

Charnwood Species Report

August 2008

Charnwood Borough Council

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I. Introduction

Charnwood Borough Council has undertaken a desk-top study of protected species and Biodiversity Action Plan (BAP) species to inform the preparation and implementation of the Charnwood Local Development Framework (LDF). The findings are to be incorporated into the evidence base used to inform the Core Strategy and other Local Development Documents which constitute the LDF.

The purpose of the desk-top species study is to provide detailed and robust data to inform the development of planning policies. This survey, together with the Phase I Survey commissioned from White Young Green Environmental, will provide an important element of the evidence base required to inform the policy decisions about the directions for growth, allocations of land for development and the criteria for assessing the sustainability of future development proposals.

The exact locations of the species discussed in the report have not been given purposely as the data is sensitive and confidential.

This report introduces the policy and legislative background and explains in more details the status of species. It then considers potential directions for growth around the main urban areas and identifies species which have been recorded in each area to help inform the Local Development Framework.

I.1 Planning Policy Statement 9 – Biodiversity & Geological Conservation

PPS 9 states that development plan policies and planning decisions should be based upon up-to-date information about the environmental characteristics of their areas. These characteristics should include the relevant biodiversity and geological resources of the area.

Plan policies and planning decisions should aim to maintain, and enhance, restore or add to biodiversity and geological conservation interests. In taking decisions, local planning authorities should ensure that appropriate weight is attached to protected species and to biodiversity and geological interests within the wider environment.

Many individual wildlife species receive statutory protection against a range of legislative provisions. Other species have been identified as requiring conservation action as species of principal importance for the conservation of biodiversity in England. Local authorities should take measures to protect the habitats of these species from further decline through policies in local development documents.

The potential effects of development on habitats or species listed as priorities in the UK Biodiversity Action Plan (BAP), and by Local Biodiversity Partnerships, together with policies in the England Biodiversity Strategy (Defra, 2002, *Working with the grain of nature: a biodiversity strategy for England*), are capable of being a material consideration in the preparation of local development documents.

Section 74 of the Countryside and Rights of Way Act 2000 places a new duty in respect of the conservation of biodiversity. In PPS 9, the Government has indicated

that local authorities should take steps to further the conservation of habitats and species of principal importance through their planning function. The lists of habitat types and species subject to this duty were published by Defra in 2002 and comprise habitats and species identified as priorities under the UK Biodiversity Action Plan. Under Section 40, the Natural Environment & Rural Communities (NERC) Act 2006 places a duty on every public authority in exercising its function to conserve biodiversity. Amendments to the list of UK Biodiversity Action Plan priority habitats and species made under Section 41 of the NERC Act 2006 were presented and subsequently formally adopted by the Government in June 2007.

1.2 Protected Species

Protected Species are defined as those protected through legislation:

- The Wildlife & Countryside Act 1981 (as amended)
- The Countryside & Rights of Way Act 2000 (CRoW Act 2000)
- The Conservation (Natural Habitats &c.) Regulations 1994 (as amended) (The Habitat Regulations)
- The Protection of Badgers Act 1992

1.3 Biodiversity Action Plan (BAP) Species

Biodiversity Action Plan Species are those which have been identified as priority species in Biodiversity Action Plans:

- Species identified in the UK Biodiversity Action Plan are referred to as Natural Environment & Rural Communities Act 2006 Section 41 species of principal importance
- Species identified in the Leicester, Leicestershire & Rutland Biodiversity Action Plan, which is also referred to as the Local Biodiversity Action Plan

1.4 Leicestershire Red Data Book Species

Endangered and seriously declining animal and plant species in the County were identified in the 1990s and listed in Red Data Books. Books were produced for vascular plants, bryophytes, birds, butterflies and moths, mammals, reptiles, amphibians, fish and beetles. A full bibliography is found under Appendix I.

2. Protected Species

2.1 Wildlife & Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 remains one of the most important pieces of wildlife legislation in Great Britain. Since the passing of the Wildlife and Countryside Act 1981 there have been various amendments to the text of the Act, most significantly through the Countryside and Rights of Way (CRoW) Act 2000, but also through other legislation.

There have also been changes to the species listed in the Schedules, through Variations to the Schedules Orders. There is a statutory five-yearly review of Schedules 5 and 8 (protected wild animals and plant respectively), undertaken by the statutory conservation agencies, but changes to the Schedules can be made by the Secretary of State at any time, if it is considered necessary because of a threat of extinction or in response to international obligations.

All species of wild birds are protected under the provision of the Wildlife & Countryside Act 1981 (as amended). A list of all protected species of animals and plants is provided in Table 2 of Annex A of the Government Circular: Biodiversity & Geological Conservation – Statutory Obligations and their Impact within the Planning System.

2.2 The Conservation (Natural Habitats &c.) Regulations 1994 (The Habitat Regulations)

The Habitats Regulations implement the requirements of the Habitats Directive for species listed in Annexe IV of the Directive (European Protected Species EPS). Stricter provisions than those contained in the Wildlife & Countryside Act 1981 apply for these species and regulation 3(4) of the Habitats Regulations places a duty on local planning authorities, in the exercise of their functions, to have regard to the requirements of the Directive so far as they might be affected by those functions. All European species are also separately protected under the Wildlife & Countryside Act 1981.

Species protected under the Conservation (Natural Habitats, &c.) Regulations 1994, which have been previously recorded in Charnwood Borough are listed in Table 1 below.

Table 1

Bats – All species	
<ul style="list-style-type: none">• <i>Pipistrellus pipistrellus</i>• <i>Pipistrellus pygmaeus</i>• <i>Plecotus auritus</i>• <i>Myotis daubentoni</i>• <i>Myotis nattereri</i>• <i>Myotis mystacinus</i>• <i>Barbastella barbastellus</i>• <i>Nyctalus noctula</i>	Common Pipistrelle Soprano Pipistrelle Brown Long-eared Bat Daubenton's Bat Natterer's Bat Whiskered Bat Barbastelle Noctule Bat

• <i>Nyctalus leisleri</i>	Leisler's Bat
<i>Triturus cristatus</i>	Great Crested Newt
<i>Lutra lutra</i>	Common Otter

European protected animal species and their breeding sites or resting places are protected under Regulation 39. It is an offence for anyone to deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs. It is an offence to damage or destroy a breeding or resting place of such an animal. It is also an offence to have in one's possession or control, any live or dead European protected species.

Amendments to the Conservation (Natural Habitats &c.) Regulations 1994 came into force on 21 August 2007. The changes provide increased protection for EPS, as the amendments have removed many of the defences, including the commonly relied upon 'incidental result defence', which previously covered acts which were the incidental result of an otherwise lawful activity and which could not reasonably have been avoided.

Those carrying out activities that may affect European Protected Species now have to consider, in a wider range of circumstances, the presence of EPS and their breeding sites or resting places.

An offence will now be committed if a person deliberately disturbs an EPS in such a way as to be likely significantly to affect either the ability of any significant group of animals of that species to survive, breed, or rear or nurture their young, or the local distribution or abundance of that species. This should ensure that there will be no detrimental impact on the favourable conservation status of EPS.

2.3 The Protection of Badger Act 1992

Badgers and their setts are protected under the Protection of Badgers Act 1992. This legislation was introduced to prevent cruelty to badgers rather than on nature conservation grounds. The Act makes it illegal to kill, injure or take badgers or to interfere with a badger sett. Interference with a sett includes blocking tunnels or damaging the sett in any way. Work which disturbs badgers without a licence, even where work does not directly interfere with or damage setts, may be illegal.

3. Biodiversity Action Plans (BAP) Species

3.1 UK BAP Species (NERC Act 2006 Section 41 Species of Principal Importance)

Biodiversity is the variety of life in all its forms and the habitats where it occurs. In 1992, at the 'Earth Summit' in Rio de Janeiro, the UK Government signed the Biodiversity Convention. This was followed up by the publication of Biodiversity: The UK Biodiversity Action Plan, in 1994, with the stated goal 'to conserve and enhance biological diversity in the UK'.

UK Biodiversity Action Plan Species are listed as Section 41 species of principal importance under the Natural Environment & Rural Communities Act 2006. Species which have previously been recorded in Charnwood Borough are listed in Table 2 below.

Table 2

Vertebrates	
Amphibians	
<i>Triturus cristatus</i>	Great Crested Newt
Birds	
<i>Alauda arvensis</i>	Skylark
<i>Caprimulgus europaeus</i>	Nightjar
<i>Carduelis cannabina</i>	Linnet
<i>Emberiza shcoeniclus</i>	Reed Bunting
<i>Miliaria calandra</i>	Corn Bunting
<i>Muscicapa striata</i>	Spotted Flycatcher
<i>Passer montanus</i>	Tree Sparrow
<i>Perdix perdix</i>	Grey Partridge
<i>Pyrrhula pyrrhula</i>	Bullfinch
<i>Streptopelia turtur</i>	Turtle Dove
<i>Turdus philomelos</i>	Song Thrush
Mammals	
<i>Arvicola terrestris</i>	Water Vole
<i>Barbastella barbastellus</i>	Barbastelle Bat
<i>Lepus europaeus</i>	Brown Hare
<i>Lutra lutra</i>	Otter
<i>Pipistrellus pipistrellus</i>	Common Pipistrelle
<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle
Invertebrates	
Crustaceans	
<i>Austropotamobius pallipes</i>	White-clawed Crayfish
Lower Plants	
Fungi	
<i>Hygrocybe calyptiformis</i>	Pink Meadow Cap
<i>Buglossoporus pulvinus</i> = <i>Piptoporus quercinus</i>	Oak Polypore
Higher Plants	
Vascular Plants	
<i>Potamogeton compressus</i>	Grass-wrack Pondweed

3.2 Amendments to the UK BAP Species List

In June 2007 amendments to the list of UK Biodiversity Action Plan priority species were presented and subsequently formally adopted by the Government. This list, a result of the most comprehensive analysis ever undertaken in the UK, contains 1149 species and 65 habitats that have been listed as priorities for conservation action

under the UK Biodiversity Action Plan (UK BAP). New species relevant to Charnwood Borough are listed in Table 3 below.

Table 3

Vertebrates	
Birds	
<i>Anthus trivialis</i>	Tree Pipit
<i>Carduelis flavirostris</i> subsp. <i>Bensonorum</i> / <i>pipilans</i>	Twite
<i>Coccothraustes coccothraustes</i>	Hawfinch
<i>Cuculus canorus</i>	Common Cuckoo
<i>Dendrocopos minor</i> subsp. <i>comminutus</i>	Lesser Spotted Woodpecker
<i>Emberiza citrinella</i>	Yellowhammer
<i>Motacilla flava</i> subsp. <i>flavissima</i>	Yellow Wagtail
<i>Parus montanus</i> subsp. <i>kleinshimdti</i>	Willow Tit
<i>Parus palustris</i> subsp. <i>palustris</i> / <i>dresseri</i>	Marsh Tit
<i>Passer domesticus</i>	House Sparrow
<i>Sturnus vulgaris</i> subsp. <i>vulgaris</i>	Common Starling
Amphibians & Reptiles	
<i>Anguis fragilis</i>	Slow Worm
<i>Bufo bufo</i>	Common Toad
<i>Lacerta vivipara</i>	Common Lizard
<i>Natrix natrix</i>	Grass Snake
<i>Vipera berus</i>	Adder
Mammals	
<i>Erinaceus europaeus</i>	West European Hedgehog
<i>Micromys minutus</i>	Harvest Mouse
<i>Nyctalus noctula</i>	Noctule Bat
<i>Plecotus auritus</i>	Brown Long-eared Bat
Higher Plants	
Vascular Plants	
<i>Campanula patula</i>	Spreading Bellflower
<i>Euphrasia anglica</i>	Glandular Eyebright
<i>Oenanthe fistulosa</i>	Tubular Water-dropwort

Some species were removed from the UK List of priority species. Those relevant to Charnwood Borough are shown in Table 4 below.

Table 4

		Reason for removal
<i>Pipistrellus pipistrellus</i>	Common Pipistrelle	Population is stable
<i>Hygrocybe calyptiformis</i>	Pink Meadow Cap	More common than originally thought

3.3 Leicester, Leicestershire & Rutland Biodiversity Action Plan Species

Local Biodiversity Action Plans aim to focus resources to conserve and enhance biodiversity at the local level by means of local partnerships, taking account of national and local priorities.

To this end, surveys of the local key species in Leicestershire and Rutland were published (Lott 1997). A working group of representatives from 19 organisations, lead by Leicestershire & Rutland Wildlife Trust, used this information to draw up the local plan, 'Biodiversity Challenge: An Action Plan for Leicester, Leicestershire and Rutland', which was produced in 1998.

The plan identifies local priority species, sets targets for their conservation and outlines mechanisms for achieving these. Plans, including targets, were reviewed in 2005. The Leicester, Leicestershire & Rutland BAP comprises action plans targeting 14 species, details of which can be found at <http://www.lrwt.org.uk/bap.asp>. The species relevant to Charnwood District are listed in Table 5 below.

Table 5

<i>Tyto alba</i>	Barn Owl
Bats – All species <ul style="list-style-type: none">• <i>Pipistrellus pipistrellus</i>• <i>Pipistrellus pygmaeus</i>• <i>Plecotus auritus</i>• <i>Myotis daubentoni</i>• <i>Myotis nattereri</i>• <i>Myotis mystacinus</i>• <i>Barbastella barbastellus</i>• <i>Nyctalus noctula</i>• <i>Nyctalus leisleri</i>	Common Pipistrelle Soprano Pipistrelle Brown Long-eared Bat Daubenton's Bat Natterer's Bat Whiskered Bat Barbastelle Noctule Bat Leisler's Bat
<i>Populus nigra ssp betulifolia</i>	Black Poplar
<i>Lutra lutra</i>	Otter
<i>Phoenicurus phoenicurus</i>	Redstart
<i>Riparia riparia</i>	Sand Martin
<i>Epipactis purpurata</i>	Violet Helleborine
<i>Arvicola terrestris</i>	Water Vole
<i>Austropotamobius pallipes</i>	White-clawed Crayfish

4. Leicestershire Red Data Book Species

Leicestershire has seen a substantial loss of wildlife habitats and species from changes in agriculture, quarrying and development. Leicestershire Red Data Books (RDB) were produced in partnership between Leicestershire County Council Museums Arts & Records Service and Leicestershire & Rutland Wildlife Trust in the 1990s. The Leicestershire Red Data Book on vascular plants has been regularly updated as a joint project between the Leicestershire & Rutland Wildlife Trust and the Botanical

Society of the British Isles, and is now called the Leicestershire & Rutland Rare Plant Register.

The purpose of Leicestershire Red Data Books was to identify endangered and seriously declining animal and plant species in the County and to provide essential information on their habitat, status and ecology, as well as possible threats and required conservation measures. The RDB informed the production of the Leicester, Leicestershire & Rutland Biodiversity Action Plan.

The lists of species contained in Leicestershire Red Data Book have not been reproduced in this report, but a full bibliography is given in Appendix I.

5. Methodology

Potential areas for development covered by the 2007 WYG Phase I Habitat Survey were checked for records of protected species, Section 41 species of principal importance (UK BAP species) and Local BAP species. 500 m buffer zones around each potential area for development were further checked for these species.

Species information was provided by Leicestershire Environmental Resources Centre. Further data originated from Charnwood Borough Council's own records. This data was collected as part of previous Local Wildlife Sites survey work by ecological staff within Charnwood Borough Council's Directorate of Development. More data was gathered from incidental records collected over the last 17 years by the Borough's Directorate of Development.

Information about RDB species has only been incorporated in this report when readily available through previous survey work from either Local Wildlife Site notifications or the 2007 WYG Phase I survey report on the potential areas for growth.

Lack of data about species does not necessarily indicate that these species are not present within an area: species recording can be influenced by a range of factors such as the presence of active recorders in an area, which species are recorded, whether recorders pass on their findings either to the Leicestershire Environmental Record Centre or Charnwood Borough Council. Furthermore, some species may not be recorded in a given area all year round, whilst other species may fluctuate in their numbers and spatial distribution. Accordingly, the information contained in this report is not comprehensive. The report will only give a general indication of the species which are currently known to occur within the potential areas for growth.

The report provides detailed recommendations for each area which can be used to inform more detailed policy or guidance for sustainable urban extensions. Planning applications will still need to be supported by ecological surveys and appropriate mitigation measures.

Charnwood Borough Council is preparing the Core Strategy for the Charnwood Local Development Framework. The Core Strategy will set out the vision and

objectives of the Local Development Framework and outline key policies for achieving these objectives. The emerging Regional Plan for the East Midlands proposes two large sustainable urban extensions within Charnwood, one adjoining the Sub-regional Centre of Loughborough/Shepshed and one adjoining the Principal Urban Area of Leicester.

The Core Strategy will need to make provision for these Sustainable Urban Extensions and will need to consider all reasonable alternatives for delivering this large scale development. This study will form part of the evidence base to inform this decision.

The potential areas for development which were considered in this report are:

- East of Thurmaston / North of Hamilton
- North of Birstall
- South of Anstey / North of Glenfield
- West of Shepshed
- West of Loughborough
- South of Loughborough
- East of Loughborough

The report will consider each area in turn and outline the protected and Biodiversity Action Plans species in those areas, as currently known, and recommendations about issues which will require further consideration.

6. East of Thurmaston / North of Hamilton

The potential direction for growth area East of Thurmaston / North of Hamilton has been further subdivided into 5 discrete areas in order to provide a more detailed analysis of species:

- East of Syston
- East of Thurmaston
- South of Barkby Road / east of Barkby Thorpe
- North of Melton Brook / south-east of Barkby Thorpe
- South of Melton Brook / north of Scraftoft

6.1 Potential area for development to the east of Syston

A main **badger** sett is present within the area. Within a 500 m zone around the potential area for development, another badger sett was recorded. It is not known whether the two setts are part of the same or two distinctive family groups, but given the distance between the setts, it is possible that two family groups are present. Relevant issues will be the retention of sufficient foraging areas and commuting routes to sustain the local population(s).

Bats and one bat roost have been recorded within the eastern built-up area of Syston in a 500 m radius of the potential area for development. There are several mature trees with potential bat roosts within the area. Connectivity between

habitats could be enhanced by sympathetic management of the hedgerow network and through habitat creation.

Kingfishers have been recorded along Barkby Brook. The watercourse and its associated tree cover to the south of area provides a wildlife habitat and functions as a wildlife corridor along which species can commute.

Recommendations

- Badger survey to investigate the level of badger activity.
- Retention of commuting routes and sufficient foraging area to sustain the local population(s).
- Bat survey to investigate commuting routes and foraging areas and links between built up area and countryside.
- Retention/restoration of bat commuting routes and foraging ground through sympathetic management and habitat creation.
- Sufficient buffer zones between development and areas which are known to support wildlife and act as wildlife corridors to secure species movement and dispersal, particularly in the context of climate change.
- Protection of water flow and quality.

6.2 Potential area for development to the east of Thurmaston

There are no known species records within the potential area for development. The area is generally located within an intensively managed landscape with severely trimmed hedgerows and gappy/defunct hedgerows bordering large arable fields.

Within the built up area of Syston / Thurmaston adjacent to the potential area for development and in a 500 m radius around it, several **bat** roosts have been recorded. Records include **pipistrelle bat** roosts. A juvenile female **Natterer's bat** was recorded within 500m, indicating the presence of a maternity roost in the vicinity. The distribution of Natterer's bat is very restricted in Charnwood, with few confirmed records. Part of the built up area comprises tree lines and gardens with a proportion of tree cover, which are likely to be important as feeding grounds and commuting routes. There are also several mature trees with potential bat roosts.

Barkby Brook and its associated tree cover function as the main wildlife corridor on the outskirts of the potential area for development. Mobile species such as the **kingfisher** have been recorded further downstream, but are likely to travel along the stretch adjacent to the potential area for development.

There are several field ponds within the area, and although no current information on their status is available, it is possible that they support breeding amphibians.

Recommendations

- Bat survey to investigate commuting routes and foraging areas and links between built up area and countryside.
- Retention/enhancement of bat foraging areas and uninterrupted commuting grounds through sympathetic management and habitat creation.

- Amphibian pond survey.
- Sufficient buffer zones between development and areas which are known to support wildlife and act as wildlife corridors, to secure species movement and dispersal, particularly in the context of climate change.
- Protection of water flow and quality.

6.3 Potential area for development to the south of Barkby Road, east of Barkby Thorpe

There are no known species records within the potential area for development.

Adjacent to the potential area for development, there are records of **water vole** and **otter** associated with Barkby Brook. The watercourse and its associated tree cover functions as a wildlife corridor along which species can commute.

Recommendations

- Sufficient buffer zones between development and areas which are known to support wildlife and act as wildlife corridors, to secure species movement and dispersal, particularly in the context of climate change.
- Protection of water flow quality.

6.4 Potential area for development to the north of Melton Brook, south-east of Barkby Thorpe

There are no known species records within the potential area for development.

There are a number of mature/veteran trees within the area with potential bat roosts.

Adjacent to the potential area for development, are records of **water vole** and **otter** associated with Melton Brook. The watercourse functions as a wildlife corridor along which species can commute. Some sections of the Brook are lined with mature trees and small areas of wet woodland which may also provide foraging areas and commuting routes.

There are several ponds and a wet ditch within the area, although their status is currently unknown.

Within 500 m of the potential area for development, the countryside supports the **skylark**, a species traditionally associated with farmland. The loss of farmland habitat is likely to affect bird species such as the skylark.

Recommendations

- Sufficient buffer zones between development and areas which are known to support wildlife and act as wildlife corridors, to secure species movement and dispersal, particularly in the context of climate change.
- Protection of water flow and quality.

- Amphibian survey of field ponds.

6.5 Potential area for development to the south of Melton Brook, north of Scraptoft

Bird species associated with farmland have been recorded within the potential area for development: **yellowhammers** and **song thrush** have been associated with species-rich hedgerows and a small pocket of woodland. The loss of greenfield land is likely to affect traditional farmland bird species.

Within a 500 m zone, the **water vole** and **otter** have been recorded along Melton Brook. The Brook functions as a wildlife corridor along which species commute.

Recommendations

- Sufficient buffer zones between development and areas which are known to support wildlife and act as wildlife corridors, to secure species movement and dispersal, particularly in the context of climate change.
- Protection of water flow and quality.

7. North of Birstall

Badgers and their setts have been recorded at several locations within the potential area for development and also in the 500 m zone around it. Access to sufficient foraging ground and retention of commuting routes will need to be incorporated into development proposals to ensure that the location population is sustainable.

Bats and bat roosts have been recorded next to the potential area for development and several roosts are known to occur in the village of Rothley within a 500 m zone. Species include **pipistrelle** and **brown long-eared bats**. Bats are known to feed along the wooded landscape associated with Rothley Park, the ground of Rothley Golf Course and along Rothley Brook. **Daubenton's bats** have been recorded foraging at ponds close to the Brook. The wooded landscape is of importance to the local bat population, as it provides good foraging grounds and connectivity within the landscape. Water bodies associated with tree cover are an important resource for many bats. A high number of mature/veteran trees are found within the area and have the potential to be used as roosting places for bats.

There are several ponds within the potential area for development which may provide suitable habitats for breeding amphibians, although no data is currently available.

Within a 500 m zone, many species are associated with Watermead Country Park and the River Soar, to the east of the potential area for development: **grass snake** is a frequent occurrence. Bird species such as the **barn owl** have been recorded at Watermead Country Park, which is also known for its notable assemblage of wintering waterfowl, such as the **garganey**. However, the A6 represents a physical barrier between most of the potential area for development and Watermead Country Park and the River Soar.

Other species are associated with the linear habitats found along the Great Central Railway, such as the **bullfinch** and **song thrush**.

The **white-clawed crayfish** and **water vole** have been recorded along Rothley Brook, which is adjacent to the potential area for development.

Recommendations

- Bat survey to investigate commuting routes and foraging areas.
- Retention of wooded landscape, including network of hedgerows and mature/veteran trees for foraging areas and commuting routes.
- Badger survey to investigate level of badger activity.
- Retention of badger commuting routes and sufficient foraging area to sustain local population.
- Restoration of gappy hedgerows/links at strategic locations to reinstate connectivity between important habitats.
- Amphibian survey of ponds.
- Sufficient buffer zones between development and areas which are known to support wildlife.
- Protection of water flow and quality of Rothley Brook.

8. South of Anstey / North of Glenfield

Bat roosts have been recorded at two properties in Anstey on the boundary with the northern part of potential area for development, and several more in this vicinity. Bats rely on suitable foraging grounds and commuting routes to their foraging grounds. They often travel along hedgerows and tree lines where they feed. Some bat species are not able to bridge gaps in tree canopy and cross open ground. Although some of hedgerows to the west of the bat roosts are severely trimmed they still comprise some standard trees and provide some habitat connectivity in the landscape. A large number of mature/veteran trees have been recorded in the potential area for development: they provide potential bat roosts and when associated with hedgerows are likely to be important as foraging areas and commuting routes.

Any development in that area should investigate important commuting routes to ensure that these routes are not fragmented through development. Wildlife corridors should be retained to ensure connectivity between habitats and enhanced by sympathetic management and additional planting of locally native trees. Further provision for woodland planting connected to a network of hedgerows should be encouraged.

Badgers have been recorded to the south of the A46 within the potential area for development, and evidence of foraging activity has also been noted. The A46 represents a barrier to the dispersal of species. Badger foraging ground and commuting routes will need to be investigated and retained in a strategic manner to sustain the local population.

Grey partridge, yellowhammer and **skylark** are bird species typically associated with farmland, which have been recorded in a large field with a diverse flora of arable margin plants. The arable land at the potential area for development has the potential to support other farmland bird species. **Bullfinches** have been recorded to the south of Gynsill Lane.

White-clawed crayfish, water vole, kingfisher and **otter** have been recorded along Rothley Brook. The Brook functions as a wildlife corridor of importance for species movement and dispersal.

Recommendations

- Bat survey to investigate commuting routes and foraging areas.
- Retain network of mature/veteran trees and commuting routes to foraging areas.
- Reinforce commuting routes and foraging areas by planting of locally native species hedgerows and woodland areas and sympathetic hedgerow management.
- Badger survey to investigate level of badger activity.
- Retain commuting routes and foraging area, particularly as the A46 represents a barrier to dispersal.
- Lighting along or close to wildlife corridors should be carefully considered.
- Protection of water quality and flow of Rothley Brook.

9. West of Shepshed

The Black Brook supports several species which have been either recorded within the potential area for development or extremely close to it. As the Brook acts as a wildlife corridor, species found just outside the area for potential development are still relevant. The **white-clawed crayfish** has been recorded within the Black Brook. The **kingfisher** has not only been sighted on several occasions, but is also known to breed along the Black Brook within the potential area for development as well as in close proximity to it.

Grace Dieu Brook has not been surveyed in detail, but its physical character makes it likely to support species such as the white-clawed crayfish and water vole.

There are several records of **bats** and bat roosts, including **pipistrelle bats**, within a 500 m zone around the potential area for development. Connectivity with the countryside and good foraging habitats varies within the potential area for development and adjacent to it: there are linear features, such as hedgerows with mature/veteran trees and the disused railway line, particularly in the southern half of the area and the top north-east corner, which provide good links. Grace Dieu Brook and Black Brook are of importance, being associated for most of their length with trees and providing good foraging grounds and commuting routes. Hedgerows linking the two watercourses along Carr Lane and Hallamford Road provide key links. Elsewhere the hedgerows are fragmented or severely trimmed in a fairly intensively managed landscape less conducive to wildlife.

Other records are of birds of prey, such as the **hobby** and **peregrine falcon** along the Black Brook and the outskirts of Shepshed, may be indicative of species passing through an essentially rural landscape.

There are **badger** records outside the 500 m zone around the potential area for development; badgers are known to travel in search of food and new territories and are likely to come into the potential area for development.

A small pond immediately adjacent to the potential area for development may support amphibian populations, but no data is currently available.

Recommendations

- Retain and protect the two watercourses and create a wide buffer zone to maximise their benefit as habitat and wildlife corridor.
- Lighting along or close to wildlife corridors should be carefully considered.
- Protect water flow and quality.
- Species survey of Grace Dieu Brook
- Bat survey to investigate commuting routes and foraging areas.
- Retain and reinforce commuting routes to foraging areas, and network of mature/veteran trees.
- Amphibian survey of field pond adjacent to area
- Retain connectivity between Grace Dieu Brook and Black Brook and other habitats and restore connectivity where isolated / fragmented habitats occur.

10. West of Loughborough

West of Loughborough has been split into 2 areas in order to provide a more detailed analysis of species:

- North of Black Brook
- South of Black Brook / North of Garendon Park

10.1 Potential area for development to the north of Black Brook

There are records of **badger** setts immediately adjacent to the potential area for development and other field evidence of badger foraging activity and territory marking at different locations within the area. It is not known whether different family groups are present. Of particular importance are some of the wildlife corridors within or next to the area, which enable badgers to reach their foraging ground and to disperse.

Several **bat** roosts have been recorded in the built-up area of Hathern and at Long Whatton, respectively to the east and north of the potential area for development, and in the western area of Loughborough, including **pipistrelle** roosts. A **noctule** maternity roost is known to the west of the potential area for development, just over 500 m away. There are several mature/veteran trees within the area with bat roost potential. There is an established **pipistrelle** roost associated with farm buildings to the west of the area. Hedgerows along Whatton Road and to the east of Oakley Wood connect Long Whatton to the SSSI and are likely to be important

commuting routes, although there is a degree of fragmentation. The woodland belt associated with Hathern Drive links Hathern with potential bat foraging areas along the Black Brook.

Kingfishers have been recorded both upstream and downstream of the stretch of Black Brook adjacent to the potential area for development, and this species would travel along the stretch of watercourse within the potential area for development. The Black Brook is known to support **white-clawed crayfish**. **Otters** have also been recorded along the Black Brook downstream of the potential area for development.

Breeding **barn owls** have been recorded close to the potential area for development and are likely to use the farmland as foraging ground. The loss of greenfield land is likely to have an impact on species associated with farmland habitat, such as the barn owl.

Oakley Wood SSSI holds Leicestershire Red Data Book plant species. The woodland may be under pressure from increased public use which could lead to trampling, erosion and increased nutrients from dog walking and localised airborne pollution.

There is one record of **great crested newt** at Hathern within 500 m of the potential area for development. Great crested newt can travel from terrestrial habitat to reach their breeding ground. However the record is to the east of the busy A6 which may act as a barrier to their dispersal and there are no field ponds in the area.

Recommendations

- Badger survey to investigate level of badger activity
- Retention of sufficient foraging ground and commuting/dispersal routes.
- Bat survey to investigate commuting routes and foraging areas and links between built up areas and countryside.
- Retention of bat commuting areas to foraging ground
- Sufficient buffer zones between development and areas which are known to support wildlife, such as Oakley Wood
- Retention of features which act as wildlife corridors such as Black Brook and Hathern Drive, to prevent habitat fragmentation at the landscape level and to secure species movement and dispersal, particularly in the context of climate change.
- Lighting along or close to wildlife corridors should be carefully considered.
- Restoration of fragmented hedgerows where they are critical to species dispersal, such as hedgerows to the east of Oakley Wood SSSI.
- Protection of Black Brook water quality and flow.

10.2 Potential area for development to the south of Black Brook

There is a record of **song thrush** within the potential area for development at the Hermitage Estate. The loss of greenfield land is likely to affect farmland bird species such as the song thrush.

There are records of **badger** setts within the potential area for development, as well as in the area immediately adjacent to it and within a 500 m zone.

A good population of breeding **common toads** is known to occur in the water bodies close to the potential area for development at Stonebow Washlands Local Wildlife Site. Toads only spend a short part of their life cycle at their breeding ponds, but rely on good terrestrial habitat for the rest of the time. Networks of hedgerows are important as refugia, but also as commuting routes to breeding ponds. Habitat connectivity is therefore of crucial importance for this species.

Bat and their roosts have been recorded in the western area of Loughborough, including **pipistrelle**. A **noctule** maternity roost is known to the west of the potential area for development, over 500 m away. There are several mature/veteran trees within the area with bat roost potential.

There are a number of mature/veteran trees within the area for potential development, which offer potential bat roosts. Hedgerows and woodland belts provide links between habitats and are likely to be important for species movement and dispersal.

Kingfishers have been recorded both upstream and downstream of the stretch of Black Brook adjacent to the potential area for development, and this species would travel along the stretch of watercourse within the potential area for development. The Black Brook is known to support **white-clawed crayfish**. **Otters** have also been recorded along the Black Brook downstream of the potential area for development.

Recommendations

- Badger survey to investigate the level of badger activity.
- Retain commuting routes and sufficient foraging areas to sustain the local badger population.
- Retain commuting routes and sufficient good quality terrestrial habitat to retain a sustainable toad population.
- Sufficient buffer zones between development and areas outside potential area for development which are known to support wildlife.
- Retention of features which act as wildlife corridors, such as hedgerows, to secure species movement and dispersal at the landscape scale, particularly in the context of climate change.
- Lighting along or close to wildlife corridors should be carefully considered.
- Protection of water quality and flow.

11. South of Loughborough

South of Loughborough has been split into 4 discrete areas

- South-west of Loughborough
- East of Mucklin Wood
- Loughborough Golf Course

- Woodthorpe area

11.1 Potential area for development to the south-west of Loughborough

A **badger** sett has been recorded within the potential area of development. Within a 500m zone around the potential area for development there are numerous records of badger setts and other sightings. It is not known whether the setts are all related to the same family group or not.

There is a record of **common lizard**, indicating the proximity and links of the area to Charnwood Forest.

Linnet and **bulfinch** have been recorded within the area, in species-rich hedgerows and suitable breeding habitat. The loss of greenfield land is likely to affect species associated with farmland.

Close to the boundary of the potential area for development are numerous records of **bat** roosts and bats within the residential area. There are a number of mature/veteran trees within the area which offer potential bat roosts. Hedgerows form links between areas of housing on the outskirts of Loughborough and good foraging areas along green lanes, watercourses and woodland blocks, including the Outwoods SSSI.

The bullhead *Cottus gobio*, a Leicestershire Red Data Book species, has been recorded at the Wood Brook within the potential area for development.

The potential area of development comprises several ponds which may be suitable for breeding amphibians. However no data on the pond status is currently available.

Recommendations

- Badger survey to investigate the level of badger activity.
- Retain commuting routes and sufficient foraging ground to sustain local badger population.
- Bat survey to investigate commuting routes and foraging areas and links between built up areas and countryside.
- Retention of wildlife corridors linking housing areas with good bat foraging areas such as blocks of woodland.
- Lighting along or close to wildlife corridors should be carefully considered.
- Enhancement and sympathetic management of hedgerows which connect habitats.
- Amphibian pond survey.
- Retention of pond network in the landscape and retention/restoration of connectivity at the landscape scale.
- Sufficient buffer zones between development and areas outside potential area for development which are known to support wildlife
- Protection of water quality and flow of Wood Brook.

11.2 Potential area for development to the east of Mucklin Wood

Badgers have been recorded within the potential area for development. Within a 500 m zone around the potential area for development, many badger setts and sightings have been recorded.

The **skylark** has been recorded on adjacent farmland. The loss of greenfield land is likely to affect species associated with farmland.

Bat roosts have been recorded in close proximity to the boundary of the potential area for development. There are also a number of mature/veteran trees within the area which offer potential bat roosts. Hedgerows form links between areas of housing on the outskirts of Loughborough and good foraging areas along green lanes, and woodland blocks, including Mucklin Wood ancient woodland.

There is a network of field ponds, which may be suitable for breeding amphibians, however no detailed data is currently available on their status.

Recommendations

- Badger survey to investigate the level of badger activity.
- Retain commuting routes and sufficient foraging ground to sustain local badger population.
- Bat survey to investigate commuting routes and foraging areas and links between built up areas and countryside.
- Retention of wildlife corridors linking roosts with good bat foraging areas such as blocks of woodland.
- Lighting along or close to wildlife corridors should be carefully considered.
- Enhancement and sympathetic management of hedgerows which connect habitats.
- Amphibian pond survey.
- Retention of pond network in the landscape and retain/restore connectivity at the landscape scale.
- Sufficient buffer zones between development and areas outside potential area for development which are known to support wildlife

11.3 Loughborough Golf Course

There are no known records for this potential area for development, however, there are **badger** records in its close vicinity.

There are several bat records within the neighbouring built up area of **pipistrelle bats** and **brown long-eared bats**.

Recommendations

- Badger survey to investigate the level of badger activity.
- Retain commuting routes to sustain local badger population.
- Bat survey to investigate commuting routes and foraging areas and links between built up areas and countryside.

- Retention of wildlife corridors linking roosts with good bat foraging areas such as blocks of woodland.
- Lighting along or close to wildlife corridors should be carefully considered.

11.4 Potential area for development around Woodthorpe

There are several records of **badger** setts within the potential area for development. Within 500 m of the potential area for development are other records of badgers and their setts.

There are records of birds which are traditionally associated with farmland, such as **linnet**, **song thrush** and **skylark**, and other species associated with wetland habitats such as **sand martin** and **reed bunting**. The loss of greenfield land is likely to affect species associated with farmland

The largest population of **common toads** known in Charnwood is found adjacent to the potential area for development at Charnwood Water. Amphibians only spend part of their life cycle in aquatic habitats, and require good quality terrestrial habitats the rest of the time and suitable commuting routes to their breeding ponds.

There are field ponds and ditches within the potential area for development which may be suitable for breeding amphibians, however no data is currently available on the pond status.

The **water vole** has also been recorded adjacent to the potential area for development.

Bats roosts, including **pipistrelle** roosts, have been recorded in the vicinity of the potential area for development, and some areas are known to be of importance as foraging grounds for bat species such as **Daubenton's** and **pipistrelles**. Hedgerows provide a network of foraging grounds and commuting routes between areas of housing at Woodthorpe and the outskirts of Loughborough and blocks of woodland. Although some hedgerows are intensively managed, they still provide links between habitats in an otherwise fairly intensively managed agricultural landscape.

The blue-brick bridge near Woodthorpe supports a population of rustyback fern *Ceterach officinarum*, a Leicestershire Red Data Book species associated with base-rich crevices and mortar cracks in walls.

Recommendations

- Badger survey to investigate the level of badger activity.
- Retain commuting routes and sufficient foraging ground to sustain local badger population.
- Bat survey to investigate commuting routes and foraging areas and links between built up areas and countryside.
- Retain/enhance commuting routes and sufficient good quality terrestrial habitat to retain a sustainable toad population.
- Survey of ponds for amphibians.

- Sufficient buffer zones between development and areas outside potential area for development which are known to support wildlife
- Retention of wildlife corridors, particularly in the flood plain, to secure species movement and dispersal, particularly in the context of climate change.
- Lighting along or close to wildlife corridors should be carefully considered.
- Protection of water quality and hydrological regime of wetland habitats.
- Retention and protection of rustyback fern population.

12. East of Loughborough

East of Loughborough has been subdivided into 3 discrete areas

- Wymeswold Airfield
- South of Wymeswold
- East of Cotes

12.1 Wymeswold Airfield potential area for development

Farmland birds such as the **skylark** and **common cuckoo** have been recorded within the potential area of development and within a 500 m radius. The loss of greenfield land is likely to affect species associated with farmland habitats.

Noctule bats and **pipistrelle bats** have been recorded commuting across the area and there are more records of bat foraging activity, both of pipistrelle bats and noctule bats within 500 m. Bat roosts are also known to occur in close proximity to the potential area for development. There are several mature/veteran trees within the area with potential bat roosts. The woodland belts and hedgerows along the fringes of the airfield and along Burton Lane provide good bat foraging ground and commuting routes.

The **water vole** has been recorded along the River Mantle to the north of the potential area for development. The wet ditches on site may be of limited value to this species as they appear to be only seasonally wet.

There are records of **great crested newt** within 500 m of the potential area for development. Although the records are some distance away from the area, great crested newt can travel some distance from their terrestrial habitat to their breeding grounds and there is a network of old field ponds to the north of Burton-on-the-Wolds, which is a possible stronghold for the local great crested newt population.

Recommendations

- Bat survey to investigate commuting routes and foraging areas and links between built up area and countryside.
- Amphibian survey of local ponds.
- Sufficient buffer zones between development and areas which are known to support wildlife and act as wildlife corridors to secure species movement and dispersal, particularly in the context of climate change.

- Lighting along or close to wildlife corridors should be carefully considered.
- Protection of water flow and quality.

12.2 Potential area for development to the south of Wymeswold

Within the area are records of several bird species typically associated with a farmland landscape, such as **skylark, grey partridge, reed bunting, yellowhammer, barn owl** and large flock of **house sparrows**. The barn owl has often been recorded foraging along wide grassy roadside vergers along the southern boundary and is known to have bred within 500 m of the potential area for development. Derelict farm buildings may be of importance as nesting places for this species. A colony of **tree sparrows** is also known to occur close to the area for potential development.

Another species which has been recorded within the area and is typical of the farmed landscape is the **brown hare**. The loss of greenfield land is likely to affect species, such as brown hare, skylark, barn owl and grey partridge associated with farmland habitats.

There are records of **bat** roosts adjacent to the potential area for development and several records of bat roosts within the village of Wymeswold in a 500 m radius. There are also several mature trees within the area with potential bat roosts. Hedgerows, such as along Melton Road and Burton Lane, provide both foraging grounds and commuting routes for bats. However the conservation value of some hedgerows within the hedgerow network is limited due to their intensive management.

An active **badger** sett has been recorded within the area and several more setts are located within 500 m. There is a plentiful supply of good foraging grounds for this species.

There is a strong established population of **water vole** along the River Mantle both within the village envelope and further into the countryside. The network of ditches may be of importance for this species, although fluctuation in water levels may limit the opportunity for this species.

There are several field ponds within the area, however, no survey data is available on their status. The presence of the great crested newt on neighbouring farmland gives a strong indication that the ponds may be suitable for breeding amphibians.

Recommendations

- Amphibian survey of all ponds and ditches within the area and 500 m zone.
- Importance of the pond network to the local great crested newt population; retention of suitable terrestrial habitat and commuting routes between ponds for dispersal.
- Bat survey to investigate commuting routes and foraging areas and links between built up area and countryside.
- Badger survey and retention of commuting routes and sufficient foraging ground to sustain the local population.

- Sufficient buffer zones between development and areas outside potential area for development which are known to support wildlife and act as wildlife corridors to secure species movement and dispersal, particularly in the context of climate change.
- Lighting along or close to wildlife corridors should be carefully considered.
- Protection of water quality.

12.3 Potential area for development to the east of Cotes

Within the area are several records of **badger** setts and numerous sightings of badger casualties.

The following species, which are associated with watercourses and aquatic habitats, have been recorded both within the area and in a 500 m radius: the **otter**, **water vole**, **grass snake** and **kingfisher**. All are mobile species which are likely to use the whole network of watercourses.

Bats have been recorded in close proximity to the potential area for development and bat roosts, including **pipistrelle** roosts, are known to occur there as well. There are several mature trees with bat roost potential, both within and adjacent to the area. There is a network of wooded corridors along several watercourses which traverse the area from east to west. Hedgerows also provide foraging habitats and links between the Prestwold Estate and foraging habitat along the River Soar corridor. North to south links are more restricted as most hedgerows are intensively managed and fragmented.

Within a 500 m zone around the potential area for development are records of species associated with farmland such as the **barn owl** and **skylark**. The barn owl was known to breed until a few years ago close to the area and has regularly been recorded foraging in the vicinity. The loss of greenfield land is likely to affect species, such as skylark and barn owl associated with farmland habitats.

There are several ponds within the area with potential for breeding amphibians. However, there is no current information about the status of these ponds.

Recommendations

- Badger survey to investigate level of badger activity.
- Retain commuting routes and sufficient foraging area to sustain the local badger population.
- Bat survey to investigate commuting routes and foraging areas and links between built up area, other roost sites and countryside.
- Sympathetic management/restoration of hedgerows to maximise their function as wildlife corridors.
- Retain corridors linking bat roosting areas and foraging ground.
- Sufficient buffer zones between development and areas which are known to support wildlife and act as wildlife corridors, such as watercourses, to secure species movement and dispersal, particularly in the context of climate change.
- Lighting along or close to wildlife corridors should be carefully considered.

- Protection of water flow and quality. Retention of open nature of watercourses.
- Amphibian pond survey.

13. Summary & Conclusions

1.3.1 Charnwood Borough Council has undertaken a desk-top study of protected species and Biodiversity Action Plan (BAP) species to inform the preparation and implementation of the Charnwood Local Development Framework (LDF). The findings, together with those of the Phase I Survey from White Young Green Environmental, are to be incorporated into the evidence base used to inform the policy decisions about the directions for growth, allocations of land for development and the criteria for assessing the sustainability of future development proposals.

1.3.2 This approach is in line with PPS 9: *Biodiversity & Geological Conservation*, which states that development plan policies should be based upon up-to-date information about the environmental characteristics of their areas, which include the relevant biodiversity resources.

1.3.3 Many individual wildlife species receive statutory protection against a range of legislative provisions. Other species have been identified as requiring conservation action as species of principal importance for the conservation of biodiversity in England and at a local level through the Local Biodiversity Action Plan. Local authorities should take measures to protect the habitats of these species from further decline through policies in local development documents.

1.3.4 Species information was provided by Leicestershire Environmental Resources Centre. Further data originated from Charnwood Borough Council's own records. Although data on species cannot be comprehensive, the report gives a general indication of the species which are currently known to occur within the potential areas for growth.

1.3.5 Key Conclusions

All of the potential areas for development and their surroundings have protected/BAP species present. Development within any of the potential areas for development would therefore have an impact on some species, for instance through the loss of greenfield land.

Particular generic concerns for all areas relate to:

- Species which occupy the fringes of urban areas and rely on complex habitats for survival. For instance, most bat species not only rely on buildings for roost spaces, but also on commuting routes, often along linear semi-natural features such as hedgerows and tree-lined watercourses, and access to good foraging habitats. Interruption of commuting routes and loss of foraging

ground which may result from development is likely to be highly detrimental to local bat populations.

- Species which are associated with watercourses and wetlands rely on good quality aquatic habitats which can be affected through changes in hydrology, water quality, pollution, public pressure and fragmentation.
- All species are dependent on good quality biodiversity networks. Populations can become isolated through the disruption of biodiversity networks through loss of habitats and the erosion of habitat connectivity.
- Biodiversity networks must be considered not only within the potential areas for growth but also beyond, at the landscape scale. This is particularly relevant in the context of climate change where populations may not be sustainable if constrained and isolated by physical barriers.
- For all options, general recommendations listed in the report would need to be followed not only to minimise the impact of development on protected/BAP species but also to enhance their status and distribution through biodiversity gain.

Development adjoining Loughborough (SUE)

Four main options are being investigated: West of Shepshed, West of Loughborough, South of Loughborough and East of Loughborough.

The impact of development East of Loughborough and South of Loughborough would be most critical, particularly due to the road infrastructure required to serve the potential areas for development. They would respectively affect the River Soar Strategic Corridor and Charnwood Forest.

Both the River Soar and Charnwood Forest have been identified in the emerging Regional Spatial Strategy as Biodiversity Enhancement Areas. The East of Loughborough and South of Loughborough potential areas for development comprise and are close to a number of statutory and non-statutory ecological sites which support protected and BAP species.

The East of Loughborough option would be highly damaging to both protected and BAP species, principally as a consequence of the related road infrastructure that would be required. Apart from direct land-take which would affect a high number of statutory and non-statutory sites which support protected/BAP species, the road would likely affect the hydrology and water quality of the floodplain and affect species associated with a wide range of wetland habitats in that location.

The South of Loughborough option would be equally highly damaging to both protected and BAP species, as development would be reaching towards Charnwood Forest. The associated road infrastructure that would be required would come extremely close to both statutory and non-statutory sites which support protected species. It would also disrupt important links between the Loughborough built-up fringe and Charnwood Forest and result in habitat fragmentation and degradation, which would impact on species.

The West of Loughborough option would be damaging particularly if the strong biodiversity network was disrupted. Careful consideration of the layout would need to be undertaken to minimise potentially detrimental impacts, loss of habitats and connectivity, particularly as many protected/BAP species are present either within the option area or in surrounding areas.

The West of Shepshed option would be equally damaging if the biodiversity network was disrupted. Careful consideration of the layout would need to be undertaken to minimise the impact of development particularly in relation to habitat connectivity.

Development adjoining Leicester (SUE)

Three main options are being investigated: East of Thurmaston / North of Hamilton, North of Birstall, South of Anstey / North of Glenfield.

All these options appear to have an overall lesser impact on protected/BAP species than the development options adjoining Loughborough.

The North of Birstall option would be the most problematic of the three, particularly in relation to the impact on protected/BAP species associated with the wooded landscape allied to Rothley Brook and across the area in a south-west to north-east direction.

The South of Anstey / North of Glenfield option would need to be carefully considered to minimise the potential disruption of the biodiversity network and loss of connectivity. Some protected species populations could become unsustainable through isolation and loss of habitat.

The East of Thurmaston / North of Hamilton option may be the least critical option, although careful consideration of habitat connectivity would need to be undertaken to minimise the potential detrimental impact on protected/BAP species.

Appendix I

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