



3 Habitat and species review and evaluation

3.1 Introduction

While all our local habitats and species are of value, in that they form the components of Hertfordshire's biodiversity, some are a greater priority for conservation. This is either because a high proportion of the national or European total of a particular habitat is found in the area, because they are rare or because they are declining and under threat. This 50 Year Vision considers the whole range of habitats found in the county, under seven generic habitat action plans:

Woodlands
Wetlands

Heaths and acid grassland
Neutral grassland
Chalk grassland
Farmland
Urban

However, due to both ecological needs and resource constraints, targets and actions must be prioritised. The following section reviews the habitats and species of conservation concern found in the county, evaluates their relative importance and identifies priorities for action.

3.2 Review of habitats and species

3.2.1 *Habitat audit*

A total of 37 Broad Habitat Types have been identified in *Biodiversity: The UK Steering Group Report*. The following are found in Hertfordshire:

Broadleaved and Yew woodland
Planted coniferous woodland
Lowland wood pasture/parkland
Boundary features
Arable
Improved grassland
Unimproved neutral grassland
Unimproved acidic grassland
Unimproved calcareous grassland
Lowland heathland
Grazing marsh
Fens, carr, marsh, swamp and reedbed
Standing open water
Rivers and streams
Canals
Urban

Within these Broad Habitat Types, the Steering Group Report identifies 38 Key Habitats, which are a UK priority for action. Costed action plans have been prepared for 14 of these and will be prepared for the other 24 by the end of 1998.

Table 3.1 identifies the habitats of conservation concern within Hertfordshire. These include all the UK Key Habitats present locally, as well as other habitats which are of conservation concern in Hertfordshire because they are locally threatened, locally rare, characteristic of the local area or locally popular.

3.2.2 *Species audit*

Table 3.2 identifies the species of conservation concern found in Hertfordshire. This list is based on the best data available. Though not full, this data is comprehensive enough to undertake a meaningful audit, from which priorities for action can be drawn. The species list includes the following:

- Any species of UK priority, as identified in the Steering Group Report, for which action plans have been or will be written. Nationally, this includes over 400 species on the *short* and *middle lists*.
- Species on the UK *long list* in the Steering Group Report. If species found locally are not on the *long list* but meet the criteria, they should also be included.
- Other species which are of conservation concern by virtue of being locally threatened, locally rare, characteristic of the area, or locally popular.

Table 3.1 – Evaluation of habitats within Hertfordshire

See Appendix 4 for explanation of terms.

Habitat	Extent criteria					Quality criteria			
	UK priority	Local decline	Proportion in local area	Local rarity	Local threat	Fragmented/restoration	Important for key species	Viability	Local distinctiveness
Lowland Beech woods	Key		Significant	Scarce	Direct and indirect	Fragmented (extendable)	Key species	Viable	
Oak-hornbeam woods			Highly significant	Scarce	Direct and indirect	Fragmented (extendable)	Key species	Viable	Distinctive
Ash-maple woods				Rare	Direct and indirect	Fragmented (extendable)	Key species	Viable	
Lowland parkland	Key			Rare		Fragmented (fixed area)		Viable	
Ancient species-rich hedgerows	Key	Declining		Common	Direct	Continuous (extendable)	Key species	Viable	
Cereal field margins	Key			Common	Direct	Continuous (extendable)	Key species	Viable	
Lowland hay meadow	Key	Stable		Rare	Indirect	Fragmented (extendable)		Potentially viable	
Unimproved neutral grassland		Declining		Scarce	Direct	Fragmented (extendable)	Key species (local)	Viable	
Lowland acid grassland	Key	Declining		Rare	Direct	Fragmented (extendable)	Key species	Potentially viable	
	UK	Local decline	Proportion in	Local rarity	Local threat	Fragmented/	Important for key	Viability	Local

Habitat	Extent criteria					Quality criteria			
	priority		local area			restoration	species		distinctiveness
Lowland calcareous grassland	Key	Declining		Rare	Indirect	Fragmented (extendable)	Key species	Potentially viable	
Lowland heathland	Key	Declining		Rare	Direct and indirect	Fragmented (extendable)		Potentially viable with AG	
Floodplain grazing marsh	Key			Rare	Direct	Fragmented (extendable)	Key species	Potentially viable	
Fens	Key			Rare	Direct and indirect	Fragmented (fixed area)			
Reedbed	Key			Rare	Direct	Fragmented (extendable)	Key species	Potentially viable	
Marsh				Rare	Indirect	Fragmented (extendable)		Potentially viable	
Swamp				Rare	Indirect	Continuous (extendable)		Viable	
Carr				Rare	Indirect	Fragmented (extendable)			
Spring sources				Rare	Indirect	Fragmented (fixed area)			
Eutrophic standing waters				Rare	Direct and indirect	Fragmented (extendable)	Key species	Viable	
	UK	Local decline	Proportion in	Local rarity	Local threat	Fragmented/	Important for key	Viability	Local

Habitat	Extent criteria					Quality criteria			
	priority		local area			restoration	species		distinctiveness
Lowland rivers		Stable		Scarce	Indirect	Continuous (fixed area)	Key species	Viable	
Chalk rivers	Key		Significant	Scarce	Indirect	Continuous (fixed area)	Key species	Viable	Distinctive
Urban		Stable		Scarce		Fragmented (extendable)	Key species	Viable	

Table 3.2 – Evaluation of species in Hertfordshire

See Appendix 4 for explanation of terms.

	Criteria					
Species	UK priority	Local decline	Local rarity	Local threat	Position in range	Local distinctiveness
Mammals						
Brown Hare	Short list	Stable	Common			
Dormouse	Short list	Decline	Scarce	Direct		Flagship
Otter	Short list	Decline	Scarce	Indirect	Outlying	Keystone
Pipistrelle	Short list	Decline	Common			
Water Vole	Short list	Decline	Common	Indirect		Flagship
Badger	Long list	Stable	Common			
Brandt's Bat	Long list					
Brown Long-eared Bat	Long list					
Common Shrew	Long list		Common			
Daubenton's Bat	Long list		Common			
Fallow Deer	Long list	Stable	Common			
Hedgehog	Long list	Stable	Common			
Leisler's Bat	Long list					
Natterers	Long list					
Noctule	Long list		Common			
Pygmy Shrew	Long list					
Roe Deer	Long list	Increasing	Scarce			
Serotine	Long list					
Stoat	Long list	Stable	Common			
Water Shrew	Long list		Common			
Weasel	Long list	Stable	Common			
Whiskered Bat	Long list					
Birds						
Bittern	Short list	Stable	Rare	Direct	Outlying	Keystone
Grey Partridge	Short list	Decline	Common	Indirect		Flagship
Skylark	Short list	Stable	Common	Indirect		
Song Thrush	Short list	Stable	Common	Indirect		Flagship
Stone-curlew	Short list		Extinct (1981)			
Bullfinch	Middle list	Stable	Common			
Corn Bunting	Middle list	Decline	Common	Indirect		

Species	Criteria					
	UK priority	Local decline	Local rarity	Local threat	Position in range	Local distinctiveness
Linnet	Middle list	Stable	Common			
Nightjar	Middle list	Rapid decline	Rare	Direct	Outlying	
Reed Bunting	Middle list	Stable	Common			
Spotted Flycatcher	Middle list	Stable	Common			
Tree Sparrow	Middle list	Rapid decline	Common	Indirect		
Turtle Dove	Middle list	Stable	Common			
Barn Owl	Long list	Rapid decline	Common	Indirect		
Blackcap	Long list	Stable	Common			
Blue Tit	Long list	Stable	Common			
Chiffchaff	Long list	Stable	Common			
Coal Tit	Long list	Stable	Common			
Common Crossbill	Long list	Rapid increase	Scarce			
Common Tern	Long list	Rapid increase	Common			
Cormorant	Long list	Rapid increase	Scarce			
Duncock	Long list	Stable	Common			
Fieldfare	Long list		Common			
Gadwall	Long list	Rapid increase	Common			
Garden Warbler	Long list	Increase	Common			
Goldcrest	Long list	Increase	Common			
Goldfinch	Long list	Stable	Common			
Grasshopper Warbler	Long list	Rapid decline	Common	Indirect		
Great Spotted Woodpecker	Long list	Rapid increase	Common			
Great Tit	Long list	Stable	Common			
Greenfinch	Long list	Stable	Common			
Green Sandpiper	Long list		Scarce			
Green Woodpecker	Long list	Rapid increase	Common			
Grey Wagtail	Long list	Rapid increase	Common			
Hawfinch	Long list	Decline	Common			Typical
Hobby	Long list	Rapid increase	Common			
House Martin	Long list	Stable	Common			
Kestrel	Long list	Increase	Common			
Kingfisher	Long list	Rapid increase	Common			Flagship
Lapwing	Long list	Stable	Common			

Species	Criteria					
	UK priority	Local decline	Local rarity	Local threat	Position in range	Local distinctiveness
Lesser Spotted Woodpecker	Long list	Increase	Common			
Lesser Whitethroat	Long list	Rapid increase	Common			
Little Ringed Plover	Long list	Rapid increase	Common			
Long-eared Owl	Long list	Decline	Scarce	Indirect		
Mallard	Long list	Stable	Common			
Marsh Tit	Long list	Stable	Common			
Meadow Pipit	Long list	Stable	Common			
Mute Swan	Long list	Stable	Common			
Nightingale	Long list	Rapid decline	Scarce	Direct		Flagship
Nuthatch	Long list	Rapid increase	Common			
Pied Wagtail	Long list	Stable	Common			
Pochard	Long list	Decline	Scarce	Indirect		
Redshank	Long list	Stable	Common			
Redwing	Long list		Common			
Reed Warbler	Long list	Stable	Common			
Ringed Plover	Long list	Rapid increase	Scarce			
Sand Martin	Long list	Decline	Common	Direct		
Sedge Warbler	Long list	Stable	Common			
Shoveler	Long list	Rapid increase	Scarce			
Siskin	Long list	Rapid increase	Scarce			
Snipe	Long list	Decline	Common	Direct		Keystone
Sparrowhawk	Long list	Rapid increase	Common			
Swallow	Long list	Stable	Common			
Tawny Owl	Long list	Stable	Common			
Treecreeper	Long list	Stable	Common			
Tufted Duck	Long list	Rapid increase	Common			
Water Rail	Long list	Rapid decline	Scarce	Direct		
Wheatear	Long list		Extinct (1954)			
Whitethroat	Long list	Stable	Common			
Willow Tit	Long list	Stable	Common			
Willow Warbler	Long list	Stable	Common			
Woodcock	Long list	Decline	Common	Indirect		
Wood Warbler	Long list	Decline	Common	Indirect		

	Criteria					
Species	UK priority	Local decline	Local rarity	Local threat	Position in range	Local distinctiveness
Yellowhammer	Long list	Stable	Common			
Amphibians and reptiles						
Great Crested Newt	Short list	Decline	Common	Direct		Keystone
Adder	Long list		Extinct			
Common Frog	Long list		Common	Direct		
Common Toad	Long list		Common	Direct		
Grass Snake	Long list		Common			
Palmate Newt	Long list		Scarce	Direct		
Slow Worm	Long list		Common	Direct		
Smooth Newt	Long list		Common	Direct		
Fish						
Bullhead	Long list	?	Common			
Invertebrates						
Stag Beetle	Short list	Stable	Scarce	Direct	Outlying	Flagship
High Brown Fritillary	Short list		Extinct (1977)			
Marsh Fritillary	Short list		Extinct (1950)			
Pearl-bordered Fritillary	Short list		Extinct (1978)			
Silver-spotted Skipper	Short list		Extinct (1959)			
<i>Vertigo moulinsiana</i>	Short list	?	?			
White-clawed Crayfish	Short list	Rapid decline	Common	Indirect		Flagship
Adonis Blue	Middle list		Extinct (1959)			
Brown Hairstreak	Long list	Rapid decline	Rare	Direct		
Duke of Burgundy	Long list	Decline	Rare	Direct		
Chalkhill Blue	Long list	Stable	Scarce		Outlying	Flagship
Silver-washed Fritillary	Long list	Rapid decline	Rare	Direct		
Small Blue	Long list	Rapid decline	Rare	Direct		
Grizzled Skipper		Rapid decline	Scarce	Direct		
<i>Ashfordia granulata</i>	Long list	?	?			
<i>Ena montana</i>	Long list	?	?			

Species	Criteria					
	UK priority	Local decline	Local rarity	Local threat	Position in range	Local distinctiveness
Roman Snail	Long list	Decline	Common			
<i>Oxyloma sarsi</i>	Long list	?	?			
Plants						
<i>Ephemerum cohaerens</i>	Middle list	?	?			
Thatch Moss	Middle list	?	Scarce		Localised	
<i>Seligeria paucifolia</i>	Middle list	?	?			
<i>Weissia sterilis</i>	Middle list	?	?			
Corn Cleavers	Middle list	Rapid decline	Rare	Indirect		
Cornflower	Middle list	Rapid decline	Rare	Indirect		
Red Hemp-nettle	Middle list		Extinct (poss.)			
Shepherd's Needle	Middle list	Decline	Common	Indirect		Typical
Tower Mustard	Middle list		Extinct			
Bluebell	Long list	Stable	Common			Flagship
Broad-leaved Spurge	Long list	Stable	Scarce			
Burnt-tip Orchid	Long list	Stable	Rare			
Corn Buttercup	Long list	Rapid decline	Scarce	Indirect		
Corn Gromwell	Long list	Rapid decline	Scarce	Indirect		
Corn Parsley	Long list	Stable	Rare			
Greater Broomrape	Long list	Stable	Rare			
Ground Pine	Long list		Extinct (1974)			
Ivy-leaved Water-crowfoot	Long list	Decline	Rare	Indirect		
Narrow-fruited Corn Salad	Long list	Decline	Scarce	Indirect		
Pasqueflower	Long list	Rapid decline	Rare	Direct	Outlying	Flagship
Pheasant's-eye	Long list		Extinct (prob.)			
River Water-dropwort	Long list	?	Scarce	Indirect		Typical
Spotted Cat's-ear	Long list	Stable	Rare			
Stinking Goosefoot	Long list		Extinct (prob.)			
Stream Water-crowfoot	Long list	?	Common	Indirect		Typical

Species	Criteria					
	UK priority	Local decline	Local rarity	Local threat	Position in range	Local distinctiveness
Great Pignut		Decline	Scarce	Direct	Localised	Flagship
Green-winged Orchid		Rapid decline	Rare	Direct		
Petty Whin		Decline	Scarce	Direct		
Snake's-head Fritillary		Stable	Rare	Direct		

3.3 Evaluation of habitats and species

3.3.1 Habitat priorities

Evaluation of the habitats listed in Table 3.1 leads to the following priorities for Hertfordshire being identified.

1. Key habitats, of which there is a significant proportion of the UK resource in Hertfordshire. We have a special responsibility for these and are therefore a priority for action.

Chalk rivers

Lowland Beech woods

2. Key habitats which have declined in the recent past or are still declining locally. These habitats are directly threatened and must therefore be a priority for action.

Ancient species-rich hedgerows

Lowland acidic grassland and lowland heathland (combined in Herts)

Lowland calcareous grassland

3. Key habitats which are locally rare and/or threatened and therefore require conservation action.

Lowland hay meadow

Floodplain grazing marsh

Fens

Reedbeds

Cereal field margins

4. Local habitats which Hertfordshire has a significant proportion of the UK resource and therefore a wider responsibility for, or habitats which are locally distinctive and important in defining the character of the local natural environment.

Oak-hornbeam woods

These priority habitats must be targeted for immediate action as part of the seven generic habitat action plans included in this *Vision*. This does not mean that action should not occur on other habitats, which may also be important for particular species, under threat or have social value, but this should not be to the detriment of priority habitats.

3.3.2 Species priorities

Evaluation of the species in Table 3.2, results in the following priorities being identified for Hertfordshire.

1. UK priority species (short or middle lists), where Hertfordshire can contribute to achievement of the national targets, because the species are characteristic of the area.

Brown Hare	Dormouse*
Otter*	Pipistrelle
Water Vole*	Bittern*
Grey Partridge	Skylark
Song Thrush*	Stone Curlew*
Bullfinch	Corn Bunting
Linnet	Reed Bunting
Spotted Flycatcher	Tree Sparrow*
Turtle Dove	Great Crested Newt*
Stag Beetle*	White-clawed Crayfish*
Thatch Moss	Shepherd's Needle
Cornflower*	Corn Cleavers

2. Species which are locally rare, declining, threatened and are either high profile and/or locally distinctive.

Natterer's Bat*	Long-eared Owl
Nightingale	Pochard
Water Rail	Hawfinch
Kingfisher	Snipe
Palmate Newt	Small Blue
Brown Hairstreak	Duke of Burgundy
Chalkhill Blue*	Silver-washed Fritillary
Grizzled Skipper*	Corn Buttercup
Corn Parsley	Corn Gromwell

River Water-dropwort*	Ivy-leaved Water Crowfoot
Narrow-fruited Corn Salad	Pasqueflower*
Great Pignut*	Petty Whin
Green-winged Orchid	Snakes-head Fritillary

The above species marked with an asterisk have Species Action Plans included in the *Vision*. Where appropriate, additional species action plans should be written for the other species, many of which are referred to under the relevant habitat action plans.

3.4 Key Biodiversity Areas

3.4.1 Introduction

An additional way of prioritising conservation action is to identify concentrations of important habitats and species. Such areas may be termed 'Key Biodiversity Areas'. This concept of Key Biodiversity Areas is evolved from English Nature's 'Prime Biodiversity Areas' and Natural Areas (see Chapter 2).

Within each Natural Area there may be a number of Prime Biodiversity Areas. These typify the Natural Area and contain concentrations of key habitats and species. For example, within the Chilterns Natural Area, a cluster of high quality chalk grasslands and associated beech woodland may form a Prime Biodiversity Area.

Because Natural Areas are based on geological, topological, ecological and landscape distinctions, they do not correspond with administrative boundaries. However, the Prime Biodiversity Area concept can be applied to an administrative area such as Hertfordshire, which contains several Natural Areas. When used in this context the term 'Key Biodiversity Area' is frequently used. They are defined as:

Areas within an administrative unit that support the greatest diversity of species and the greatest extent and highest quality of semi-natural habitat.

3.4.2 The value of identifying Key Biodiversity Areas

In order to conserve and enhance biodiversity, conservation management should broadly seek to reverse the loss of semi-natural habitat that has occurred across the UK. This should go beyond merely maintaining the existing landscape features and aim to enhance them through restoration and creation of habitats, together with a reduction in fragmentation by linking, buffering and expanding.

Key Biodiversity Areas (KBAs) offer the greatest potential for a targeted and holistic approach to the restoration of habitats characteristic of the administrative unit. KBAs not only represent priority areas for conserving the existing biodiversity resource, but also provide the best opportunity for maintaining and creating large areas of quality habitat. There will usually be a significant wildlife resource, often as a cluster of sites, and therefore the potential to manage the adjacent land in a way that enlarges and links these sites. It should be noted that some KBAs might have inherently low biological diversity; but which support unusual communities of species that do not occur elsewhere. The London Clay grasslands of southern Hertfordshire may be seen as a good example of this.

The benefits of the Key Biodiversity Area approach include:

- Large areas of linked semi-natural habitat will support a greater variety of habitats and a greater numbers of species, in larger populations.
- Dispersed and wide-ranging species, which are difficult to conserve as isolated populations in small areas, will be able to establish viable populations.
- Genetic diversity within species is less likely to be eroded in the larger populations that can exist in large areas of linked habitat.
- Hectare for hectare, large areas tend to be cheaper to manage than small ones.
- Management by natural processes may be more possible.
- The effects of extreme conditions, including climate change, are less likely to lead to local extinctions of species.

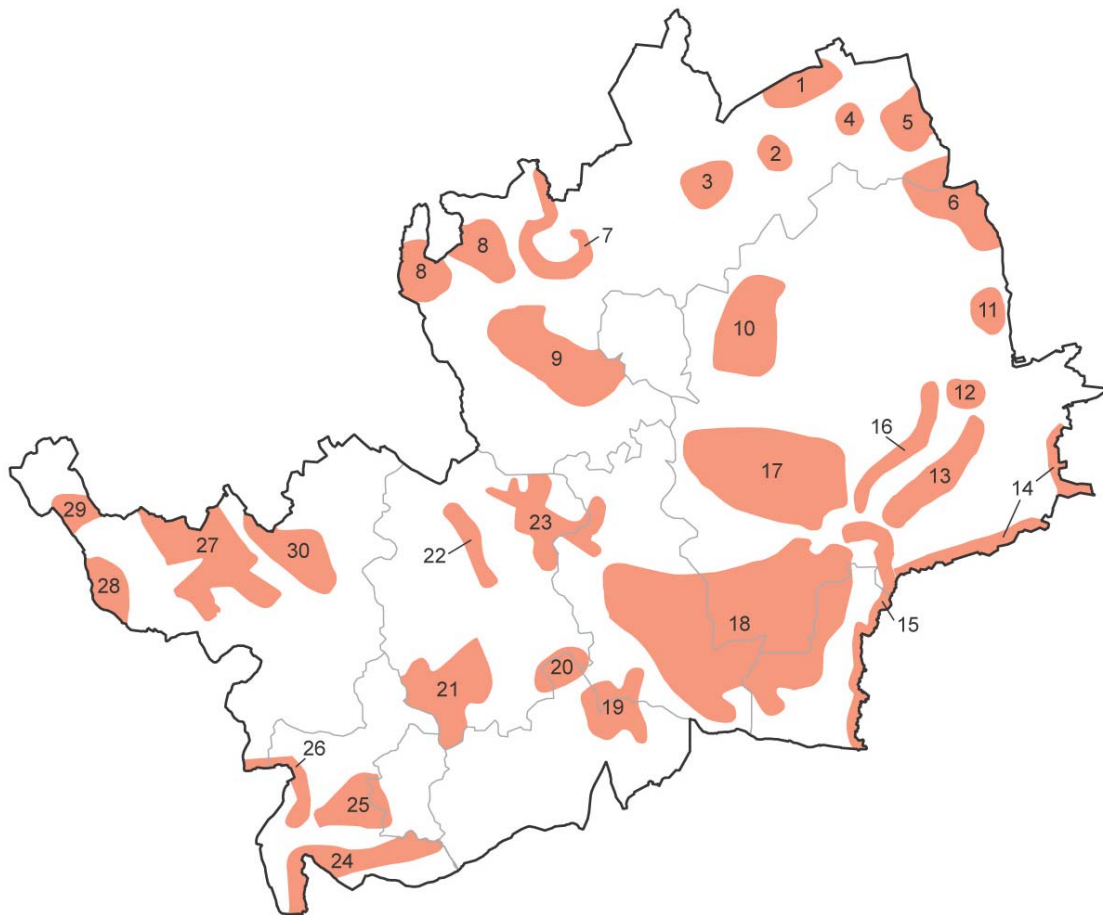
3.4.3 *Identifying Key Biodiversity Areas in Hertfordshire*

A rigorous methodology for identifying Key Biodiversity Areas, based on full data on the distribution and extent of semi-natural habitats and notable species, has not at this stage been developed in Hertfordshire. While the habitat data is now largely known from the Hertfordshire Habitat Survey, information on notable species awaits updating of the Recorder database by the Hertfordshire Biological Records Centre (HBRC). The local records centre clearly has a central role in biodiversity conservation in maintaining the biological database. Adequate resourcing will be required to allow it to perform this function.

However, provisional KBA's can be identified by looking at the known habitat data. Thirty potential Key Biodiversity Areas have been identified in Hertfordshire. These are listed below with brief descriptions. Their location is also shown on Map 3.1.

1. **Therfield Heath/Coombe Bottom** – chalk grasslands
2. **Sandon/Green End** – chalky boulder clay woodlands and meadows
3. **Clothall/Wallington/Weston** – chalky boulder clay woods and meadows

4. **Reed** – chalky boulder clay woodlands and meadows
5. **Cokenach Estate** – chalky boulder clay woodlands
6. **Scales Park/Meesden/Beeches Wood** – chalky boulder clay woodlands and meadows
7. **Hiz Valley Catchment (Ickleford/Oughton Head/Purwell)** – wet meadows and fens
8. **Hexton/Pirton/Great Offley** – chalk grasslands
9. **Great Offley/Preston/Knebworth** – oak-hornbeam woodlands
10. **Cottered/Ardeley/Benington** – oak-hornbeam and ash-maple woodlands and meadows
11. **Patmore Heath/Upwick Green** – heath, grasslands and woodlands
12. **Wellpond Green/Westland Green**
13. **River Ash Valley** – woodlands and wetlands
14. **Stort Valley** – grasslands and wetlands
15. **Lea Valley** – wetlands
16. **Rib Valley** – wetlands and woodlands
17. **Lower Mimram/Lower Beane/Bramfield Plateau** – wetlands and woodlands
18. **Broxbourne Woods/Hatfield Park** – oak-hornbeam woodlands, grasslands and heaths
19. **Mymmshall/Water End** – woodlands
20. **Upper Colne Valley** – wetlands and heath
21. **Bricket Wood/Moor Mill** – wetlands, woodlands and heath
22. **River Ver/Gorehambury** – wetlands and woodlands
23. **Upper Lea Valley** – wetlands, woodlands and heath



Map 3.1 – Key Biodiversity Areas in Hertfordshire

24. **Mid-Colne Valley** – wetlands (gravel pits) and grasslands

25. **Whippendell Woods and surrounds** – woodlands, grassland and wetlands

26. **River Chess Valley** – wetlands, grasslands, woodland and heath

27. **Ashridge/Berkhamsted Common/Aldbury** – beech woodland, heath, chalk grassland

28. **Tring Park/High Scrubbs** – beech woodland, chalk grassland

29. **Tring Reservoirs** – wetlands

30. **Upper Gade Valley** – wetlands, grasslands and woodland

The concept of targeting 'Key Biodiversity Areas' for prioritised conservation action is common to most, if not all, of the following habitat action plans. Because they represent concentrations of important habitats, many of the above named areas will be highlighted as priority areas in more than one habitat action plan.

However, further work is needed to better define these areas, particularly in terms of scarce species. This must be a priority action, to enable the most efficient use of available resources.

3.5 Setting local targets

The above audit and evaluation procedure has identified a short-list of habitats, species and Key Biodiversity Areas for which conservation action is a priority in Hertfordshire. The individual habitat and species action plans in the following chapters use this short-list to set targets and identify actions.

Targets in the action plans have been set using the following guidelines (Guidance for Local Biodiversity Action Plans – Guidance Note 4):

- a) Targets must be realistic but ambitious; setting targets that are appropriate to maintain or restore the natural character of an area, and contribute an appropriate proportion of the national target for each given feature;
- b) Targets must be measurable to enable progress to be evaluated subsequently and success or failure recorded;
- c) Targets must be set against clear timescales, and milestones should be included towards long-term objectives;

d) Targets should be based on best available data. Targets may not always be based on fully comprehensive data, but this must not be a barrier to setting targets;

e) Targets should be set in the context of the whole biodiversity of the county. Targets for many species will overlap with habitat targets and there should therefore be a clear relationship between habitat and species targets. This is particularly important when considering links between habitat and species management regimes and when looking at potential changes in land use or habitat creation schemes.

Finally, the guidance stresses that targets need not be limited by the apparent lack of financial resources and should therefore be set on the basis of their appropriateness to Hertfordshire and its features, and not on current resource availability.