Several important areas can be identified which are valuable in sustaining the ecological context of Hemel Hempstead.

- The Bulbourne Valley grasslands from Boxmoor to Bourne End and towards Berkhamsted;
- Gade Valley grasslands – Gadebridge Park, Piccotts End and towards Water End;
- Nicky Line link into open countryside towards Redbourn;
- Bunkers Park, Long Deans and Abbot's Hill complex;
- Westbrook Hay and Little Hay grasslands.

Smaller corridors and potential green corridors are found in numerous places around the edge of the town (Map App.4.2). In this context it is important to reinforce the existing wildlife corridors and green wedges into the town rather than isolate them. This would also help to break up the hard edge that exists in places. Examples can be found at:

- Land north of Shrub Hill Common, adjacent to the old 'Roman' road, retaining the historic field pattern - links to significant hedgerow features at Pouchen End Lane, Fields End Lane, Polehanger Lane and so to Gadebridge Open Land;
- Woodhall Farm border hedges and Holtsmore End Lane hedges;
- Cherry Tree Lane / Buncefield Lane / Punch Bowl Lane hedges;
- Bedmond Road hedges;
- Rucklers Lane scrub and hedgerows;
- Felden grasslands.

## **4. MANAGEMENT ISSUES**

Management of biodiversity resources in Hemel Hempstead falls into four broad areas of responsibility:

i). Local authority / public land, including allotments. This also applies to some school sites and several of the other Open Land areas within and on the edge of the town. Current use will keep these areas open and there is considerable

scope for enhancement or development of wildlife areas. This may, however, conflict with the existing uses or expectation of these sites.

ii). Farming or similar land management practices. Farming still plays an important role in places around Hemel Hempstead in helping to sustain open countryside. However most, if not all, of this is likely to be managed fairly intensively although the Boxmoor Trust has a locally significant influence which is not driven by high returns from agricultural practices.

There are a few open grasslands of Wildlife Site value within 1km of the town at least some of which are known to be grazed by livestock. Any meadows subject to intensive horse grazing are not particularly valuable for wildlife but may retain vestiges of botanical interest.

iii). Private gardens. They can provide a valuable ecological resource depending on the history and density of development. The Boxmoor / Counters End area of the town possibly has the highest density of such features. Similarly other older areas with larger gardens also retain remnants of former orchards.

iv). Other land privately or publicly owned but which may or may not receive or necessarily require active management. These areas may be provided by roadside verges, old hedgerows and tree lines. Some of the roadside verges of St Albans Road, Queensway, and the Redbourn Road are locally important in this respect, whilst there is significant potential in some of the other amenity grassland verges within the industrial areas.

Given the development of Hemel Hempstead there are several green wedges and wildlife corridors that can be identified and have been described above. In general these have tended to follow existing topographical features such as river valleys and dry valleys which are found in the southern and western sides of the town. The eastern half of the town on the higher plateau area does not have such pronounced topographical diversity and this has probably influenced the lack of similar, clearly defined open corridors or linked spaces. The Open Land strategy within the Local Plan identifies open spaces and linkages, such as at Adeyfield where High Street Green, Adeyfield School and Broadfield School provides a link through the developed area of the town. The disused railway line provides a particularly important interconnecting corridor in this area.

The principal ecological routes – corridors and chains through the town need conserving and enhancing. Priority has to reflect the most valuable sites known to exist at present, with options for enhancing other sites where possible. The existing open spaces and other features have been identified which will contribute to and support this process.

## **5. EDUCATION / COMMUNITY**

There is potential to generate a number of links; opportunities for different types of project are given in the Introduction. The Wildlife Site Open Land areas and other Wildspaces are local resources that could be understood, valued and managed by the local community as appropriate. As the largest town in the Borough, Hemel Hempstead is the focus for a number of groups. There is an active Environmental Forum, which although borough wide seems to attract many people from the town. Much of the work of the Nature Conservation Topic Group is soon to be run under the auspices of The Boxmoor Trust, which itself will be having an increasing role to play in environmental education, with a base and permanent staff available. There is a local friends group associated with Shrub Hill Common and an information pack has been prepared for Bunkers Park. Leaflets have also been prepared for the Hemel Hempstead Greenway (Nicky Line), Howe Grove and Shrub Hill Common. There are many schools in the town or on its edge which could provide a variety of opportunities to get involved in a range of activities. There are also a number of organised play centres associated with open areas such as at Long Chaulden and Rant Meadow.

## **6. CONCLUSIONS**

Hemel Hempstead is a New Town with an historic core. It has a critical role within the ecology of the Borough given that it lies at the confluence of the river valleys of both the Bulbourne and the Gade, two Chiltern chalk streams that have been severely modified in places and suffering from low flows. The quality of the river corridors through the town affects the wildlife resources both upstream and downstream of the town, and emphasis should be placed on enhancing their natural chalk stream characteristics. To the west are former watercress beds which also have a particular ecological character of value spring sources of clean water flowing over clear gravel beds. Appropriate management of these is also required if their wildlife value is to be retained. The Boxmoor Trust has an increasingly important role locally around Boxmoor in managing its estate, both ancient and modern, with respect to environmental considerations.

Several other valleys have cut into the dip slope of the chalk resulting in important calcareous grasslands, as well as more neutral grasslands where they survive on higher ground. Often these are situated within wildlife corridors which have remained undeveloped particularly in the western half of the town. The disused railway line remains one of the most important linking corridors in the eastern side, in addition to more scattered open spaces.

The designated Open Land areas have in fact secured the majority of these areas but many spaces will be managed formally for recreation or school grounds. Whilst the town is deficient in LNRs, it has more than twice the target level of Wildlife Sites. Although these are scattered throughout the town, there is a predominance of important sites towards the south-west, most if not all

now associated with the Boxmoor Trust. Substantial parts of the town do not have local access to a Wildlife Site as a result of the distribution.

It is important to secure the management of the better sites, in addition to enhancing these and other sites where possible. In the longer term it is essential that the existing corridors and wedges are secured and not truncated by inappropriate development. Links to open countryside and the nature of the townscape edges are also important. Their protection is vital when considering the form of any new development requirements. The existing network of other identified Wildspace in gardens and other places is also important to supplement the larger sites.

The range of biodiversity resources / functions and Open Land / open space designations that should be maintained / sought can be seen on Map App.4.5.

## **7. RECOMMENDATIONS**

### **7.1 Existing Local Plan Policies.**

#### **Policies 99, 100 and 101 Trees and woodlands etc.**

These relate to woodland, orchard, tree and hedgerow protection and management. They should be applied to many of the large and small scale sites and features in and around Hemel Hempstead where these provide valuable smaller scale wildlife habitat corridors and networks. Many of the woodlands within Hemel Hempstead are managed by Dacorum Borough Council who have prepared management plans for their sites.

#### **Policy 102 Nature Conservation sites**

- All of the Wildlife Sites within or adjacent to the town should be taken into account when considering planning applications, with a view to their protection unless local need outweighs the relative value of the site.
- Other Wildlife sites within 1km of the town should also be protected in a similar way.
- There should also be a presumption in favour of protection of other Wildspaces where appropriate.

#### **Policy 103 Nature Conservation management**

Currently no known management resulting from development is taking place within Hemel Hempstead, although there are some major proposals currently being considered, such as the Manor Estate and Paradise Fields. Every effort should be made to protect valuable ecological assets and enhance what remains through appropriate management, which is what has been proposed at the Manor Estate. A detailed management plan was prepared for Highfield House grounds which was found to support old grassland, and a translocation of chalk spoil and a calcareous plant community was undertaken from Stratford Way to Boxmoor Trust land. The success of both these schemes

has yet to be monitored. Future development on open land around the edges of the town must seek to secure strategically important open space and appropriate management.

Redevelopment of several Housing and Employment sites identified within the current Local Plan are likely to benefit from nature conservation management agreements, although the extent of nature conservation gain may be limited depending upon existing interest. Emphasis will still need to be placed upon compensatory measures to secure ecological gains where appropriate where developments are approved.

### **Policy 104 Nature Conservation in River Valleys**

This is a particularly relevant policy given the importance of the Open Land areas adjacent to the Bulbourne and Grand Union Canal. Ecological enhancement of the River Gade corridor within the centre of Hemel Hempstead is particularly relevant, particularly given the artificial nature of the Water Gardens and impact of waterfowl. Much of the implementation for this will fall to the Environment Agency with respect to river maintenance, although the opportunities to influence the management of open land within the floodplain may be limited given the amenity use. It nevertheless remains essential to ensure that there remains a continuum of ecological resources through the valleys wherever possible despite the urban character of the town.

### **Policy 105 Lakes, Reservoirs and Ponds**

There are several small ponds on the high ground areas of the town although they are lacking on the lower chalky soils. One of these within a school site is important for supporting great crested newts. Most other, larger water bodies are man-made reservoirs, storm water bunds or dammed ponds. Found more within the eastern side of the town, they should be protected and opportunities for assessment and appropriate management should be considered.

### **Policy 106 The Canalside Environment**

The built environment immediately adjoining both sides of the canal through Apsley is relatively extensive. Opportunities for improving the environment for wildlife may be secured in the course of re-development of some sites, as described within Policy 104 above. Any future development should be expected to make a positive contribution to the canal environment. This is particularly important where the River Gade and the Bulbourne merge into the canal which becomes the only water channel, and it may be possible in places to recreate soft banks to the Gade.

### **Policy 116 Open Land**

This relates to designated Open Land where uses such as nature conservation will be encouraged, as well as the contribution wildlife makes when considering development on other open land. This needs to be applied

rigorously to the current resource of such designated land in order to retain the benefits of the network of open spaces that have been secured to date.

## **7.2 Ecological Features**

In addition to features covered by the above policies, smaller scale features need to be considered such as the numerous smaller hedgerows, tree and shrub belts and other features that contribute to providing a network of wildlife resources within the town. These should be protected from adverse management where possible, along with those features that extend from the town and provide a direct connection to other Wildlife Sites and wider countryside.

## **7.3 Dacorum-owned Land and potential Local Nature Reserves**

There are currently two LNRs within Hemel Hempstead;

- Shrub Hill Common;
- Howe Grove.

The first is designated Open Land being within the settlement boundary, the second lies immediately adjacent to the boundary, although as such is still available as a resource to the town. Many of the other Wildlife Sites within the town or on or just beyond its edge are woodlands owned or managed by Dacorum. These include the following:

- Bury Wood (adjacent to Sheethanger Common);
- Dunster Copse near Woodhall Farm (Open Land);
- Gorsefield Wood, adjacent to Little Hay golf course;
- Gravel Hill Spring, Warners End Road (Open Land);
- Hanging Wood, adjacent to Little Hay golf course;
- High Wood, near Woodhall Farm (Open Land);
- Hunting Gate Wood, Grove Hill (Open Land);
- Little Wood, Bennetts End (Open Land);
- Maylands Wood, Maylands (Open Land);
- Nicky Line, disused railway line;
- Rant Meadow Wood, Bennetts End (Open Land);
- Warners End Wood and Home Wood, Gadebridge (partly Open Land);
- Widmore Wood, Maylands (Open Land);
- Woodhall Wood (adjacent to Astley Cooper School);
- Yew Tree Wood, near Cupid Green (Open Land);

Other than ongoing safety work or standard woodland management practices, there should be no conflict of interest between the aims of management of these sites for public amenity benefit and maintaining or improving their ecological interest. Consequently all of these sites could be considered for LNR status.

Open grassland sites are more of a challenge given the amenity use of such areas, particularly for organised sport. This means that the sites cannot be managed primarily for nature conservation, although whether parts of such sites could be designated requires further consideration.

## **7.4 Biodiversity Management Recommendations**

### **7.4.1 Wildlife Sites also recognised as Open Land:**

All of the above woodlands would also be considered under this category, and management plans already exist for these sites. In addition there some other Open Land sites, such as:

- St Albert the Great Wood;

### **7.4.2 Other Wildlife Sites not included within Open Land.**

Within the settlement the site in this category is Paradise Fields. This currently consists of three largely open grassland fields and a ruderal community area. The external fields are to be developed and further developments are still proposed for the middle two fields. This should still leave, however, significant areas of open land to retain some of the ecological interest currently present.

Wildlife Sites on the edge of the settlement (and so not Structural Open Land) are:

- Roughdown Common SSSI;
- Sheethanger Common;
- Boxmoor Meadows;
- Long Deans;
- Home Wood, Featherbed lane.

### **7.4.3 Publicly accessible Open Land with local ecological interest.**

Many of the open grassland areas would benefit from management to enhance their ecological interest. Principal Open Land grassland / parkland areas would include:

- Gadebridge;
- Grove Hill (Margaret Lloyd);
- Cupid Green;
- Woodwells;
- Bennetts End;
- St Albans Hill;
- Turners Hill to Woodhall Lane corridor;
- Randall Park;
- Northridge Park;
- Durrants Hill recreation area (Lawn Lane).

Many of the above sites are probably large enough to accommodate areas of enhanced grassland management that would benefit their wildlife value.

There are also numerous allotments and cemeteries throughout the town that could be enhanced where appropriate.

#### **7.4.4 Restricted access Open Land with potential ecological interest**

- Breakspear Balancing tank;
- School sites. Whilst these play an important role in maintaining Open Land at no conflict with their use, access is naturally restricted and opportunities for ecological enhancements are limited. Given their strategic contribution to corridors and chains, most if not all sites could benefit from having wildlife areas. Opportunities should be considered where possible.

#### **7.4.5 Other Open Land and open spaces with interest or potential.**

- Grove Hill recreation ground;
- Other grass verges and small play areas - enhancement potential in places.

All of these should be investigated with respect to grassland management improvements for wildlife.

#### **7.4.6 Private open spaces**

Seek to maintain and manage the back garden tree lines and wooded habitats where possible.

#### **7.4.7 Wildspace and other sites adjacent to or linkages from the town**

There are a number of other sites and areas with some local ecological interest on the edge of the town, such as:

- Abbott's Hill School;
- Bunkers Park;
- Felden grasslands;
- Gadebridge Park;
- Piccotts End grasslands
- Pouchen End Farm;
- Roughdown Common compensation land;

These are generally associated with the Bulbourne and Gade Valleys, ultimately the two most important corridors associated with Hemel Hempstead. To the north and east small corridors of hedgerows extend from the town and should be conserved. These are:

- Holtsmore End Lane;
- The Nicky Line;

- Punchbowl Lane;
- Bedmond Road.

These features should be protected and managed to retain or improve their role in ensuring that there are some continuous linkages from the urban areas of Hemel Hempstead into areas of surrounding open countryside. Locally prominent hedgerows within open countryside will be subject to the Hedgerow Regulations Act, but appropriate management of field margins would significantly enhance their value.

## **8. MAPS AND DIAGRAMS**

Map App.4.1a. Identified biodiversity resources, Hemel Hempstead and surrounds.

Map App.4.1b. Identified biodiversity resources Hemel Hempstead (settlement enlarged).

Map App.4.2 Principal existing biodiversity corridors

Map App.4.3 Open Land, open space and Rights of Way

Map App.4.4 Principal existing biodiversity zones and deficiency areas.

Map App.4.5 Principal biodiversity processes and planning.

## **APPENDIX 5**

### **KINGS LANGLEY**

#### **1. SETTLEMENT and ENVIRONMENTAL CHARACTERISTICS**

##### **1.1 Location**

Kings Langley lies within the Gade Valley between the southern end of Hemel Hempstead and the north-western corner of Abbots Langley. Much of the settlement has developed on the valley floor and on the western slopes towards the former Royal Palace. Ribbon development has taken place along the roads leading out of the valley, such as at Rucklers Lane and towards Bedmond.

##### **1.2 Topography**

The River Gade flows through a well defined and quite wide flat valley floor. Dry valleys extend to higher plateau areas eastwards towards the hamlet of Pimlico and west leading to the village of Chipperfield.

##### **1.3 Historic perspective**

Kings Langley has a long history, being the location for a royal palace where Eleanor of Aquitaine created numerous orchards. It was also the location for a medieval deer park, the earliest reference to which is 1276. By 1766 Kings Langley had developed only west of the Gade, directly within the valley floor which was generally rough grazing. The town was quite dispersed towards Langley Hill to the west, where further rough grazing land was present. By 1822 a similar picture remained, and even by the 1880's there had been little new development. Kings Langley Common was a prominent feature, as were orchards to the west. Langley Waterside was established east of the Gade, within the watermeadows adjacent to a mill. Much of the area in and around the village would have remained as arable or pasture.

##### **1.4 Residential area and Urban character**

Currently the urban area has infilled many of the smaller areas or former open land within the core area of the settlement, which now borders the Common and has spread on to the valley floor following the pattern of the original road system. However the current boundary has included significant areas of open land towards the edges of the village.

The main area of open land comprises Kings Langley Common, the cricket ground and junior school grounds on the upper western side of the Gade Valley. The Local Plan describes this area, together with Hill Farm and the

former priory site opposite, as forming a green wedge to open countryside to the west.

The Nap is the main area of informal open space east of the High Street and includes the bowling green. All Saints Churchyard includes an ornamental garden.

The final Open Land area consists mainly of 'islands' of scrub and grassland between the Grand Union Canal, its overflow channels and the River Gade between Mill Lane and Water Lane bridges. This area contributes to the character and environmental quality of the canal.

## **1.5 Landscape character**

As shown on Map 2, Kings Langley sits entirely within the **Upper Gade Valley (8)** character area. The river valley is well defined here, rising up from the quite wide and well defined flat valley floor to plateau areas either side. Clay-with-flints and drift is found on the higher ground and overlies the chalk, while alluvial soils and gravels are found within the floodplain. Several dry valleys lead away both east and west, perpendicular to the main Gade river valley. Sloping ground includes both arable and some areas of pasture, while woodlands are frequently linear and follow the lines of the smaller dry valleys. Hedges and tree lines are also present on the slopes and within the valley floor, following the course of the river Gade and canal. There are two separate waterbodies within the valley - one being Kings Langley Lake, a spring fed former gravel pit.

**Bedmond Plateau (9)** lies immediately to the east, and consists of undulating ground of gravels, drift and clay-with-flints over the chalk. Arable and pasture with small blocks of woodland, with heads of dry valleys dropping into the Gade valley.

To the west is the **Sarratt Plateau (7)**, a gently undulating area locally divided by steep-sided narrow chalk valleys such as at Whippendell Bottom. Plateau and river terrace drift overlie the chalk which is exposed on the valley sides. Pasture is frequent, largely used for horse grazing, while near Kings Langley woodland is limited. Ancient hedgerows are present along with more recent enclosure hedges, particularly within the former medieval deer park around Langley Lodge.

## **1.6 Biodiversity Resources**

### **1.6.1 SSSIs, Wildlife Sites and Wildspace**

The western side of Kings Langley is dominated by Kings Langley Common, the only wildlife site within the urban area itself (ref. Map App.5.1). In terms of adjacent Wildlife Sites, there is rather limited ecological interest immediately around Kings Langley. The River Gade / Grand Union Canal corridor is identified and near Barnes Lodge is a small grassland, while to the west, the Nucket and Scatterdells Wood are important. Kings Langley Lake is

recognised, along with grassland and woodland at Pimlico House and meadows at Bedmond. Wildspace is scattered within the village but larger areas have been identified within the river corridor, along Chipperfield Road and to the east towards Bedmond.

### **1.6.2 Wildlife corridors**

Wildlife corridors are identified on Map App.5.2. The principle corridor is the river corridor of the Gade / Grand Union Canal although other than the Common there are no other clear corridors which appear to exist within the village itself. Corridors leading away from Kings Langley are along Chipperfield Road and Toms Lane, although the latter is quite fragmented and is separated from the village by the railway. The embankments of the A41 provide another continuous corridor to the west although this by-passes the village.

## **2. PLANNING ISSUES**

### **2.1 Green Belt, Open Land and open spaces.**

Kings Langley village extends into within Three Rivers: this area is characterised by business / industrial use and some housing. There is a large area of Publicly Accessible Open Space as defined within Three Rivers District Local Plan between the Grand Union Canal and Primrose Hill. The settlement is set within the Green Belt.

There are four areas designated as Open Land as shown on Map App.5.3 – Kings Langley Common and the adjacent school, the open space between the High Street and Blackwell Road, the main churchyard and the Grand Union Canal wetlands. There are numerous small areas of open space scattered within the village, including at Havelock Road, Whitlars Drive and Langleys in the north, Archer Close, Beechfield and Great Park in the south. Adjacent to the settlement are further recognised open spaces, such as Kings Langley School and field, Water Lane and allotment gardens, Kings Langley Lake and Station Footpath and The Priory and Rudolf Steiner School.

### **2.2 Rights of Way**

Several ROWs cross the Common and border Kings Langley School and Barnes Lane. Another runs from the High Street and through the site of the Royal Palace to meet Chipperfield Road. The churchyard and Nap are also crossed by paths. There are several RoWs linking the village to open countryside although these do not link to many Wildlife Sites.

## **2.3 Population levels**

The population of Kings Langley (within Dacorum) is 4,942 (HCC 2001 census) and that of the ward just over 5,000, according to the 2001 census. There is relatively little development within the ward outside of the village.

## **2.4 Future development sites**

The current Local Plan identifies two small housing sites on the southern edge of the village. The larger one of these which borders the back gardens in Watford Road has been identified as an area of wildspace.

## **2.5 Local Plan Policies**

Local Plan Policies 99, 100, 101, 102, 103, 104, 105, 106 and 116 are the principal policies which apply to the conservation of biological resources within Kings Langley, reflecting the river valley nature of the village. Summarised within the general introduction, their application is described in detail within the Recommendations section below.

# **3. URBAN BIODIVERSITY**

## **3.1 Provision of Local Nature Reserves.**

On the basis of English Nature's accessible greenspace standard, Kings Langley has no Local Nature Reserves, so in this respect the settlement is entirely deficient.

However, using Wildlife Sites as a basic resource of at least District ecological importance, Kings Langley ought to have a total of 4.3ha of Wildlife Sites. Kings Langley Common lies within the urban village and is 11.9ha in area, although some of this has a formal sports use as a cricket pitch. This does not include the Grand Union Canal whose area extends beyond the settlement north and south, but which could be considered to add further area of Wildlife Site for the area included within the village. This constitutes a resource which exceeds the ecologically valuable Greenspace provision target for the village.

For the southern areas of Kings Langley away from the canal corridor there is a deficiency of ecologically valuable sites, but given the overall size of the Common in relation to the size of the village this cannot be considered a major problem.

It is important therefore to ensure that every effort is made to protect and enhance the ecological interest of Kings Langley Common as it is a major resource for the village. It is important for two principal reasons:

1. It provides a significant biodiversity resource that can be accessed from within the village itself and as such has a considerable influence on the ecology of the village.

2. It constitutes an important reservoir of potential wildlife that can infiltrate into other urban areas either through networks of stepping stones of habitat or continuous Wildlife Corridors.

There is relatively little other high quality wildlife resource within the general area. Other Wildlife Sites within 1km are:

In Dacorum:

- Scatterdells Wood 75/001
- Grassland, E of Barnes Lodge 75/028
- The Nucket 75/007
- Protected species site at Barnes Farm 75/026

In Three Rivers:

- Kings Langley Lake 75/010
- Pimlico House Meadow and Wood 75/019, 75/020
- Long Wood 75/011
- North Grove Wood 75/008

### **3.2 Accessibility**

Kings Langley Common is generally accessible from many areas of the village, whilst the Grand Union Canal corridor is also available to the eastern side of the village. The Nap and churchyard Open Land also provide an accessible resource on this side of the village.

With respect to biodiversity zones, Map App.5.4 shows Wildlife Sites and larger Wildspace areas each with zones of 300m, reflecting the ANGST approach. This shows the importance of Kings Langley Common and the river corridor to the village. The map highlights one small area of deficiency in the south-west corner, although this is also where a RoW leads out into open countryside which provides some compensation.

### **3.3 Specific sites of local interest within the settlement**

There are no recognised sites of known local wildlife interest within the village other than Kings Langley Common and the Wildspace identified as part of this study. However, there are a number of additional sites recognised within the Dacorum Biodiversity Action Plan – Rectory Farm, north of Kings Langley, and the playing fields off the High Street.

### **3.4 Open Land biodiversity**

Clearly the most important area of Open Land is the common, which now largely consists of secondary woodland, although grassland survives around the edges and the western side which is used as a cricket pitch. Kings

Langley Primary School provides a locally valuable additional biodiversity potential which enhances the common but also nearly links directly with wooded habitats and open countryside to the north. There is almost certainly locally high wildlife value within the area of 'islands' of scrub and grassland between the Grand Union Canal, its overflow channels and the River Gade between Mill Lane and Water Lane bridges.

### **3.5 Other private or public open space biodiversity**

There is a reasonable extent of other Wildspace of more local value both within Kings Langley and in the surrounding countryside, although its intrinsic ecological interest may vary. This largely consists of backland plots of large gardens which support tree lines and, in places, old orchard trees. These provide quite a good network of habitats within the built up areas with no open spaces.

### **3.6 Urban fringe sites and corridors**

The most important area on the edge of Kings Langley is the Grand Union Canal corridor. This includes the canal itself, but also Kings Langley Lake to the north and all of the area between the canal and the village edge to the south east. These are significant assets to the river Gade corridor as a whole which extends both north and south. The historic Priory site may be locally valuable with tree lines, hedgerows and grassland, whilst the gardens along Chipperfield Road represent an important resource leading into open countryside to the west although the A41 does present a barrier. To the north the very long back gardens of Coniston Road have developed a small block of effectively secondary woodland, whilst the habitats associated with Barnes Lodge are also likely to contribute to the Gade Valley as a whole.

## **4. MANAGEMENT ISSUES**

Management of biodiversity resources in Kings Langley falls into four broad areas of responsibility:

i). Local authority / public land, including allotments. This applies to the school sites and most of the remaining Open Land areas within and on the edge of the village, including the Common and associated woodland. Given their location next to the canal, it is important that the allotments remain open, although being outside the village boundary this area is recognised as Green Belt.

ii). Farming or similar land management practices. Farming still plays a vital role around Kings Langley in helping to sustain open countryside. However most if not all of this is likely to be managed fairly intensively although there are a few open grasslands of Wildlife Site value within 1km of the village. Any meadows subject to intensive horse grazing are not particularly valuable for wildlife but may retain vestiges of botanical interest.

iii). Private gardens. There are some valuable areas with ecological resources on the edges of the village, which also include historic features such as old hedgerows and orchard trees.

iv). Other land privately or publicly owned but which may or may not receive or necessarily require active management. These areas may be provided by roadside verges, old hedgerows and tree lines, as well as the area of Open Land by the canal.

## **5. EDUCATION / COMMUNITY**

There is potential in generating interest and awareness and opportunities for different types of project are given in the Introduction. The Wildlife Site Open Land of both the common and canal provides resources that could be understood, valued and managed by the local community. The three schools in the village could be more involved through using their own land.

## **6. CONCLUSIONS**

Kings Langley is an historic village that also plays quite a pivotal role in the ecology of the Gade Valley. It is dominated by the common on one side and the canal on the other, and several areas of more local interest or potential around the village. The urban area supports numerous other areas of local 'Wildspace' and private grounds. The river corridor includes two lakes and other areas of grassland which are important in retaining the integrity of the river and its adjacent habitats, all of which provide a series of valuable wildlife resources to the south of Hemel Hempstead.

The range of biodiversity resources / functions and Open Land /open space designations that should be maintained / sought can be seen together on Map App.5.5.

## **7. RECOMMENDATIONS**

### **7.1 Existing Local Plan Policies.**

#### **Policies 99, 100 and 101 Trees and woodlands etc.**

These relate to woodland, orchard, tree and hedgerow protection and management. They should be applied to many of the large and small scale sites and features in and around Kings Langley where these provide valuable wildlife habitat corridors and networks. The largest of these is the common, although significant woodland strips survive in private gardens and should be protected, such as along the Watford Road, Chipperfield Road and Coniston Road.

### **Policy 102 Nature Conservation sites**

- Kings Langley Common within the village will be taken into account when considering planning applications, with a view to its protection unless local need outweighs the relative value of the site. Given its Common Land registration, however, such development on this site is unlikely.
- Other Wildlife sites within 1km of the village should also be protected in a similar way, including those within Three Rivers District.
- There will also be a presumption in favour of protection of other wildspaces where appropriate.

### **Policy 103 Nature Conservation management**

Currently no known management resulting from development is taking place within Kings Langley, although any such opportunities will be taken. It is unlikely that sites of sufficient size are available within the village to achieve significant conservation gain as if approved, any reasonable development expectation could destroy that interest. If this is so, emphasis will be placed upon compensatory measures to secure ecological gains where appropriate where developments are approved. This could include additional hedgerow planting to militate against the impact of poor garden boundary hedgerow management, or new woodland planting where suitable.

### **Policy 104 Nature Conservation in River Valleys**

This is a particularly relevant policy given the importance of the open land areas adjacent to the Gade both north and south of Kings Langley. Much of the implementation for this will fall to the Environment Agency with respect to river maintenance, whilst the opportunities to influence the management of private open land within the floodplain may be limited. However it is important to ensure that there remains a continuum of ecological resources through the valley at this location given the position of the village on the edge of the District. In this respect it influences movement through the riverine environment both into and out of the Borough.

### **Policy 105 Lakes, Reservoirs and Ponds**

Both lakes within the Gade valley immediately north and south of Kings Langley should be secure under this policy.

### **Policy 106 The Canalside Environment**

Currently the built environment immediately adjoining the canal is relatively limited in linear extent and much remains undeveloped – a situation which should be retained as far as possible. However, if there is any future development it will be expected to make a positive contribution to the canalside environment. This should seek to retain and enhance the wildlife resources presently available.

## **Policy 116 Open Land**

This relates to designated Open Land where uses such as nature conservation will be encouraged, as well as the contribution wildlife makes when considering development on other open land. In Kings Langley the most important sites are the common and wetland habitats by the canal. Enhancement of the other two areas should also be considered where appropriate.

### **7.2 Ecological Features**

There is one main ecological corridor along the canal and a large green wedge into the village provided by the common. Although the size of Kings Langley means that open countryside is quite close, there are numerous smaller hedgerows, tree and shrub belts and other features of local ecological interest that contribute to providing a network of wildlife resources within the village. These should be protected from adverse management where possible, along with those features that extend from the village and provide a direct connection to other Wildlife Sites and wider countryside. The potential loss of such an area along Watford Road to housing (H43 within Local Plan) is of some concern and should be compensated for and enhance the wildlife resources presently available locally.

### **7.3 Dacorum-owned Land and potential Local Nature Reserves**

This relates to land within the council's ownership or control. If Kings Langley common is in public ownership or a suitable agreement can be made, then this site is an obvious candidate for LNR status. The lack of accessibility of the canalside Open Land site rules out this site for such status.

### **7.4 Biodiversity Management Recommendations**

#### **7.4.1 Wildlife Sites also recognised as Open Land:**

- Kings Langley Common. Secure enhanced woodland and grassland management as appropriate. There are no other sites within this category within the village.

#### **7.4.2 Other Wildlife Sites not included within Open Land.**

There are no such sites within Kings Langley.

#### **7.4.3 Publicly accessible Open Land with local ecological interest.**

Other accessible Open Land areas have no known ecological interest but it is likely that any wildlife value can be enhanced with appropriate management.

#### **7.4.4 Restricted access Open Land with potential ecological interest**

- The canalside environment between Mill Lane and Water Lane is perhaps additionally valuable given its relatively undisturbed nature.
- Considerable potential exists for wildlife areas in school grounds, particularly associated with the grasslands and hedgerows around the Rudolf Steiner School west of the village.

#### **7.4.5 Other Open Land and open spaces with interest or potential.**

- Limited to grass verges and small play areas - enhancement potential in places.

#### **7.4.6 Private open spaces**

Seek to maintain and manage the back garden tree lines and wooded habitats where possible, and especially along Watford Road, Chipperfield Road and Coniston Road.

#### **7.4.7 Wildspace and other sites adjacent to or linkages from the village**

All of the sites associated with the Gade Valley – both lakes, the allotments, designated Open Land and other open space grasslands, scrub and woodland should be protected and managed. This applies to those resources within Three Rivers District Council, as these are also an asset to Kings Langley, and includes the large area of Publicly Accessible Open Space between the Grand Union Canal and Primrose Hill.

The corridor of trees extending west along Chipperfield Road is important in that it helps to link Kings Langley common to open countryside. It is essential that the common is not further isolated by any form of future development from open countryside to the west. Already there is now no direct link, any potential developments must ensure that what linkage is currently present is maintained or enhanced.

Locally prominent hedgerows within open countryside will be subject to the Hedgerow Regulations Act.

## **8. MAPS AND DIAGRAMS**

Map App.5.1. Identified biodiversity resources, Kings Langley and surrounds.

Map App.5.2 Principal existing biodiversity corridors

Map App.5.3 Open Land, open space and Rights of Way

Map App.5.4 Principal existing biodiversity zones and deficiency areas.

Map App.5.5 Principal biodiversity processes and planning.

## **APPENDIX 6**

# **MARKYATE**

### **1. SETTLEMENT and ENVIRONMENTAL CHARACTERISTICS**

#### **1.1 Location**

Markyate is a small village directly on the line of the ancient Watling Street near the source of the River Ver. It lies within open countryside to the south of the Luton and Dunstable conurbation.

#### **1.2 Topography**

Markyate lies at the convergence of two well defined valleys at the head of the River Ver, on the dip slope of the chalk. The Ver originally flowed through Markyate Cell to rise on the edge of Kensworth Common. To the north-west there are two dry valleys which lead towards the scarp slope of the chalk at Whipsnade and Dunstable Downs.

#### **1.3 Historic perspective**

In 1766 Markyate was a linear settlement having developed along Watling Street as a coaching stop. Markyate (Marget) Cell existed to the north east of the village probably as a small parkland which included a small lake, whilst the river valley itself included rough grazing pastures. To the east of the town lay a large area of grassland Caddington Common, whilst to the west was Cheverells Green. By 1822 the Markyate Cell parkland was well defined with the Ver flowing through the lower ground, while the village appears still small and well dispersed. By 1880, 'Markyatestreet' seemed more consolidated as ribbon development, with many small orchards within the back gardens of the properties. Cheverells Green and 'Markyatecell' Park – with the River Ver - were still prominent features, although only small scattered remnants survived of Caddington Common.

#### **1.4 Residential area and Urban character**

The modern area of Markyate has increased a little, particularly with respect to development towards the higher ground at Cheverells Green to the south west, and to the south east along the river valley. There has been almost no development north-east of the A5, and Markyate Cell remains a prominent area of parkland to the north.

The historic core of Markyate along Watling Street is characterised by a range of small properties and adjacent garden plots, which extend along small roads largely to the south-west of the High Street. These areas are generally at a high density. Medium density development is found to the more recent

estates to the south-east. The lowest density developments generally extend the town to the west and lead on to Cheverell's Green where there are large houses with large gardens. There seems to be little obvious influence to the way the urban area has evolved other than the presence of the river valley and Watling Street, common land and Markyate Cell. Partly because of this there is very little open land within the village.

## **1.5 Landscape character**

Markyate lies entirely within the **Markyate Ridges and Valleys (126)** character area, as shown on Map 2. This is a large area of plateau and valleys running north west – south east on the dip slope of the chalk. The upland areas are largely overlain by clay-with-flints, while in the valleys are variable deposits of alluvium and fluvo-glacial gravels. The Ver remains a typical chalk stream, supplemented by valley springs and whose original source at what is now Kensworth Lynch has reappeared in recent years – possibly due to the reduction / cessation of pumping at Friars Wash. The area is predominantly mixed arable with scattered pockets of pasture with some common land, scattered woodland and parkland.

The Landscape Character Area of the **Beechwood Estate (125)** lies just over 1km to the south west, and is largely influenced by the Beechwood Park Estate, including former parkland and estate farms. The parkland remains largely of grazing pasture with mature parkland trees, whilst there are large woodland blocks to the north and west.

## **1.6 Biodiversity Resources**

### **1.6.1 SSSIs, Wildlife Sites and Wildspace**

The biodiversity resources of Markyate and its hinterland as shown on Map App.6.1. There are no known sites of recognised ecological value within the settlement itself, although Markyate is a relatively small village. Cheverell's Green, a Wildlife Site largely because of its unimproved grassland, lies on the very western edge of the village. Scattered ancient woods are found within the area but only a few shelterbelts are present close to the town beyond Markyate Cell and Cheverell's Green. Broomhill Leys Wood is a Wildlife Site to the east, as is Friendless Wood to the south and a thin strip of woodland to the west. Close to Dedmansey and Fareless Wood, it may have been the ancient boundary to Kensworth Common and marks the county boundary today. Within the Ver valley most if not all of the meadows have been ploughed and there remains little associated semi-natural habitat.

### **1.6.2 Wildlife corridors**

Wildlife corridors have been identified on Map App.6.2. The principle corridors are found along the river valley of the Ver, although this has been considerably degraded in places, and the line of continuous habitats along Cheverell's Green. Another significant corridor leads away to the north-east through Markyate Cell. There are no significant corridors through the urban

area, although there are a number of small tree belts which extend into the settlement from the edge of the village and these would be locally important as small corridors.

## **2. PLANNING ISSUES**

### **2.1 Green Belt, Open Land and open spaces.**

Markyate is surrounded to the north-east and south-east by Green Belt land, which to the south also lies within the Area of Outstanding Natural Beauty. To the north and west the area is outside of the Green Belt but is all designated AONB except for the school and playing field parcels of land. Markyate Cell is recognised as a park of Special Historic Interest. There are three designated Open Land areas within the settlement as shown on Map App.6.3. - by the Village Hall on the northern edge, a thin strip along Pickford Road and by the playground on the southern edge. All other open space areas identified in the Local Plan are adjacent to the settlement area, being Markyate JMI School, the Village Hall playing field and allotments.

### **2.2 Rights of Way**

Several footpaths emanate from the village. Those to the south-east and north-west are adjacent to the Open Land / open space areas within the village, whilst all others extend into open countryside. Therefore access to biodiversity within the countryside around Markyate, while not extensive, is certainly available on all sides of the village.

### **2.3 Population levels**

The settlement of Markyate has a total population of 2,748 (HCC 2001 census). It lies within Watling Ward which has a population of 5,273, so nearly half of this ward's population live outside the main village.

### **2.4 Future development sites**

The current Local Plan identifies housing sites within Markyate. Some of these do have local ecological interest and provide a resource of edge habitats within the village, such as back gardens and open grasslands. Their development would result in a potential loss to the biodiversity of the village. Other development sites are small and within the more urban area of Markyate, and are not likely to have any significant ecological impact.

### **2.5 Local Plan Policies**

Local Plan Policies 99, 100, 101, 102, 103, 104 and 116 are the principal policies which apply to the conservation of biological resources within Markyate. Summarised within the general introduction, their application is described in detail within the Recommendations section below.

### **3. URBAN BIODIVERSITY**

#### **3.1 Provision of Local Nature Reserves.**

On the basis of English Nature's accessible greenspace standard, Markyate has no Local Nature Reserves, so in this respect the settlement is entirely deficient. However, using Wildlife Sites as a basic resource of at least district ecological importance, Markyate ought to have a total of approximately 2.9ha of Wildlife Sites. There are no Wildlife Sites within the settlement itself, but there is an adjacent site of known high value, Cheverell's Green, which is 5.0ha. Although this constitutes a resource which exceeds the ecologically valuable Greenspace provision target for the village, given its location the settlement itself is deficient in Wildlife Sites.

Clearly, however, it is essential that every effort is made to protect and enhance the ecological interest of Cheverell's Green as it is a major resource for the village. It is important for two principal reasons:

1. It provides a significant biodiversity resource that can be accessed or viewed from the town itself, and as such can be considered to serve the town.
2. It constitutes an important reservoir of potential wildlife that can infiltrate into the urban area either through networks of stepping stones of habitat or continuous Wildlife Corridors, although these are rather limited in extent.

Furthermore, there is relatively little other high quality wildlife resource within the general area. Other Wildlife Sites within 1km are Fairless Wood, Broomhill Leys Wood and Friendless Wood, although these are connected to the edge of the village by hedgerows or roadside verges and the latter two have public footpaths either adjacent or through them.

#### **3.2 Accessibility**

With respect to biodiversity zones, Map App.6.4 shows Wildlife Sites and larger Wildspace areas each with zones of 300m, reflecting the ANGST approach. This map also highlights areas of deficiency, and these are to be found in a small area to the west of the village and the south-eastern end along the Ver Valley. However, Cheverell's Green is effectively inaccessible from most of the settlement being at the very western extremity of the village. The remaining biodiversity zones surround Wildspace where the ecological interest may not be so high.

Within the urban context this perhaps places greater emphasis on enhancing Wildspace sites to improve their wildlife value and provide more accessible sites to other areas of the village. Other than Open Land sites – and not even all of the open land strategy sites have open access, such as the school grounds - this may be limited given that most are in private ownership. It also places some emphasis on the potential for other habitat resources enclosed within garden areas throughout and beyond the village, and the recognition of hedgerows adjacent to footpaths is of significance in this respect.

### **3.3 Specific sites of local interest within the settlement**

There are no recognised sites of known local wildlife interest within the village. The village has developed without leaving any sizeable areas of open space, irrespective of any wildlife value they may have had.

### **3.4 Open Land biodiversity**

There are only three areas of designated Open Land areas within Markyate (Map App.6.3), none of which have any recognised biodiversity interest. These are:

- A continuation of Cheverell's Green in front of residential properties – this wooded verge extends some way along Pickford Road, although it only represents a small contribution to the village environment.
- Village Hall - open ground adjacent to the hall used as a children's playground. This would appear to provide limited opportunities for biodiversity.
- 'Peggy's Field ' at the back of George Street on the edge of the village, which meets leisure space needs - opportunities for biodiversity enhancement in the form of hedgerow or edge management. Their current management and use may be inappropriate to provide a grassland wildlife resource of any significance.

### **3.5 Other private or public open space biodiversity**

There is a considerable extent of other 'Wildspace' of more local value, although the intrinsic ecological interest may be limited. The most important of these is Markyate Cell. Although the pasture is largely improved, the site, with the small lake and River Ver in the valley bottom, along with the wood pasture character, make the site locally valuable in general. Other woodland and grasslands are present to the north-east of Markyate, but in these cases the A5 Watling Street provides a physical barrier to wildlife movement.

Local Wildspace within the village is limited to a number of hedgerows and tree lines, while grasslands of some interest are present to the north and south of the village along the Ver valley and adjacent to Cheverell's Green.

Some small areas of open amenity space within the settlement – such as Roman Way, Long Meadow and Sebright Road - do not meet designated Open Land criteria but have, nevertheless, been identified as open areas of Wildspace on the basis of the presence of a small habitat resource.

Elsewhere, numerous groups of trees and shrubs provide a network of habitats resource scattered within and on the edge of residential areas where they border open countryside to the south and west, where they can be strategically valuable.

Adjacent to the settlement further open space uses have been identified at

- Markyate JMI school;
- Football and cricket clubs;
- Cemetery;
- Allotments.

All of these have some biodiversity potential, but that needs to be considered against the existing uses.

### **3.6 Urban fringe corridors**

There is a considerable extent of other 'Wildspace' of more local value, although the intrinsic ecological interest may be limited. The most important of these is Markyate Cell. Although the pasture is largely improved, the site, with the small lake and River Ver in the valley bottom, along with the wood pasture character, make the site locally valuable in general. Other woodland and grasslands are present to the north-east of Markyate, but in these cases the A5 Watling Street provides a physical barrier to wildlife movement. There are some features that emerge from Markyate and link the village to habitat resources further away. These include:

- Hicks Road (although this lies on the north-east side of the A5);
- Luton Road (north-east of the A5);
- Buckwood Road;
- Roe End Lane, although this is a link to Cheverell's Green itself.

All of these are locally significant and are largely hedgerow features bordering small lanes.

- River Ver corridor. Generally this is poorly defined, although Markyate Cell provides a valuable setting. To the south east the river flows through a number of rather disjointed fields, although there is a potential for enhancement.

## **4. MANAGEMENT ISSUES**

Management of biodiversity resources in Markyate falls into four broad areas of responsibility:

i). Local authority / public land, including allotments. This applies to the school site and much of the remaining Open Land areas within and on the edge of the village.

ii). Farming or similar land management practices. Farming still plays a vital role around Markyate in helping to sustain open countryside. However most if not all of this is likely to be managed fairly intensively. There are no open grasslands of Wildlife Site value within 1km of the village other than Cheverell's Green, which is no longer managed by local commoners. Any meadows subject to intensive horse grazing are of limited value for wildlife.

iii). Private gardens. A generic management issue, which can provide a valuable ecological resource. Most important will be historic features such as old hedgerows and orchard trees, several of which may remain within gardens along the old High Street.

iv). Other land privately or publicly owned but which may or may not receive or necessarily require active management. These areas may be provided by roadside verges, old hedgerows and tree lines, such as those along London Road and Parkfield Road.

## **5. EDUCATION / COMMUNITY**

There is potential in generating a number of links in this respect, and opportunities for different types of project are given in the Introduction. Given the relative deficiency of wildlife habitat within Markyate, potential for the establishment of new sites could be investigated, in addition to looking at the management requirements of Cheverell's Green.

## **6. CONCLUSIONS**

Markyate only has one local site of high ecological interest adjacent to the settlement, although this does exceed the target for provision of a quality biodiversity resource. However this not a Local Nature Reserve.

There are several sites of local importance around the edge of the village and beyond, although their specific ecological value would require further investigation. In general there is a lack of ecological resources in and around Markyate and this places further significance on Cheverell's Green and some of the small scale features within the village. Habitat creation opportunities should be considered where appropriate, and enhancement of other sites where land use does not conflict with wildlife potential. This could focus on the River Ver corridor and elsewhere on the boundary of the village.

The range of biodiversity resources / functions and Open Land / open space designations that should be maintained / sought can be seen on Map App.6.5.

## **7. RECOMMENDATIONS**

### **7.1 Existing Local Plan Policies.**

#### **Policies 99, 100 and 101 Trees and woodlands etc.**

These relate to woodland, orchard, tree and hedgerow protection and management. They should be applied to many of the large and small scale sites and features in and around Markyate where these provide valuable wildlife habitat corridors and networks.

### **Policy 102 Nature Conservation sites**

- The Cheverell's Green Wildlife Site on the edge of Markyate will be taken into account when considering planning applications, with a view to its protection unless local need outweighs the relative value of the site. Given its Common Land registration, however, such development on this site is unlikely.
- There should also be a presumption in favour of protection of other wildspaces (excluding the two identified already for housing in the local plan).

### **Policy 103 Nature Conservation management**

Currently no known management resulting from development is taking place in Markyate. It is unlikely that sites of sufficient size are available within the village to achieve significant conservation gain, so in this context, emphasis should be placed upon compensatory measures to secure ecological gains where appropriate where developments are approved. This could include additional hedgerow planting to militate against the impact of poor garden boundary hedgerow management.

### **Policy 104 Nature Conservation in River Valleys**

This applies to Markyate as it is close to the source of the River Ver. The river corridor is a coherent feature through Markyate Cell but is obscured through the village itself. The river re-appears through open land to the south east of the settlement where enhanced management of adjacent fields would improve its ecological characteristics. Although this policy is supportive, private ownership may limit what could be achieved.

### **Policy 116 Open Land**

This relates to designated Open Land where uses such as nature conservation will be encouraged, as well as the contribution wildlife makes when considering development on other open land. In Markyate opportunities for this should be investigated on designated Open Land areas, although they may be limited.

## **7.2 Ecological Features**

There are no ecological corridors of any note within Markyate, although the size of the village means that open countryside is quite close to most of the settlement areas. There are, however, several smaller hedgerows and other features of local ecological interest that help to provide a wildlife resource and these should be protected from adverse management where possible.

### **7.3 Dacorum-owned Land and potential Local Nature Reserves**

There would appear to be no suitable sites for the designation of LNRs within the village. Cheverell's Green would be suitable, although whether this is possible with respect to ownership would require investigation.

### **7.4 Biodiversity Management Recommendations**

#### **7.4.1 Wildlife Sites also recognised as Open Land:**

There are no sites within this category within the village, and probably no opportunity for this situation to change.

#### **7.4.2 Other Wildlife Sites not included within Open Land.**

- Cheverell's Green 40/016

Secure the appropriate management of this Wildlife site on the southern edge of the village to ensure that this biodiversity resource is maintained.

#### **7.4.3 Publicly accessible Open Land with local ecological interest.**

- The wooded verge continuation of Cheverell's Green in front of residential properties requires appropriate management to retain its wooded character.
- 'Peggy's Field ' may have some ecological interest which could be enhanced, but this requires further investigation to assess opportunities.
- The potential for the cemetery to support grassland interest should be investigated.
- Football and cricket clubs - open land use outside the village boundary, formerly meadow land of some ecological interest: potential for ecological enhancement if no conflict with land use;
- Allotments - may be of local value: ensure management maintains opportunities for wildlife.

#### **7.4.4 Restricted access Open Land with potential ecological interest**

- Markyate JMI school - potential wildlife areas in school grounds.
- Sebright School - adjacent to Cheverell's Green, there may be potential for wildlife areas within grounds.

Management of their boundary features could include different grassland mowing regimes adjacent to hedges and tree lines, which themselves can be enhanced by coppicing or additional shrub planting where appropriate.

#### **7.4.5 Other Open Land and open spaces with interest or potential.**

Limited to grass verges and small play areas. Enhancement potential where appropriate.

#### **7.4.6 Private open spaces**

Seek to maintain and manage the back garden tree lines as appropriate, particularly within the low-density residential areas to the west of the village and London Road areas.

#### **7.4.7 Wildspace and other sites adjacent to or linkages from the village**

- Hicks Road (although this lies on the north-east side of the A5);
- Luton Road (north-east of the A5);
- Buckwood Road;
- Roe End Lane, although this is a link to Cheverell's Green itself.

These have locally prominent hedgerows, most if not all will be subject to the Hedgerow Regulations Act being bordered by open countryside.

### **8. MAPS AND DIAGRAMS**

Map App.6.1. Identified biodiversity resources, Markyate and surrounds.

Map App.6.2 Principal existing biodiversity corridors

Map App.6.3 Open Land, open space and Rights of Way

Map App.6.4 Principal existing biodiversity zones and deficiency areas.

Map App.6.5 Principal biodiversity processes and planning.

## APPENDIX 7

### TRING

#### 1. SETTLEMENT and ENVIRONMENTAL CHARACTERISTICS

##### 1.1 Location

The historic market town of Tring is located within the 'Tring Gap', a wide break within the Chiltern escarpment created by erosion of the chalk and resulting in the valley of the River Bulbourne. The town itself has developed at the junction of the important ancient routes of Akeman Street going north-west and the Icknield Way which followed the line of the chalk scarp from Wessex to East Anglia.

##### 1.2 Topography

The Chiltern escarpment has been eroded to create a large gap. The Bulbourne valley drops away to the south-east, whilst to the north-east the land drops from the Icknield Way quite markedly onto the low-lying Aylesbury Vale. South of the town the escarpment is steep as it curves into the Bulbourne valley, whilst to the north of the town the flat valley floor does not rise again until Aldbury Nowers. The town itself is quite undulating, with low-lying areas running from the town centre to Brook Street where the stream along the valley (Dundell Head) continues to exit into the Grand Union Canal at New Mill. Tring lies near the watershed between drainage into the Bulbourne to the south-east and the Thames to the north-west. Indeed the former source of the Thames was at Bulbourne Farm, but this was tapped to support the Grand Union Canal. An ancient spring fed pool also survives at Miswell.

##### 1.3 Historic perspective

Tring has Roman origins as evidenced by the line of the former Roman Road, Akeman Street, the line of which runs through what is now part of Tring Park. There were three settlements in Domesday, Miswell, Tring and Dunsley, while the early names (e.g. Treunge, Trehenge) probably derive from the Old English '*treo-hangra*', a slope where trees grew'. The Church of St Peter and St Paul in the town centre dates from the 13<sup>th</sup> century. Tring Park was originally established in 1609, providing a major parkland to the south which bordered the large expanse of the former Tring Common. It was a well-developed market town by 1766 with many of its dominating features of today well established. The development was centred on the centre of the town as well as along Brook Street. The Grove Mansion and adjacent hamlet, as well as Pendley Hall were also present to the east of the settlement. By 1822 no new major development had taken place, although the Grove House had gone, leaving the boundary tree belt. The Grand Union Canal had also arrived, with the Wendover Arm and Tring Reservoirs. By the 1880s more development had taken place to the south west of the town centre, along with

some housing at New Mill and Tring wharf, but apart from the remaining parklands at Tring and Pendley, the surrounding area remained open countryside.

#### **1.4 Residential area and Urban character**

The current residential urban area of Tring has extended the town significantly to the north on former open countryside and around the New Mill area, and to the east on the former Grove Estate. The Icknield Way represents a strong boundary for existing development to the north-east, but elsewhere open farmland still provides a close link to the rural hinterland.

In terms of the density of development within Tring, the town has a mixture of very low density, low density and higher density areas. The most spacious developed areas are on the edges along Icknield Way, Western Road, Station Road, Cow Lane and Grove Road, where generally detached houses with large gardens are present. Low density areas such as on the Grove Estate and much of the western half of the town include semi-detached properties and generally have slightly smaller gardens. Higher density development includes the historic core of Tring – including the Victorian and Edwardian ‘Tring Triangle’ area as well as very recent development, often characterised by much smaller gardens. From around the 1920s, but increasingly from 1930, the town expanded in a grid-like fashion to the north of the High Street and Western Road and up to the largely Edwardian settlement of New Mill. The later development in the 1970s and 1980s occurred notably on the Silk Mill Estate which was largely built by the former Greater London Council.

Open land within the town now consists largely of playing fields, school grounds or amenity land. Many of the few surviving private open spaces of any size – either scrub or grassland – within the settlement have been lost to development over the past ten years or are proposed to be. Several areas lack open land with landscaping: however there is good access to open countryside.

#### **1.5 Landscape character**

As can be seen from Map 2, Tring is almost entirely enclosed within the **Tring Gap Foothills** Character Area (114). Situated on the middle chalk, the glacial erosion of the gap has created a complex of low, uneven hills. Lower lying land is overlain with calcareous gravels forming outwash deposits to the north. Undulating land is present immediately surrounding the town, especially in Tring Park where there is an intimate network of small dry valleys, the Aylesbury Vale and New Mill areas. The land flattens off towards the canal, Aldbury Nowers and Bulbourne itself. Much of the open land to the west, south and east is pasture, with some sports pitches. The parklands of Tring Park and Pendley Manor are distinctive landscapes and include a number of fine trees. Wooded areas are present beyond the fringes of the town particularly at Pendley and along the canal, while arable areas are present to the east towards Tring Station.

**Tring Scarp Slopes (111)** further to the south provide a dramatic section of scarp around Tring Park and beyond, including Tring Woods and the open slopes on both sides of The Twist. Capped by clay-with-flints, much of the slopes are of chalk except where material has slumped. The slopes consist largely of semi-natural woodland – with some plantation – as well as grassland. Within Tring Park and the former chalk pit at Oddy Hill, the grassland is unimproved, while other slopes by Hastoe Hill, The Twist and Holloway Down have been improved for grazing.

Directly adjoining the edge of Tring at Tring Wharf, the other remaining Landscape Character Area is **Tring Reservoirs (113)**, four major artificial water bodies within close proximity in the Aylesbury Vale. Constructed as balancing reservoirs for the Grand Union Canal, they are valuable ecologically particularly for birds – and are designated an SSSI. Situated on chalk marl, gravels and alluvium over Gault Clay, the land is heavy and damp. The reservoirs are fed by calcareous springs from the underlying Totternhoe Stone, which are also the source of the River Thames and its tributary ditches. Adjacent land use is largely arable.

## **1.6 Biodiversity Resources**

### **1.6.1 SSSIs, Wildlife Sites and Wildspace**

The biodiversity resources of Tring and its hinterland are shown on Map App.7.1. The town is almost surrounded by SSSIs – the open water and wetland habitats of Tring Reservoirs to the north-west, Tring Woodlands SSSI and the chalk grasslands of Tring Park and Oddy Hill to the south. A little beyond 1km from the town to the north-east is further chalk grassland at Aldbury Nowers.

Much of the recent and detailed knowledge of the urban habitat resources of Tring and its surroundings has been informed by the Tring Environmental Forum Wildlife Habitat Survey, undertaken in 1998. Within Tring the Dundale Lake and woodland is a locally valuable resource and there are also a number of other open spaces such as Brook Street and other roadside verges of importance. However there continues to be pressure on local biodiversity resources, either for development – such as small areas of ‘neglected’ grassland and scrub – or to management changes. These include removal of ancient hedgerow fragments bordering houses when boundaries are ‘improved’ with fencing, railings or other landscaping improvements. Features such as tree belts, scrub and hedgerows have been shown as Wildspace.

Many of the grassland areas around the town have been agriculturally improved, although some remain ecologically valuable – there are grassland Wildlife Sites along Cow Lane, Station Road and to the south of Tring. Of particular value is that several farms – most within County Council ownership - still support traditional grazing – an important environmental asset locally, enabling an infrastructure of grazing and hay cutting to remain. There are other local ancient woodlands in and around Tring Park, whilst other open parkland is present on the medieval parkland site of Pendley and a remnant of

Tring Park between the town and the A41. The canal corridor also provides a locally important habitat corridor now being largely wooded.

### **1.6.2 Wildlife corridors**

Wildlife corridors are shown on Map App.7.2. The principle corridor into Tring is the canal feeder along Brook Street, which has an historic spring source origin at Bishops Wood school to the west. Important tree belts occur as back garden boundaries within the western end of the town and the historic landscaped planting of the boundaries of the former Grove parkland at the eastern end of Tring. The former drive from Tring Mansion to Dundale also survives as hedgerows and tree belts, almost providing a link across the town. The southern and western edges of Tring could act as ecological routes around the town, whilst some roadside hedges provide strong links to open countryside. The canal environment represents a valuable continuous habitat corridor although the canal itself is ecologically limited given its artificial banks and disturbance.

## **2. PLANNING ISSUES**

### **2.1 Green Belt, Open Land and open spaces.**

All of the land beyond the recognised settlement area of Tring is designated Green Belt. Land directly to the south of the Town is also designated AONB, as is land which occurs further west and to the north towards the reservoirs.

Designated Open Land within the town (Map App.7.3) consists of playing fields, school grounds, informal and formal amenity land, allotments and the church grounds. Such areas are considered as Structural Open Land within the urban area in the Local Plan and as such represent a considerable resource where there is a strong presumption in favour of their retention. Given this they are also important areas – or potentially so – for biodiversity.

The pattern of Open Land reflects the wildlife corridor into the centre of the town from Tring Park, Brook Street and beyond to the west. The school grounds are also important in this respect, but are more limited ecologically. There are also a number of locally valuable open space sites on the southern side of Tring, although the intensive sports use of some is also limits their local biodiversity contribution.

Other open spaces may be in public or private ownership, but the latter are more difficult to influence. Every opportunity should be made to secure ecological benefits resulting from development where appropriate, although this does presume development which may well degrade any existing interest in the first place. Persuading private owners to conserve sites with existing wildlife interests given the pressure for development and the value of land is a challenge in the current climate.

## **2.2 Rights of Way**

There are few Rights of Way (ROWs) within the town as can be seen from Map App.7.3, and most of those are associated with existing Open Land areas, such as at Miswell Lane, The Church, Pond Close open space and Streamside Walk, Brook Street. Several important ROWs link from the town to areas of local wildlife importance, such as Cow Lane Farm Meadows, Dawes Park and Tring Park, Woodland Close, Duckmore Lane allotments, Miswell Farm and the Wendover Arm at New Mill. The eastern side of the town is highly deficient in such links into open countryside although Bulbourne Road, Marshcroft Lane and Station Road are accessible.

## **2.3 Population levels**

The settlement of Tring has a total population of 11,631 (HCC, 2001 census) which is covered by 3 administrative Wards. The population of all of the wards is in excess of this figure (13,319) because the boundaries of Tring West extend into the rural hinterland of Tring within the Aylesbury Vale and include the villages of Long Marston and Wilstone. The ward populations are as follows:

Tring East : 2,738

Tring Central : 5,117

Tring West : 5,464 (probably closer to 3,450 within the settlement)

## **2.4 Future development sites**

The Local Plan (1991 – 2011) identifies several housing sites which have been or are being developed, such as the former gas works site at Brook Street, part of Dundale and adjacent to Miswell Lane playing fields. Most other previously remaining private open areas have also recently been developed, including scrubland at Bunstrux and large gardens with former orchards behind Cow Lane. One small plot identified for Employment Use at Miswell Lane is presently a small grass field. Although there is no specific ecological interest known from this site it may be of value locally as it does not appear to be agriculturally improved.

## **2.5 Local Plan Policies**

Local Plan Policies 99, 100, 101, 102, 103, 104, 105, 106 and 116 are the principal policies which apply to the conservation of biological resources within Tring. Summarised within the general introduction, their application is described in detail within the Recommendations section below.

### 3. URBAN BIODIVERSITY

#### 3.1 Provision of Local Nature Reserves.

Tring has no Local Nature Reserves, so in respect of English Nature's accessible natural greenspace standard, the settlement is entirely deficient. However, using Wildlife Sites as a basic resource of at least District ecological importance – Tring ought to have a total of approximately 11.6ha. of Wildlife Sites. The total figure of Wildlife Sites *within* the settlement is 4.0ha, most of which is in fact what remains of Dundale, as well as Dunsley orchard and meadow. However the Wildlife Site resource immediately adjacent to the settlement amounts to 16.7ha, most of which is made up of the meadows at Cow Lane Farm. Together, this constitutes a total resource of 20.7ha, which exceeds the ecologically valuable greenspace provision target.

Despite this, however, greenspace of high biodiversity quality within much of the town itself is deficient. Despite the proximity of the Tring Park, Tring Woods and Tring Reservoirs, these do not *directly* contribute to the urban area itself. Furthermore, some of the 'urban' Wildlife Sites are at a considerable distance for some areas of the town. Local sites of some interest exist along the immediate southern and western edges of the town and are of some additional value in that they represent a biodiversity resource for the urban fringe which is not otherwise fragmented by the A41 by-pass. This wide and busy road limits wildlife movement except for the more mobile species.

Tring as a whole would consequently appear to be reasonably well served by ecologically valuable greenspace in the form of Wildlife Sites. Tring Central has Dundale and Tring East has grassland sites on the edge of the town. However, despite this, much of the urban area of both wards is effectively deficient in Wildlife Sites, as is all of the urban area of Tring West.

#### 3.2 Accessibility

With respect to biodiversity zones, Map App.7.4 shows Wildlife Sites and larger Wildspace areas each with zones of 300m, reflecting the ANGST approach. This map also highlights areas of deficiency, and these are to be found in an area to the west of the town and in a corridor within the eastern end of Tring. The Wildlife Sites and Wildspace biodiversity zones provide good coverage for the rest of the town, although this in part is due to the compact nature of the town and juxtaposition with locally valuable areas adjacent to Tring.

In terms of accessibility, Dundale is the only publicly accessible Wildlife Site within the town itself, although public footpaths are adjacent to some other wildlife sites on the edge of Tring. Tring Park and Tring Woodlands to the south of the A41 and Tring Reservoirs are accessible but further away, although their proximity to the town is clear. Not all designated Open Land has open access, including school grounds.

In terms of ecological resources within the town itself, this puts greater weight on those accessible open areas which are considered to support locally valuable wildlife or may have the potential to do so. Such sites may also help to increase the ecological connectivity between Wildlife Sites. It also places some emphasis on the potential for other open space or open land areas for biodiversity, as well as habitat resources enclosed within garden areas throughout the town.

### **3.3 Specific sites of local interest within the settlement**

- Brook Street wildlife link. Known locally as 'Streamside Walk' - an important corridor to the Grand Union Canal and the reservoir complex to the north. Designated Open Land.
- Grove Park shelterbelt. An historic woodland planting boundary to the former Grove House, with wide grass verge.
- Tring Church. Historic and modern churchyards. Designated Open Land.
- Tring Mansion Drive and associated woodland. Designated Open Land.
- Miswell Lane playing fields 'triangle'. Currently an area of established long grass within otherwise mown grassland. Designated Open Land, and proposed to become part of the public open space.
- Miswell Lane meadow. Open grassland and scrub woodland, this area has been identified as an employment site.
- Great West Plantation, r/o Woodland Close. Mature secondary woodland on the edge of the settlement.

Historic semi-natural features. Network of scattered tree lines and old hedgerows are present throughout the urban area although their abundance and condition is variable. They tend to survive in the low and very low density residential areas and often reflect old boundary features which have survived development largely in the post war era. They are more limited in the older Victorian parts of the town and within very recent higher density developments. Additional sites shown within the Dacorum Biodiversity Action Plan are also shown on Map App.7.1, although the ecological interest of some of these comparatively limited.

### **3.4 Open Land biodiversity**

The remainder of the designated Open Land areas are also important in that they have existing or the potential for supporting biodiversity. However their current management may be inappropriate to provide a wildlife resource of any significance and there may also be a conflict of interest in terms of land use.

The most significant of these Open Land areas would appear to be as follows:

- Pond Close (former Mansion drive to Dundale) – grassland and hedgerows;
- Dundale School - especially the old boundary hedgerows;

- Bishops Wood School - woodland strip in particular;
- Goldfield School - old hedgerows and grassland potential.

These are strategically important in serving to supplement other stepping stones in helping to provide a corridor into and through the town. More potential areas can be found as follows:

- Grove Road Primary School / Tring School and associated playing fields, which together constitute an open land wedge into the town.
- Mortimer Hill playing fields currently support limited interest but serve to create part of a larger green corridor on the eastern half of the town.

### **3.5 Other private or public open space biodiversity**

Numerous groups of trees and shrubs provide a network of habitats resource scattered within the residential areas. Some appear to be particularly strategically valuable, including:

- The old hedgerows that border the Mansion Drive Avenue from Tring Mansion to Dundale. Some of these are within designated open space whilst others would appear to be in private ownership.
- The Frogmore Street roadside banks and hedges, within the corridor context.
- Beaconsfield / Highfield Road gardens, a continuation of the corridor route to the western edge of the town.

### **3.6 Urban fringe corridors**

There are some particularly important features that emerge from Tring and link the town to valuable resources further away. These include:

- Station Road link to the canal corridor;
- Marshcroft Lane link to the canal corridor;
- Little Tring Road to the Wendover Arm;
- Miswell Farm lane and hedgerows to Wendover Arm;
- Streamside Walk link to the Grand Union Canal.

## **4. MANAGEMENT ISSUES**

Management of biodiversity resources in Tring falls into four broad areas:

i). Local authority / public land, including allotments. This applies to all the school sites and much of the remaining Open Land areas. The most significant of these are Streamside Walk, Pond Close and Miswell Lane playing fields. These are strategically valuable areas within the town which would benefit from improved grassland management.

ii). Farming or similar land management practices. Farming still plays a vital role around Tring in helping to sustain grasslands of ecological value. Indeed, this helps to maintain all of Tring Park, Cow Lane and other Wildlife Site grasslands within the area, in addition to other sites with rough grazing or subject to hay cutting. Meadows subject to intensive horse grazing are not as valuable.

iii). Private gardens. They can provide a valuable ecological resource. Most important will be historic features such as old hedgerows and orchard trees, the latter a feature of the older Victorian or Edwardian areas of the town. Lower density developments – particularly in the west of Tring – retain old tree lines which are valuable linear routes for wildlife access.

iv). Other land privately or publicly owned but which may or may not receive or necessarily require active management. These areas may be provided by roadside verges, old hedgerows and tree lines, such as the former Grove Park tree belt. Some verges are also beyond gardens but are still mown, despite their ecological value being enhanced if they were left to flower. Verges at the lower end of Station Road are a good example of this.

## **5. EDUCATION / COMMUNITY**

There is high potential in generating a number of important links in this respect. Bishopswood School has been awarded 'Eco-School' status, and as described above there are considerable opportunities for the enhancement of school grounds, which can contribute to the wider biodiversity resources within the town. Tring Museum provides an almost unique learning opportunity, both within the museum itself but also as part of its education function and the Wildlife Site that it rents.

Tring Environmental Forum still exists as a community group, having been influential in two very relevant projects, Tring Urban Habitat Survey and Tring Task Force, a practical conservation task group. This group could be influential in pursuing small-scale tasks, such as special roadside verge and hedgerow management.

## **6. CONCLUSIONS**

Tring has a number of local sites of high ecological interest within the boundary of and adjacent to the settlement. Together these exceed the target for provision of quality biodiversity resource. However, none of these are Local Nature Reserves whilst Dundale, which is now in local authority management, is not very large. Consequently the town itself is generally deficient in high quality wildlife habitats.

There are several sites of importance around the edge and beyond, some of which are of national importance, so the environmental context within which

Tring sits is of high value, which in turn helps to provide a potential wildlife resource for the town.

Given the opportunities for wildlife within the town itself, there should be greater emphasis on recognising the resources that are known and the potential for enhancement of these and other open space areas in future.

There is a clear Wildlife Corridor along Brook Street known locally as Streamside Walk, which links directly into the centre of Tring and beyond as a series of stepping stones. There are other links towards Dundale in the form of historic hedgerows. This – in addition to the Tring Mansion grounds – represents perhaps the most fundamental ecological resource within the town that should be maintained and enhanced. Further existing resources are described above, while future potential is present within the Tring and Grove Road School complex.

Together the sites and features provide an almost continuous wildlife corridor link and a series of ecological stepping stones through the town. Improved management of appropriate open spaces within Tring would increase their contribution to the biodiversity resource within the urban area, which is otherwise deficient in wildlife space. This needs to be seen as part of a structured approach to maintaining and encouraging biodiversity within the town.

The range of biodiversity resources / functions and Open Land / open space designations that should be maintained / sought can be seen together on Map App.7.5.

## **7. RECOMMENDATIONS**

### **7.1 Existing Local Plan Policies.**

#### **Policies 99, 100 and 101 Trees and woodlands etc.**

These relate to woodland, orchard, tree and hedgerow protection and management. They should be applied to many of the large and small scale sites and features in and around Tring, as these provide valuable wildlife habitat corridors and networks throughout the town.

#### **Policy 102 Nature Conservation sites**

- Damaging development should not be permitted on Tring Park and Oddy Hill, Tring Woodlands or Tring Reservoirs, all of which provide a particularly ecologically rich context for Tring.
- Wildlife Sites in and around the edge of Tring should be taken into account when considering planning applications, with a view to their protection unless local need outweighs the relative value of the site. There should

also be a presumption in favour of protection of other wildspaces where appropriate.

- Within Tring the following green corridors should be protected and the nature conservation interest of open areas along their length enhanced:
  - i). Streamside Walk;
  - ii). Pond Close;
  - iii). Churchyard;
  - iv). Memorial Gardens.

### **Policy 103 Nature Conservation management**

At the present time, management in the context of permitted development primarily applies to Dundale where works to improve the site prior to transferring responsibility to Dacorum have been undertaken. Where this is feasible for other developments a similar approach will be taken, although it is unlikely that sites of sufficient size are now available within Tring. In this context, emphasis will be placed upon compensatory measures to secure ecological gains where appropriate where developments are approved. This could include additional hedgerow planting to militate against the impact of poor garden boundary hedgerow management.

### **Policy 104 Nature Conservation in River Valleys**

There is locally significant stream interest within Tring. The exit stream from Dundale and Streamside Walk are locally valuable features, although the former spring source which fed into this from within the grounds of Bishops Wood school is now culverted and is likely to remain so. The spring source at Miswell Farm was mentioned within the Domesday Book, and in fact feeds the lake at Dundale. This policy supports enhanced ecological management of these features.

### **Policy 105 Lakes, Reservoirs and Ponds**

Dundale, Silk Mill lake and the pond within the Memorial Gardens are all habitats of wildlife value to a greater or lesser extent and should be secure under this policy.

### **Policy 106 The Canalside Environment**

Any development adjoining the Grand Union Canal particularly at New Mill will be expected to make a positive contribution to the canalside environment. The streamside walk link to the wildlife corridor is particularly vulnerable there should be no adverse impact on its nature conservation interest.

### **Policy 116 Open Land**

This relates to designated Open Land where uses such as nature conservation will be encouraged, as well as the contribution wildlife makes

when considering development on other open land. This should be applied most importantly to the green corridors outlined within Policy 102 above.

## **7.2 Ecological Features**

Many other features of local ecological interest are not specifically covered by policies. Consequently these should be protected from adverse management where possible. Reference should be made to the Tring Environmental Forum Urban Habitat Survey for identification of such features.

## **7.3 Dacorum-owned Land and potential Local Nature Reserves**

This relates to land within the council's ownership or control. In this respect, given the absence of a formal LNR within the town, it is recommended that the Open Space of Dundale is designated as a LNR. Furthermore the Streamside Walk Open Space should also be considered for similar status given that it was partly designed to provide an accessible local wildlife resource.

## **7.4 Biodiversity Management Recommendations**

### **7.4.1 Wildlife Sites also recognised as Open Land:**

- Dundale (HBRC Ref 51/001) – now owned and managed by DBC following development on part of the site. Continued maintenance of lake and appropriate woodland management as required to secure and improve wildlife interest. Need to maintain the enhancement achieved as a result of planning gain.

### **7.4.2 Other Wildlife Sites not included within Open Land.**

- Dawes Park, Tring Museum 51/009;
- Station Road / Grove Road Fields 51/013;
- Cow Lane Farm meadows 51/033;
- Dunsley Orchard 51/047.

Secure the appropriate management of these Wildlife sites on the eastern and southern edge of the town to ensure that these biodiversity resources are maintained.

### **7.4.3 Publicly accessible Open Land with local ecological interest.**

- Streamside Walk. Improve management of Open Land grasslands to enhance the wildlife corridor that leads from the reservoirs towards the centre of Tring. Currently much grassland is of limited structural diversity.
- Brook Street and former Mansion Drive hedgerows. Retention and appropriate management e.g. coppicing.
- Tring Churchyards. Improve grassland management within all of the historic churchyard areas.

- Miswell Lane ‘Triangle’ – a ‘meadow’ created by benign neglect. Secure and improve the management of the grassland or similar area within the Open Land, as well as the playing field’s edges and boundary features.

#### **7.4.4 Restricted access Open Land with potential ecological interest**

- Bishopswood School;
- Goldfield School;
- Dundale School;
- Grove Road Primary School;
- Tring School.

Currently the most limited existing biodiversity areas consistent with Open Land include the remaining school sites. Consolidation of the wildlife corridor through the town could be secured by recognising the strategic contribution of Bishopswood and Goldfield School grounds in particular. Management of their major boundary features could include different grassland mowing regimes adjacent to hedges and tree lines, which themselves can be enhanced by coppicing or additional shrub planting where appropriate.

#### **7.4.5 Other Open Land and open spaces with interest or potential.**

- Pond Close. Improve grassland management to help extend a more-or-less continuous wildlife corridor well into and through the centre of the town;
- Miswell Lane playing fields. Edge management of grassland and hedgerows will enhance this area’s wildlife potential;
- Grove Park. Protect and enhance the former boundary woodland belt;
- Memorial gardens. Assess options for enhancing wildlife interest within formal park;
- Woodland Close Wood. Management opportunities merit investigation;
- Miswell House Meadow. Could support grassland interest, privately owned and conflicts with Local Plan designation.

#### **7.4.6 Private open spaces**

Seek to maintain and manage the back garden tree lines as appropriate, within the low-density residential areas to the west of Tring.

#### **7.4.7 Wildspace and other sites adjacent to or linkages from the town**

- Tring Cemetery. Assess options for enhancement and modifying mowing regimes;
- Pound Meadow and adjacent sports ground. Grassland edge opportunities and hedgerows of local value;
- Station Road link to the canal corridor. Management of major tree belts and mature hedgerow;
- Marshcroft Lane link to the canal corridor. Management of grass verges and hedgerows;

- Little Tring Road to the Wendover Arm. Management of hedgerows;
- Miswell Farm lane and hedgerows to Wendover Arm. Management of hedgerows and adjacent grassland.

## **8. MAPS AND DIAGRAMS**

Map App.7.1a. Identified biodiversity resources, Tring and surrounds.

Map App.7.1b. Identified biodiversity resources, Tring (enlarged).

Map App.7.2 Principal existing biodiversity corridors

Map App.7.3 Open Land, open space and Rights of Way

Map App.7.4 Principal existing biodiversity zones and deficiency areas.

Map App.7.5 Principal biodiversity processes and planning.