

The Shop Building, The Blue Cross, Chilton Cross, Tiverton, Devon, EX16 8RS.

Preliminary Ecological Assessment



Blue Cross Bourton Report
EHM Ltd

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Executive Summary

EHM Ltd has been commissioned to carry out a Preliminary Ecological Assessment of a disused barn/ shop that is part of a former animal welfare centre in Tiverton, Devon. This report will provide an assessment of the site reporting on the current conditions of the habitats present and their potential to support protected and notable species.

The site is located on the southeast corner of a former animal welfare centre. The site contains a single building; a former barn that was being used as a shop when the welfare centre was open. The site covering an area of approximately 350 m² also contained some areas of hardstanding, amenity grassland and a species poor hedgerow. The site is located on a cross road between the A3072, Northdown Rd and another country lane. The A3072 runs along the southern boundary of the site with the country land to the west of the site. The site bordered by the wider blue cross site to the north and east.

The site is located in a rural area to the south-west of the town of Tiverton. The local landscape is dominated by agricultural land with pockets of woodland dotted across the wider landscape. A steep hill rises up to the north of the site and there are farm buildings located within the local landscape.

The site (as shown on figure 1) is located in Devon; SS 91650595.

Sites potential to support protected and notable species

Following the site visit and desktop assessment the site was assessed for its potential to support protected and notable species. The table below summarises the sites potential to support these species.

Species	Sites potential to support
Bat roosts- buildings.	Moderate
Bat roosts trees	Negligible
Bat foraging/ commuting areas	Moderate
Badgers	Low
Dormice	Low
Small Mammals	Low
Reptiles	Low
Amphibians	Low
Breeding birds	Moderate
Plants	Low
Invertebrates	Low



Recommendations

Following a discussion of potential impacts and an assessment of impacts the following actions are recommended.

Recommendation	Action	Justification
Bat surveys of buildings	Conduct 2 dusk/dawn surveys of all buildings on site.	This will provide information on the presence/ absence of bat roosts.
Additional Dormouse assessment	If significant sections of hedgerow are to be removed additional dormouse surveys will be required.	This will help ensure protected species are not impacted.
Dormouse Method statement	Follow dormouse method statement for clearing smalls sections of habitat that have potential to support dormouse.	This will help ensure protected species are not impacted.
Retention of habitats	Retention of majority of the hedgerows. Adequate root and crown protection of retained trees.	This will ensure that important habitat is protected.
Protection of breeding birds	Carry out vegetation clearance (if required)/ building demolition outside of breeding bird season or under supervision of ecologist following a breeding bird survey	The buildings are likely providing several opportunities for breeding birds.
Appropriate lighting for bats	Avoid illuminating bat foraging and commuting habitat- woodland/ scattered trees. During and post development.	This will help limit disturbance to bat species in the longer term.
Remove vegetation in stages	Cut down tall vegetation, if required, in stages to reduce risk of impacting protected/ notable species.	This will allow small mammals, reptiles or amphibians, if present to leave the area safely.
Follow badger protection measures	Follow badger protection measures during construction.	This will stop badgers becoming impacted or potentially trapped.
Follow GCN protection Measures	Follow GCN protection measures.	This will ensure no impacts to European protected species.
Adequate pollution control	Habitats on site should be adequately protected to ensure no polluted runoff on site or adjacent land. All oils, fuels and chemicals should be adequately stored on site in bunded contains with appropriate spill kits and emergency procedures in place. Establish biodiversity exclusion zone.	This will protect habitats on site and those in the nearby landscape.
Inclusion of bird and bat boxes in the development/ landscaping	Place boxes in suitable locations in the grounds or on new development.	This would benefit local bird and bat populations on the site and within the local area.
Use of native plant species during any future planting and landscaping.	Where possible select native tree and plant species in any future landscaping. Planting of hedgerows and trees. Create log piles.	This will provide a greater longer-term benefit for wildlife.

1. Introduction

EHM Ltd has been commissioned to carry out a Preliminary Ecological Assessment of a disused barn/ shop that is part of a former animal welfare centre in Tiverton, Devon. This report will provide an assessment of the site reporting on the current conditions of the habitats present and their potential to support protected and notable species.

1.1 Development outline

EHM Ltd understands that the development comprises of re developing the site for residential units.

1.2 Site Description

The site is located on the southeast corner of a former animal welfare centre. The site contains a single building; a former barn that was being used as a shop when the welfare centre was open. The site covering an area of approximately 350 m² also contained some areas of hardstanding, amenity grassland and a species poor hedgerow. The site is located on a crossroad between the A3072, Northdown Rd and another country lane. The A3072 runs along the southern boundary of the site with the country land to the west of the site. The site bordered by the wider blue cross site to the north and east.

The site is located in a rural area to the south-west of the town of Tiverton. The local landscape is dominated by agricultural land with pockets of woodland dotted across the wider landscape. A steep hill rises up to the north of the site and there are farm buildings located within the local landscape.

The site (as shown on figure 1) is located in Devon; SS 91650595.

1.3 Aims of PEA

The aim of the PEA is to:

- Identify the likely ecological constraints associated with a project.
- Identify any mitigation measures likely to be required, following the 'Mitigation Hierarchy'.
- Identify any additional surveys that may be required to inform an Ecological Impact Assessment (EclA).
- Identify the opportunities offered by a project to deliver ecological enhancement.



Figure 1: Approximate boundary of the site (image from Google maps).



2. Methods

2.1 Site Visit

EHM undertook a site visit on the 26th of April 2023. This was to carry out a walk over of the site, determining the basic habitats present and their current condition. The potential for these habitats to support protected and notable species was also recorded. The site visit was carried out by an experienced ecologist who is able to appropriately identify habitats and assess their quality and suitability to support species.

Weather conditions were; 10 degrees C, Cloud 8/8, wind 1/12, dry.

The methodology followed that of an Extended Phase 1 Habitat Survey following the methodology of JNCC (1993) as modified by IEA (1995). The Phase 1 Habitat Survey is a standard technique for classifying and mapping British habitats. The aim is to provide a record of habitats that are likely to be ecologically important.

2.2 Protected Species

The following evidence of protected species or habitats to support them was assessed.

Badgers

Evidence of badger activity on site was assessed by searching for:

- Presence of setts, indicated by suitably sized holes or burrows with evidence of badgers such as badger hair and footprints
- Evidence of well runs supported by secondary evidence such as foraging signs or footprints; and
- Presence of badger latrines

Bats

The site was assessed for its potential to support:

- Roosting bats
- Foraging and commuting bats.

Features which could indicate a potential bat roost include:

- Holes and fissures in trees
- Gaps in buildings that could allow access to areas such as roof voids, e.g. holes in soffits, broken, loose, or missing tiles, damaged lead flashing, etc.

The methodology for assessing bat roost potential followed that recommended by the Bat Conservation Trust¹.

¹ Collins, J. (ed) (2016). Bat Surveys for professional Ecologists; Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

A subsequent emergence bat survey was carried out of the main house, following BCT guidelines².

Breeding birds

The site was assessed for its potential to support nesting and breeding birds, considering factors including sufficient habitat cover and food sources.

Dormice

The site was surveyed for suitable dormouse habitat, such as the presence of a well-connected understorey broadleaf habitat, and suitable food sources such as hazel, oak and other nut-bearing trees, fruiting trees and shrubs, flowers and invertebrates. Where hazel nut shells were found, these were inspected for evidence of dormouse feeding.

Aquatic mammals

Aquatic habitats were assessed for their potential to support aquatic mammals such as Otter or water vole. Signs including: foot prints, droppings and evidence of feeding were searched for.

Reptiles

The site was assessed for its potential to support reptile populations. Suitable habitat for reptiles includes long grass, scrub, woodland and hedgerow borders and wood/rubble piles that act as hibernacula.

Amphibians

Any aquatic habitat was assessed for its potential to support amphibian species, including Great Crested Newts. Any ponds on site were assessed, using the Habitat Suitability Index, for its potential to support Great Crested Newts. Terrestrial habitat was also assessed for its ability to support amphibians.

Other species

The site was assessed for its potential to support other notable species.

² Red Roofs, Traps Lane, New Malden, Surrey. Bat Survey Report. RP-BHL-020. EHM LTD.

2.3 Desktop Study

The Multi-Agency Geographical Information for the Countryside (MAGIC) map was reviewed (Magic.gov.uk). This resource was studied for relevant protected species and habitat information. A report from the Devon Biological Records Centre (DBRC) was also obtained which detailed records of protected and notable species within 1 km of the site as well as protected areas.

2.4 limitations

The contents of this report are based on a single site visit and a search of the local records bureau. Though the survey and interpretations of the data were carried out by a competent ecologist there may be things that have been overlooked, missed, or not present at the time of the visit.

2.5 Relevant Legislation and Planning Policies

A full list of UK wildlife legislation and designations can be seen in the appendix. Relevant legislation implications for this site include:

- The Conservation of Habitats and Species Regulations 2010 (as amended)
- The Wildlife and Countryside Act 1981 (as amended)
- The Countryside and Rights of Way Act 2000
- The Natural Environment and Rural Communities Act (NERC Act) 2006

Planning policies, both local and national, may affect any proposed development. Relevant planning policies to this development include:

- National Planning Policy Framework (NPPF)
- Local planning policies

3. Results

3.1 Habitats

The location and extent of the habitats are shown in the figure in appendix 1. TN refers to a target note. CIEEM guidance recommends that the value or potential value of an ecological resource or feature should be determined within a defined geographical context³. It recommends the following frame of reference;

- International
- UK
- National (i.e. England/Northern Ireland/Scotland/Wales)
- Regional
- County (or Metropolitan - e.g. in London)
- District (or Unitary Authority, City, or Borough)
- Local or Parish
- Site
- Within zone of influence only (which might be the project site or a larger area).

The habitats will be assessed based on these criteria.

Buildings

The site contained one building. A large two storey converted barn with no accessible loft space. The building has a potential to support protected species and is considered as having a value at a site level.

Hardstanding

The site contains areas of hardstanding. Areas of concrete are located between the building and a building on the adjacent site to the east. The hardstanding provides little opportunity for wildlife and is considered as having a benefit at a zone of influence level.

Amenity grassland

Located across to the north and northeast of the building. This appeared to be an area of unmanaged lawn with an established layer of thatch. This area was mostly dominated by Perennial Ryegrass (*Lolium perenne*) with frequent cuckoo flower, broadleaved dock (*Rumex obtusifolius*), creeping buttercup (*Ranunculus repens*) and nettle (*Urtica dioica*) at the edges.

The grassland occupies a relatively large area of the site. The limited floral and structural diversity may limit the suitability for protected and notable species. They are considered as having a benefit at a site level.

³ GUIDELINES FOR ECOLOGICAL IMPACT ASSESSMENT IN THE UNITED KINGDOM. IEEM. June 2006.

Species poor hedgerow with trees

Located on the western edge of the site it delineates a road, flailed on the roadside and pruned on the site side. Occasional ash (*Fraxinus excelsior*) and oak (*Quercus robur*) trees where present. The hedgerow was dominated by hawthorn (*Crataegus monogyna*) and bramble (*Rubus fruticosus*) with occasional hazel (*Corylus avellana*). The ground flora included lords and ladies (*Arum maculatum*), ivy (*Hedera helix*) and dogs mercury (*Mercurialis perennis*).

The hedgerow onsite likely provides a valuable habitat for wildlife and contain a diversity of species. The hedgerows are considered as having a benefit at a site level.

Summary

The table below summaries the habitats on site and their value within a geographical context.

Habitat	Value	Comments
Buildings	Site	Large converted barn with potential to support protected species.
Hard standing	Zone of Influence	The areas of hard standing and paving provide very little opportunity for wildlife.
Amenity grassland	Site	Relatively large areas of amenity grassland on site.
Hedgerows	Local	Species poor hedgerow on boundary of site, potential to support protected and notable species..

Table 1: Summary of value of habitats present on site.

3.2 Species Desktop Results

Desktop Records

The Natural England resource; Magic map⁴, was consulted for any granted protected species licences that may be in the area. This map also provides details of Statutory protected Areas and priority habitats within proximity of the site. Data from the DBRC produced records of protected and notable species within 1 km of the site as well as information on protected areas.

Protected species are those listed on EC Habitats Directive- Annexes II and IV, EC Bird Directive- Annex I, Conservation (Natural Habitats) Regulations 1994- Schedules 2 & 5, NERC 2006 Section 41, Wildlife and Countryside Act 1981 (as amended_-Schedules 1, 5 & 8, Protection of Badgers Act 1992. Notable species are categorised as being a: BAP priority National, Red list species (not least concern) and or Red Status bird species, Red Data Book Species, NERC species. Legislation and BAP designation are explained in the appendix.

The table below summarises the results of the desktop search.

Sites and Habitats	Present/Absent	Details		
Statutory sites	Absent	There are no statutory sites present within 1 km of the site.		
Non-Statutory sites or Local Wildlife Sites	Present	There are several non-statutory protected areas within 1 km of the site.		
Ancient Woodland	Present	There are pockets of ancient woodland within 1 km of the site		
Priority Habitats	Present	Priority woodland habitat is present within 1 km of the site.		
Protected and Notable Species	Number of species	Number of records	Date of earliest record	Date of recent record
Amphibian Species	0	0	-	-
Reptile Species	0	0	-	-
Invertebrate species	1	3	1993	1997
Terrestrial Mammal Species (excl. Bats)	0	0	-	-
Bat Species	1	1	1997	1997
Bird Species	0	0	-	-
Plant Species	1	1	1993	1993

Table 2: Summary of protected areas and species information

Additional desktop records

The DEFRA magic map shows a granted protected species licence relating to bats approximately 2km to the east of the site.

⁴ www.magic.gov.uk

3.3 Species Site Assessment

The following assessment considers the information from the desktop study as well an assessment of the habitats on site and their potential to support protected and notable species. The likelihood of species being found on site is defined as follows.

- High- Definite signs of species identified on site and habitat considered suitable
- Medium/ moderate- habitat considered suitable but obvious signs not necessarily detected
- Low- no obvious signs and habitat considered sub-optimal. Though species may be present
- Negligible- highly unlikely that species is present

Bat Commuting/ Foraging Habitat Assessment

The local records data contains records of a single bat species; Brown long eared bat (*Plecotus auratus*). This is located approximately 600m to the southeast of the site near to Chilton. The magic map shows a protected species licence relating to bats approximately 2km to the east of the site.

All bat species in the UK eat insects and forage along habitats such as hedgerows, woodlands, grasslands and waterways⁵. Bats use woodland edges, hedgerows, rivers and other linear features like tree-lined footpaths as corridors to commute from one area of countryside to another⁶. The hedgerow provides suitable commuting and foraging habitat for bats and there is connectivity across the local landscape. Though there is a lacking local records for bats there appears to be suitable habitats within the local landscape, with connectivity to the site. The likelihood of foraging and commuting bats being seen on site is considered **moderate**.

Building Bat Roosts Assessment

As discussed, bats are predicted to be within the vicinity of the site and may use habitats on site for foraging.

Buildings are known to provide suitable roosting opportunities for several bat species⁷. An external and internal inspection of the buildings on site was carried out to assess their potential to support bat roosts, following Bat conservation trust guidelines⁸. An external inspection of the buildings was undertaken looking for potential ingress points through soffits, eaves, missing roof tiles/slates and brickwork and windows, etc. Table 3 below summarises the criteria for assessing a bat roost potential within a building or tree. Each buildings potential to support bat roost is described below.

⁵ <https://www.bats.org.uk/about-bats/where-do-bats-live/bat-habitats/foraging-habitats>

⁶ <https://www.bats.org.uk/about-bats/where-do-bats-live/bat-habitats/commuting-habitats>

⁷ Bats and Buildings. Bats and the Build Environment Series. Bat Conservation Trust. January 2012.

⁸ Collins, J. (ed) (2016). Bat Surveys for professional Ecologists/; Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	<p>A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions^a and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation^b).</p> <p>A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.^c</p>	<p>Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat.</p> <p>Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.</p>
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions ^a and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	<p>Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.</p> <p>Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.</p>
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions ^a and surrounding habitat.	<p>Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge.</p> <p>High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland.</p> <p>Site is close to and connected to known roosts.</p>

^a For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

^b Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten *et al.*, 2015). This phenomenon requires some research in the UK but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in large buildings in highly urbanised environments.

^c This system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI, 2015).

Table 3: Summary of guidelines for assessing bat potential.

The converted barn on site was constructed of rendered walls with a pitched slate roof and wooden soffit boards. A single storey section is located to the north, also with a sloping slate roof. A stone wall was noted on the exterior of the northern end. The interior contained no accessible loft space as the upper floor had been converted. No direct evidence of bats was seen however the following features were noted that have potential to support a bat roost;

- Gaps at the wall tops on the north, south and east aspects
- Crevices in the stonework on the northern end
- Open, broken soffit on the southeast corner
- Hole between sloping roof and wall top on north aspect

Due to the number of features present the building is considered as having a **moderate** potential to support a bat roost.

Bat Roost Tree Assessment

The trees on site were also assessed for any Potential Roost Features (PRFs). The bat conservation trust provides information regarding features that may be present in trees that bats could potentially use for roosting⁹. The trees on site did not contain any obvious PRFs. The trees on site are considered as having **negligible** potential to support a bat roost.

Badger Assessment

The site was investigated for evidence of Badger (*Meles meles*) such as, setts or signs such as tracks, hair, or latrines. No evidence of badgers were seen on site. The local landscape contained habitats that could support badgers and there is connectivity to the site with some suitable habitats on site. The likelihood of badgers being on site is considered to be **low**.

Dormouse Assessment

No evidence of dormice (*Muscardinus avellanarius*) activity, such as feeding remains or nests was observed on site. Across its range dormice prefer the successional stage of woody vegetation; this is the new growth that arises after woodland management such as coppicing, ride widening, thinning or glade creation, they may also occur in scrubby habitat¹⁰. No evidence of dormouse was seen on site however the hedgerow provides some suitable habitat for dormouse and there is connectivity across the local landscape. There are no local records of dormouse within the local area. The presence of suitable habitat and connectivity means it is possible for dormouse to be on site. The likelihood of dormouse being present is considered **low**.

Small mammal Assessment

Hedgehogs (*Erinaceus europaeus*) prefer habitats such as woodland edges and hedges as well as suburban areas¹¹. The Hedgerow provides suitable habitat for small mammals and there is connectivity to wider areas. Therefore the likelihood of small mammals being on site is considered **low**.

Reptile Assessment

Reptiles prefer sites with a diversity of habitats containing several micro habitats that provide suitable foraging and refuge sites¹². The grassland areas provide some suitable habitat for reptiles and there is connectivity across the local landscape. There are no local records of reptiles within the biological records data however this may be due to under recording. The presence of reptiles being on site is considered to be **low**.

Amphibian Assessment

The European protected species Great Crested Newt (*Triturus cristatus*) require both suitable aquatic habitats for breeding and terrestrial habitats to forage and shelter during the active

⁹ http://www.bats.org.uk/pages/bat_roosts.html#TreeRoosts

¹⁰ <https://ptes.org/get-informed/facts-figures/hazel-common-dormouse-muscardinus-avellanarius/>

¹¹ http://www.mammal.org.uk/sites/default/files/factsheets/hedgehog_complete_0.pdf

¹² Edgar, P., Foster, J. and Baker, J. (2010). Reptile Habitat Management Handbook. Amphibian and reptile Conservation, Bournemouth

season and hibernate over winter¹³. The site contains no waterbodies, looking on the OS map there are ponds to the southeast of the site near Chilton approximately 600m from site. The site contains some suitable terrestrial habitats for amphibians and there is connectivity across the local landscape. The likelihood of amphibians being on site is considered to be **low**.

Bird Assessment

The site contains suitable habitat for nesting birds, all bird nests are protected whilst they are in use. The hedgerow and building (old house martin nests were noted on the western aspect) provide a number of opportunities for nesting birds. The site's potential to support breeding birds is considered **Moderate**.

Plant Assessment

The local records data contains records of a notable plant species; Primrose. This plant was seen close to the site along with Bluebell. The site has some potential to support species such as this. The likelihood of notable species being present is considered **low**.

Invertebrate Assessment

The local records data contains records of one invertebrate species Brown Hairstreak (*Thecla betulae*) though these date back to the 1990s. The habitats on site have some potential to attract invertebrates. Therefore, the likelihood of notable invertebrates being on site is considered to be **low**.

¹³ Great crested newt mitigation guidelines. August 2001. English Nature.

Summary

Table 3 below summarises the sites potential for protected and notable species. Designations for potential are as follows.

- High- Definite signs of species identified on site and habitat considered suitable
- Medium/ moderate- habitat considered suitable but obvious signs not necessarily detected
- Low- no obvious signs and habitat considered sub-optimal. Though species may be present
- Negligible- highly unlikely that species is present

Species	Sites potential to support	Justification
Bat roosts-buildings.	Moderate	Converted barn on site with a number of features that could support roosting bats.
Bat roosts-mature trees	Negligible	The trees on site were not considered likely to support a bat roost.
Bat foraging/commuting areas	Moderate	Hedgerows provides suitable foraging and commuting habitats and there is connectivity across the site.
Badgers	Low	No evidence of badger seen on site. Potential for badgers to be present in local area.
Dormice	Low	Suitable habitat on site with connectivity across landscape.
Small Mammals	Low	Habitats considered suitable for small mammals.
Reptiles	Low	Some suitable habitat on site with connectivity across local landscape.
Amphibians	Low	Some suitable terrestrial habitats with ponds within local landscape.
Breeding birds	Moderate	Some suitable habitats for nesting birds.
Plants	Low	Potential for habitats to support notable plants.
Invertebrates	Low	Suitable habitats on site with floral diversity that are have potential to attract notable invertebrates.

Table 4: Summary of sites potential to support certain protected and notable species.

3.4 Protected Areas

Statutory protected Areas

There are no statutory protected areas within 1 km of the site.

Non statutory protected areas

There are County Wildlife Sites (CWS) located within the local area (figure 2). these are sites of county importance for wildlife, designated on the basis of the habitat or the known presence of particular species. Other sites of wildlife Interest (OSWI), these are sites of significant wildlife interest within a local context that have been surveyed but do not reach the criteria for County Wildlife Sites, are located within the landscape As well as Unconfirmed Wildlife Sites (UCWS). None of these sites directly bordered the site the closest is a UCWS located approximately 270m to the east of the site.

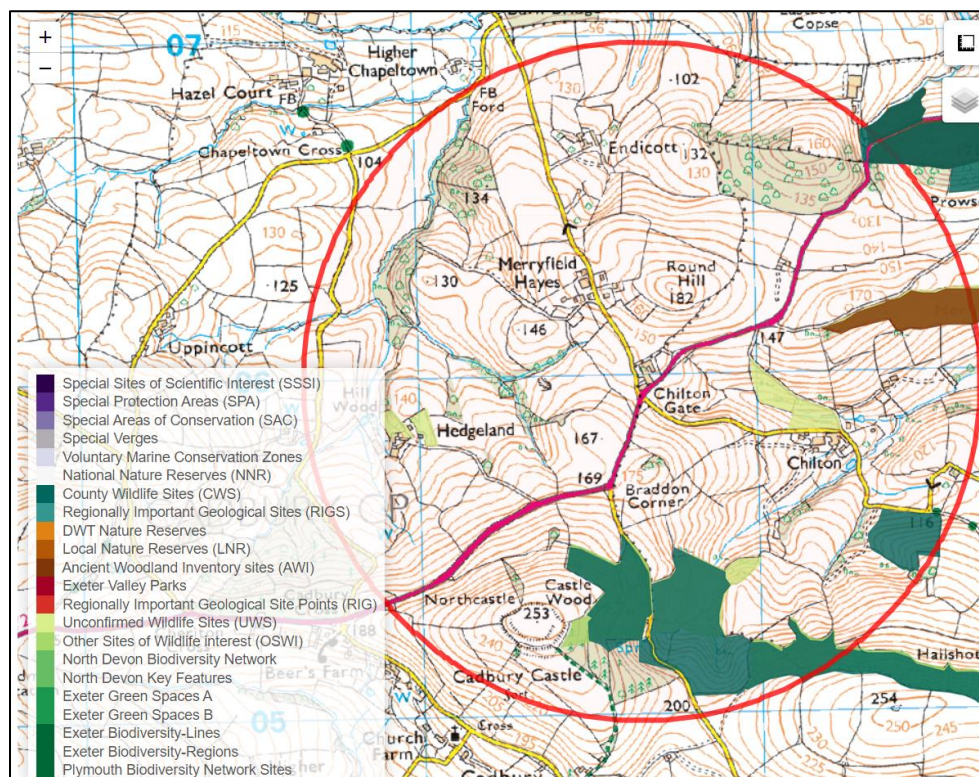


Figure 2: Location of non-statutory protected areas (from DBRC).

Priority Habitats

There are habitats listed on the Priority Habitat Inventory (HPI) within 1 km of the site. Priority woodland is dotted across the local landscape , the closest sections are located within 300m to the east and west of the site. A traditional orchard is located within 650m to the west of the site. Ancient woodland is also present in the local area (figure 2), the closest section is located approximately 500m to the east of the site.

4. Discussion

The following sections consider the effects on protected areas, priority habitats, protected species, notable species, and habitats on site. Recommendations for additional surveys and or enhancements are made as necessary.

4.1 Effects on Designated Sites

The development is not located within proximity of statutory protected areas. Direct impacts are unlikely to occur due to the distance from site any residual impacts are likely to be mitigated by the measures set out below.

4.2 Effects on Priority Habitats

The site is not located within direct proximity of priority habitats. These habitats are not located on or directly adjacent to the site, therefore it is unlikely that these priority habitats will be directly impacted.

4.3 Effects on Habitats on Site

The exact nature of the development is not yet known. It is likely to involve the development of the majority of the site particularly the grassland and built areas.

It is recommended that the hedgerow be retained where possible.

All retained trees/ hedgerow should have adequate root and crown protection during development, as required. In trees that are required to be removed should be soft felled.

Some recommendations are made below in respect to protected and notable species.

4.4 Effects on Protected and Notable Species

Bats

The buildings on site are considered as having a moderate or high potential to support a bat roosts therefore additional bat surveys are required to confirm presence of a bat roost and to characterise the type of roost. Following the BCT guidelines two dusk/ dawn surveys are required for a building of moderate potential and three dusk/ dawn surveys are required for a building with high potential. The surveys may only be carried out during the active season for bats (**May – September**, however at least one survey must be conducted between May and August) and in suitable weather conditions. This follows the BCT guidelines. If a bat roost is confirmed, then a licence to remove the roost will need to be applied for from Natural England once planning permission has been granted.

It should be noted that bat absence is very difficult to prove definitively due to their mobility and size, and single or small numbers of bats are able to roost in extremely small spaces, such as in gaps between panels. The development work should be undertaken with care, for example with roof tiles lifted rather than dragged. If during development works a bat (or an accumulation of bat droppings) is discovered at any time, work is to temporarily cease whilst an experienced bat ecologist is contacted for guidance and assistance. This can be the Bat Conservation Trust (BCT) helpline (0845 1300 228).

The site is considered as having some potential to support bat foraging habitat. This is predominately the hedgerow that will largely be retained around the site. Habitats can also be incorporated into the final design to increase potential foraging and commuting habitats across the site.

Furthermore, a sensitive lighting scheme should be incorporated into the final design to protect these edge habitats and any newly created habitats on the site. To protect potential roost or bat foraging/ commuting habitat in the area it will be important to:

- Avoid illuminating the wider habitats on site, particularly the scattered trees, at dusk or night-time. Guidelines provided by the Bat Conservation trust and ILP should be followed¹⁴
- Limit work to daylight hours
- Limit noise disturbance and other forms of pollution such as dust
- Maintain the wider habitats on site
- Lighting should also be considered post-development with any external lighting positioned so as not to illuminate potential foraging or commuting habitats.

Badgers

No evidence of badgers was seen during the site visit though there is potential for them to be present in the local area. To ensure badgers are not harmed during the development the following actions are recommended.

- To prevent badgers becoming trapped in open earth works or excavations that any excavations, that are to be left overnight, should either be covered or a board placed securely within the excavation that allows access from the bottom of the excavation to the ground level.
- All excavations and trenches should be inspected each morning before works commence. If a badger is found trapped on site the ecologist or local badger group/ RSPCA should be contacted.
- Any loose or soft material such as topsoil should be covered overnight and when not in use to discourage their use by badgers as potential setts. Any mounds should be inspected daily to ensure badgers have not established a sett. If a potential sett is discovered an ecologist should be consulted immediately and the area not disturbed.
- If pipework (over 120mm in diameter) is stored on site the ends should be covered and inspected before use.

If these measures are followed it is not recommended that any additional surveys be conducted at this time.

¹⁴ <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>

Small Mammals

Small mammals such as hedgehogs may be present on the site. If any scrub is to be removed this should be cleared systematically by hand and cut down to ground level. Any debris such as log or brush pile should be dismantled by hand and removed. This will allow any animals present to leave the work area safely.

Dormouse

The site is considered as having a low potential to support dormouse. This is mainly relating to the hedgerow. It is recommended that this habitat be retained on site. If small sections require removal this could be carried out under a method statement. The following methodology is recommended;

- Prior to works commencing check for any evidence of dormouse such as nests or feeding remains. Any log piles or leaf litter in the clearance area will also be checked.
 - If evidence of dormouse or animals themselves are encountered then works will be suspended until a suitable licence is obtained from Natural England.
- Prior to works commencing Dormouse Nest boxes will be installed in retained habitat(see appendix).
- Cut vegetation in stages;
 - Over winter: cut vegetation down to above ground level (0.4m) leaving a stump and the roots in places. Clearance will be carried out in a sensitive way using hand tools.
 - Works will work towards retained section of hedgerow.
 - In May: Cut the stump down and remove roots

However if significant parts of the hedgerow require removal then dormouse surveys will be required. These surveys should be undertaken by a qualified and licensed ecologist. Surveys will likely involve the placement of nest tubes within suitable habitat on site from April/ May and left in position for the entire season checking periodically¹⁵.

The inclusions of additional hedgerows in the development will provide increased connectivity and habitats for dormouse.

Reptiles

Some of the habitats on site are considered as having potential to support reptiles; reptiles are protected from recklessly injuring or killing under UK law. The grassland has potential to support reptiles. To avoid harm to reptiles it is recommended that the habitats, that will be directly impacted, be cleared using a suitable method statement to reduce the likelihood of impacting reptiles;

Stage 1

The vegetation will need to be reduced to a height 150-200mm using hand tools (e.g. strimmers). It is recommended that cutting works towards retained areas, where there is

¹⁵ <https://www.gov.uk/guidance/hazel-or-common-dormice-surveys-and-mitigation-for-development-projects#survey-methods>

connectivity to wider habitats. All potential refugia such as log or rubble piles should be removed by hand to outside of work area.

Stage 2

After a period of at least one day has passed a second vegetation cut should be undertaken to ground level. Again, it is recommended that this second-stage cutting works towards the eastern edge of the site. All cuttings to be removed from work area. The site can then be completely cleared and worked upon as necessary.

If a reptile is seen then works should stop until an appropriate mitigation strategy can be agreed and implemented.

Amphibians

The site is considered as having a low potential to support the European Protected Species Great Crested Newt. GCN typically inhabit terrestrial habitat within 100m of a breeding pond¹⁶. There is no pond within 100m of the site however there are ponds within the landscape.

To ensure GCN are not harmed during construction the following measures are recommended:

- The development will be carried out in habitats unlikely to support GCN, namely; Buildings and hardstanding.
- Construction exclusion zone will be established around the development to ensure construction personnel and materials are restricted to areas where newts are unlikely to be present.
- Scrub on site will need to be removed. This will be cut down in stages;
 - First cut down shrubs to above ground level by hand. Leaving the stumps in situ overnight.
 - Second stage will be to grub out stumps from ground. Leave material on site for at least overnight.
- This should be done when newts are unlikely to be hibernating. If a newt is seen all works should stop and an ecologist contacted directly.
- Initial demolition and ground works should be carried out in winter months when newts are likely to be hibernating.
- During Construction;
 - Backfill trenches and other excavations before nightfall, or leave a ramp to allow newts to easily exit.
 - Raise stored materials (that might act as temporary resting places) off the ground, e.g. on pallets.
 - Ensure adequate pollution controls
 - A tool box Talk on newts and avoiding impacts will be given to construction personnel
 - If a newt is seen in the development area at any point all works should stop and an ecologist consulted.

¹⁶ HERPETOLOGICAL JOURNAL, Vol. 10, pp. 137-142 (2000). THE TERRESTRIAL SUMMER HABITAT OF RADIO-TRACKED GREAT CRESTED NEWTS (*TRITURUS CRISTATUS*) AND MARBLED NEWTS (*T. MARMORATUS*). Robert Jehle.

- The development will maintain connectivity across the landscape for newts and not cause and fragmentation for newts moving to or from ponds.

If the development requires extensive terrestrial habitat to be removed then additional assessments and surveys may be required in respect to Great Crested Newts.

Birds

To ensure breeding birds are not impacted any buildings or vegetation that may require removal should be removed outside of the breeding bird season, this typically runs from March to September. If vegetation/ buildings require removal during the nesting bird season the area should be subjected to a survey by an experienced ecologist. If there are any nest sites located within the work area a suitable exclusion zone will have to be established until the chicks have fledged. All bird nests are protected in the Wildlife and Countryside Act (see appendix).

Additional planting and inclusion of nest boxes would help replace any potential loss in nesting habitat.

Invertebrates

Retention of hedgerow will help to retain suitable habitats on site for invertebrates. Post development planting will also be used to provide enhancements to invertebrate species.

4.5 General Ecological Protection Measures

The following measures are suggested to help minimise the impact to the wider environment.

- Establish biodiversity exclusion zone: this should incorporate retained habitats. All construction personnel and materials should be excluded from these areas and areas marked on site with temporary fencing.
- Suppression and monitoring of dust where relevant.
- Control sources of aquatic pollution, particularly from entering local water courses or ground water.
- All proposed work must strictly be in accordance with all relevant Pollution Prevention Guidelines (PPG) published by the Environment Agency which may include but is not limited to PPG1 (general), PPG5 (works in, near, or liable to affect watercourses) and PPG6 (work at construction & demolition sites). Contingency plans should be drawn up to address chemical spillage, collision, etc.

4.6 Ecological Enhancements

A number of enhancements can be made to the final development to help reduce potential ecological impacts, as well as to try and achieve biodiversity net gain. It is important to utilise native species of local provenance in landscaping schemes to enhance the ecological value of the development. A few general enhancements are recommended to be taken into account when designing the final plan.

Planting

Additional planting should be incorporated into the final design. Native tree species are recommended and the hedgerow should contain a variety of species. The hedgerows and trees

will provide additional bat foraging habitats as well as corridors for badgers to move across the landscape.

Additional Features

To enhance the local bat population and provide roosting opportunities within the site artificial roost sites could be incorporated into the development. Bat boxes could be incorporated into the fabric of the building; the Istock Enclosed Bat Box (B and C)¹⁷ can be easily incorporated into the exterior of a building. Boxes could also be added to the retained trees, the Schwegler 2F is a good general-purpose box that can be hung on trees or buildings.

The inclusion of bird boxes into the proposed development would provide a benefit for local bird population. A range of different boxes is recommending including nest features that can be incorporated into the buildings such as Swift nest boxes¹⁸ or house martin nest cups¹⁹.

It is also recommended that log piles could be made in areas of retained habitats. The log piles can be created from any trees that are being removed as part of the proposal. Log piles offer shelter for hibernating small mammals and insects, as well as a foraging area for some birds.

Where possible, fencing should be made hedgehog-friendly by creating a 13cm x 13cm hole at the base²⁰. These simple features allow hedgehogs to travel between gardens and increase habitat connectivity. To ensure these are not blocked, small signs can be painted or erected above the hole.

¹⁷ <https://www.istockbrick.co.uk/kevington/eco-products/>

¹⁸ <https://www.istockbrick.co.uk/kevington/eco-products/>

¹⁹ https://shopping.rspb.org.uk/INTERSHOP/web/WFS/RSPB-rspbUK-Site/en_GB/-/GBP/ViewProduct-Start?SKU=house-martin-terracotta-nest-box

²⁰ <https://www.hedgehogstreet.org/help-hedgehogs/link-your-garden/>

5. Conclusion

The site was assessed as having potential to support protected and notable species. Following an initial impact assessment recommendation have been made to reduce the proposed development impacts on wildlife as well as ensuring compliance with relevant legislation and planning policies. The below table summarises the recommendations.

Recommendation	Action	Justification
Bat surveys of buildings *	Conduct 2 dusk/dawn surveys of all buildings on site.	This will provide information on the presence/ absence of bat roosts.
Additional Dormouse assessment*	If significant sections of hedgerow are to be removed additional dormouse surveys will be required.	This will help ensure protected species are not impacted.
Dormouse Method statement*	Follow dormouse method statement for clearing smalls sections of habitat that have potential to support dormouse.	This will help ensure protected species are not impacted.
Retention of habitats*	Retention of majority of the hedgerows. Adequate root and crown protection of retained trees.	This will ensure that important habitat is protected.
Protection of breeding birds*	Carry out vegetation clearance (if required)/ building demolition outside of breeding bird season or under supervision of ecologist following a breeding bird survey	The buildings are likely providing several opportunities for breeding birds.
Appropriate lighting for bats*	Avoid illuminating bat foraging and commuting habitat- woodland/ scattered trees. During and post development.	This will help limit disturbance to bat species in the longer term.
Remove vegetation in stages*.	Cut down tall vegetation, if required, in stages to reduce risk of impacting protected/ notable species.	This will allow small mammals, reptiles or amphibians, if present to leave the area safely.
Follow badger protection measures*	Follow badger protection measures during construction.	This will stop badgers becoming impacted or potentially trapped.
Follow GCN protection Measures*	Follow GCN protection measures.	This will ensure no impacts to European protected species.
Adequate pollution control	Habitats on site should be adequately protected to ensure no polluted runoff on site or adjacent land. All oils, fuels and chemicals should be adequately stored on site in bunded contains with appropriate spill kits and emergency procedures in place. Establish biodiversity exclusion zone.	This will protect habitats on site and those in the nearby landscape.
Inclusion of bird and bat boxes in the development/ landscaping	Place boxes in suitable locations in the grounds or on new development.	This would benefit local bird and bat populations on the site and within the local area.
Use of native plant species during any future planting and landscaping.	Where possible select native tree and plant species in any future landscaping. Planting of hedgerows and trees. Create log piles.	This will provide a greater longer-term benefit for wildlife.

Table 5: Summary of recommendations.

* Indicates recommendation to avoid impact to legally protected species.

6. APPENDIX

6.1 Appendix 1: Habitat Map



6.2 Appendix 2: Photos



Photo 1: Exterior of eastern and southern aspect of the barn



Photo 2: Northern aspect of barn with brick wall





Photo 3: showing western aspect of site, hedgerow with trees in background.



Photo 4: Interior of converted roof space of barn



6.3 Appendix 3: Legislation

Protected species have protection under national legislation such as the Wildlife and Countryside Act 1981 and European legislation such as the Habitats Directive.

Please note the following:

(1) If there is no record of a particular protected species, this does not signify that that the species is absent from the site in question. It may mean that it has not been recorded, that the site has not been surveyed for this species, or that data relating to its presence has not been made available to us.

(2) The presence of a protected species record does not mean that the species is still present. It means that the species was recorded at that time and place. The implications of the record should be further evaluated, and a survey to establish the current status may be required.

(3) The following summary of legislation is designed purely as a basic guide, if any action is to be taken regarding any of the protected species listed, then it is imperative that the full relevant legislation be consulted.

WILDLIFE PROTECTION LEGISLATION IN ENGLAND

Legislation that protects wildlife in England exists at the European and national level.

European Law

The Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979) was aimed at ensuring conservation and protection of all wild plants and animals, increasing cooperation between states, and affording special protection to the most vulnerable or threatened species. It was implemented by the EC Birds Directive (Council Directive 79/409/EEC) and the EC Habitats Directive (Council Directive 92/43/EEC).

The Bonn Convention on Migratory Species of Wild Animals (1979 & 1994) requires the protection of migratory animals. It was implemented by the EC Birds Directive (Council Directive 79/409/EEC) and the EC Habitats Directive (Council Directive 92/43/EEC).

The EC Habitats Directive aims to establish a network of protected areas in order to maintain the distribution and the abundance of threatened species and habitats. A number of species are listed in the annexes.

Annex II lists animals and plants whose conservation requires the designation of Special Areas of Conservation (SACs).

Annex IV lists animals and plants in need of strict protection. For the animals, this prohibits deliberate capture, killing, disturbance (especially during breeding period), destruction or taking of eggs from wild, and destruction or deterioration of breeding sites or resting places. For the

plants, this prohibits deliberate picking, collecting, uprooting, cutting, destruction, and trade in entire plants or parts, at all stages of life.

Annex V lists animals and plants for which taking in the wild may be subject to management measures

National Law

Wildlife and Countryside Act The Wildlife and Countryside Act 1981 (as amended) is the main source of legal protection for wildlife in England and was strengthened by the Countryside and Rights of Way Act 2000. A statutory five-yearly review of Schedules 5 and 8 (protected wild animals and plants) is undertaken by the relevant authorities. Species protection is provided under Schedules 1, 5, 6 and 8:

Schedule 1 lists bird species that are rare, endangered, declining or vulnerable. The Schedule is divided into two parts. Part I lists birds which receive special protection; these birds receive additional protection from disturbance at the nest. Part II lists birds that receive the same level of special protection, but only during the breeding season.

Schedule 5 protects animal (other than bird) species from certain actions, according to the sections of the Act under which they are listed:

S9 (1) prohibits the intentional killing, injury or taking. S9 (2) protection is limited to possessing and controlling. S9 (4a) prohibits the damaging, destroying or obstructing access to any place used by the animal for shelter or protection. S9 (4b) prohibits disturbing the animal while it is occupying any structure or place which it uses for shelter or protection. S9(5) prohibits the selling, offering for sale, possessing or transporting for purpose of sale, or advertising for sale, any live or dead animal, or any part of, or anything derived from such an animal. Species on this Schedule do not appear on the PSI.

Schedule 6 lists animals that may not be killed by certain methods. Even humane trapping for research requires a licence.

Schedule 8 lists plant species for which it is prohibited to intentionally pick, uproot, destroy, trade in, or possess (for the purposes of trade).

Under the Wildlife and Countryside Act, all wild plants in Britain are protected from intentional uprooting by an unauthorised person. Landowners, land occupiers, persons authorised by either of these, or persons authorised in writing by the Local Authority for the area are exempt from this, except for Schedule 8 species.

Conservation Regulations the Conservation of Habitats and Species Regulations 2010 (as amended) transpose the EC Habitats Directive into national law. In addition to enabling the designation of SACs, the regulations also provide species protection:

Schedule 2 protects the listed animals from deliberate capture, killing, disturbance or trading in.

Schedule 4 protects the listed plants from picking, collecting, uprooting, destroying or trading in.

These actions can be made lawful through the granting of licences by the appropriate authorities. Licences may be granted for a number of purposes, but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild the population of the species concerned.

Protection of Badgers Act the Protection of the Badgers Act prohibits the killing, injuring or taking of badgers and damage or interference with a badger sett, unless licensed to do so by a statutory authority.

International and European Obligations

In the UK, species receiving protection under international legislation and agreements are protected through the Wildlife and Countryside Act, so are not shown separately in the BMERC notable species lists. For reference, the relevant categories are shown below.

Bern Convention on the Conservation of European Wildlife and Natural Habitats the Bern Convention aims to ensure the conservation of wild flora and fauna species and their habitats.

- Appendix 1 (strictly protected flora) - Plants for which contracting parties will prohibit deliberate picking, collecting, cutting or uprooting.
- Appendix 2 (strictly protected fauna) - Animals for which contracting parties will prohibit deliberate capture, possession, killing, damage to or destruction of breeding or resting sites, disturbance or destruction or taking of eggs. Appendix 3 (protected fauna) - Animals for which contracting parties will include closed seasons and regulate their sale, keeping for sale, and transport for sale or offering for sale of live and dead wild animals. (Not included in Notable Species List).

Bonn Convention on Migratory Species the Bonn Convention aims to conserve terrestrial, marine and avian migratory species throughout their range.

- Appendix 1 (migratory species threatened with extinction) - Species for which contracting parties will strictly protect and endeavour to conserve or restore the places where they live, mitigating obstacles to migration and controlling other factors that might endanger them.
- Appendix 2 (migratory species that need or would benefit from international co-operation) - Species for which contracting parties will be encouraged to conclude global or regional agreements for the conservation and management of individual species or, more often, of a group of species. (Not included in Notable Species List).

The EC Council Directive on the Conservation of Wild Birds the Birds Directive provides a framework for the conservation and management of all wild birds in Europe. As well as designating important sites for birds as Special Protection Areas, birds are generally protected from deliberate killing or capture and destruction of or damage to their nests or eggs, and deliberate disturbance. Allowances are made for game birds.

5. UK BAP & notable species

UK Biodiversity Action Plan and Section 41 Species

Biodiversity, or biological diversity, is the whole variety of life on Earth. The Convention on Biological Diversity (CBD) came about as a result of the 1992 Earth Summit. As one of 168 countries to sign up to the CBD, the UK was required to develop a national strategy for the conservation of biodiversity; the UK Biodiversity Action Plan (UKBAP) was born.

The UKBAP is the result of contributions involving a wide range of people and organisations, enabling the identification of species and habitats that are listed as priorities for conservation action. A 2007 review of the UKBAP has resulted in 1149 species and 65 habitats being listed as conservation priorities. For more information see www.ukbap.org.uk.

In addition to the national priorities and targets, action is also being taken at local level. The Essex Biodiversity Project is responsible for implementing the Essex Biodiversity Action Plan, which has 28 priority species and 15 priority habitats currently listed. For more information see www.essexbiodiversity.org.uk.

The UK BAP

(From Explanatory Note by Defra and Natural England on Section 41 of the Natural Environment and Rural Communities

(NERC) Act 2006 - Habitats and Species of Principal Importance in England)

The England Biodiversity List has been developed to meet the requirements of Section 41 of the Natural Environment and Rural Communities Act (2006). This legislation requires the Secretary of State to publish a list of species of flora and fauna and habitats considered to be of principal importance for the purpose of conserving biodiversity.

The S41 list will be used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006 'to have regard' to the conservation of biodiversity in England, when carrying out their normal functions. In particular:

- Regional Planning Bodies and Local Planning Authorities will use it to identify the species and habitats that should be afforded priority when applying the requirements of National Planning Policy framework (NPPF) and PPS9 Circular to maintain, restore and enhance species and habitats.
- Local Planning Authorities will use it to identify the species and habitats that require specific consideration in dealing with planning and development control, recognising that under NPPF and PPS9 Circular the aim of planning decisions should be to avoid harm to all biodiversity.
- All Public Bodies will use it to identify species or habitats that should be given priority when implementing the NERC Section 40 duty.

Habitats of Principal Importance Fifty-six habitats of principal importance are included on the S41 list. These are all the habitats in England that have been identified as requiring action in the UK Biodiversity Action Plan (UK BAP). They range from habitats such as upland hay meadows to lowland mixed deciduous woodland and from freshwater habitats such as ponds to marine habitats such as subtidal sands and gravels.

Species of Principal Importance There are 943 species of principal importance included on the S41 list. These are the species founding England which have been identified as requiring action under the UK BAP. In addition, the Hen Harrier has also been included on the List because without continued conservation action it is unlikely that the Hen Harrier population will increase from its current very low levels in England.

Relationship with the UK Biodiversity List of Species and Habitats the UK BAP list of priority species and habitats is an important reference source and will be the focus for conservation action across the UK over the next decade. It has been used to draw up the species and habitats of principal importance in England under S41 of the NERC Act.

The revised UK BAP list of priority species and habitats can be downloaded from the UK Biodiversity Website: <http://www.ukbap.org.uk/NewPriorityList.aspx>

Relationship with the biodiversity duty under Section 40 of the NERC Act There is a general biodiversity duty in the NERC Act (Section 40) which requires every public body in the exercising of its functions to 'have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity'.

There is no direct relationship between the Section 41 duty on the Secretary of State to publish the list and promote the taking of steps to conserve the habitats and species on it, and the Section 40 duty on public bodies to have regard to the purpose of conserving biodiversity. Importantly:

(a) Biodiversity, as covered by the Section 40 duty includes all biodiversity and not just the habitats and species of principal importance. However, there is an expectation that public bodies would refer to the S41 list when complying with the section 40 duty.

(b) The duty on the Secretary of State to promote the taking of steps by others is not restricted to public bodies.

Defra guidance for local authorities and public bodies on implementing the biodiversity duty in the NERC Act draws attention to the S41 list, emphasising that local authorities and public bodies have a role to play in ensuring the protection of these species and habitats. Copies of the guidance can be downloaded from:

<http://archive.defra.gov.uk/environment/biodiversity/documents/pa-guid-english.pdf>

The overall aim of the Essex Biodiversity Project is to protect, conserve and enhance the variety of wildlife species and habitats in Essex through the successful implementation of the Essex Biodiversity Action Plan.