

# The Bothy, Dulford, Cullompton, Devon EX15 2DY

Mr. and Mrs. Patterson

**Bat Survey - Preliminary Roost Assessment** 

14<sup>th</sup> October 2022

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# **Executive Summary**

Quantock Ecology Ltd undertook a Preliminary Roost Assessment at on a modern barn at The Bothy, Dulford, Cullompton, Devon EX15 2DY on the 26<sup>th</sup> of September 2022. The aim of the assessment was to consider the value and suitability of the structures for roosting bats. The development proposals briefly comprise modification of the building from part office to part residential within the current footprint of the building.

#### Table 1: Summary of results

Building reference	Value of building for	Recommendations for further survey and assessment
	roosting bats	
B1 – Modern Barn	Negligible Habitat Value	No further surveys or mitigation is required. However, site enhancements are recommended.

The survey concluded that building B1 provides negligible habitat value for roosting bats, owing to its open and exposed structure. Four bat droppings were noted present within the building. However, given the exposed nature of the building and the location of the dropping, the droppings are more consistent with an exploratory visit by a bat, as opposed to physical roosting (of any type).

However, as a precautionary measure, an additional inspection of the building should be undertaken by a licenced ecologist, to ensure the continued absence of roosting bats immediately prior to works being undertaken. Should further evidence internally be recorded, further evaluation will be required to characterise any roost present and to inform a European Protected Species Mitigation Licence (if required).

# **1.0 Introduction and Context**

### **1.1 Background**

Quantock Ecology were commissioned by Mr. and Mrs. Patterson to undertake a Preliminary Roost Assessment (PRA) at The Bothy, Dulford. The assessment is informed by the Bat Conservation Trust publication: *Bat Surveys – Good Practice Guidelines* (Collins, J. 2016).

No previous ecological assessments are understood to have been undertaken at the site.

### **1.2 Scope of the Report**

This report provides a description of all structural features suitable for roosting bats and evaluates those features in the context of the site and wider environment. It further documents any physical evidence collected or recorded during the site survey that establishes the presence of roosting bats. It provides information on constraints to the proposals because of roosting bats, and summarises the requirements for any further surveys, to inform subsequent mitigation proposals, achieve planning or other statutory consent, and to comply with wildlife legislation.

The aim of the assessment was to determine the presence or evaluate the likelihood of presence of roosting bats, and to gain an understanding of how they could use the building or structure. To achieve this, the following steps have been taken:

- A desk study has been carried out, including the use of freely available resources such as Google Earth and the MAGIC online database.
- A field survey has been undertaken, including an external and internal inspection of the building.
- An outline of likely impacts on any known roosts has been provided, based on current development proposals.
- Recommendations for further survey and assessment have been made, along with advice on European Protected Species Mitigation Licensing if appropriate.

A survey plan is presented in Appendix 1. No proposed plans have been received by Quantock Ecology at the time or writing this report. However, these can be included in Appendix 2 upon receipt. Photographs taken during the site survey are included in Appendix 3, and a summary of relevant legislation can be found in Appendix 4. Desk study records can be provided on request (if applicable), with a summary presented in Appendix 5.

### **1.3 Site Context**

The site is located at National Grid Reference ST 07145 07011 and comprises an area of approximately 50m<sup>2</sup>. There is one building within the survey boundaries.

The site is situated ~1km south of the village of Kentisbeare, ~4km east of the town of Cullompton, Devon. The local landscape is predominantly a mixture of arable and pastural farmland, bordered by mature hedgerows and reduced hedgerows with scattered trees. Substantial areas of woodland are present in large and small areas at all compass points within the 2km search area. Connectivity to and from the site into the wider landscape is present; mostly in the form of the hedgerow network leading to the woodland features.

# **1.4 Project Description**

This report is prepared to accompany a planning application to be submitted to Mid Devon District Council. It is proposed that the rear half of the building will be demolished and replaced with a new extension, and an additional floor will be added. The plan showing the proposed works can be included in Appendix 2 upon receipt. The programme for the is yet to be confirmed.

All works areas, storage and haul routes will be included within the site boundaries; access will be provided by existing roads and as such, no additional working footprints are anticipated.

# 2.0 Methodology

# 2.1 Desk Study

Existing bat records relating to the site and a surrounding 2km radius (the study area) were not requested from the Devon Bat Group. This is primarily due to the relatively small scale of the proposed development.

A review of the following information sources has also been undertaken to inform the assessment:

- Landscape structure using aerial images from Google Earth
- Designated sites, habitat and species data held on Magic.gov.uk
- Information on the surrounding area using OS Opendata 2022

# 2.2 Site Survey

The survey was undertaken by Adrian Woodhall MSc CIEEM on the 26<sup>th</sup> September 2022; an ecologist with over 12 years' experience as a licenced bat worker. Licence number: 2016-11617-CLS-CLS.

All buildings that will be impacted by the project proposals (the survey area) were assessed for their potential to support roosting bats. The surveyor systematically searched for features suitable for roosting bats and signs of bat activity, by conducting a non-intrusive visual appraisal from the ground using binoculars, inspecting the external features of the buildings for potential access/egress points, and for signs of bat use. An internal inspection of the building was also made, including the office and storage and the roof spaces of the building, using an endoscope, torch, and ladders. The surveyor paid particular attention to the floor and flat surfaces, window shutters and frames (where applicable), lintels above doors and windows, and carried out a detailed search of numerous features within the roof space.

# 2.2.1 Breeding birds and other incidental observations

The surveyor also made note of any other ecological constraints observed during the survey, notably the likelihood of presence or signs of breeding birds, and the suitability of the site for breeding barn owls *Tyto alba*.

# 2.3 Suitability Assessment

The building was categorised according to the likelihood of bats being present, in line with best practice guidelines (Collins, J. 2016); the features of the building that dictate the likelihood of roosting bats are summarised in Table 2. Roost suitability is classified as high, moderate, low and negligible and dictates any further surveys required before works can proceed.

Likelihood of bats	Feature of building and its context	
being present		
Higher	Buildings/structures with features of particular significance for roosting bats e.g.	
	mines, caves, tunnels, icehouses, and cellars.	
	Habitat on site and surrounding landscape of high quality for foraging bats e.g.,	
	broadleaved woodland, tree-lined watercourses, and grazed parkland.	
	Site is connected to the wider landscape by strong linear features that would be	
	used by commuting bats e.g., river and or stream valleys and hedgerows.	
	Site is proximate to known or likely roosts (based on historical data).	
Lower	A small number of possible roost sites/features, used sporadically by more	
	widespread species.	
	Habitat suitable for foraging in proximity, but isolated in the landscape. Or an	
	isolated site not connected by prominent linear features.	
	Few features suitable for roosting, minor foraging or commuting.	

#### Table 2: Features of a building that are correlated with use by bats during the summer

## **2.4 Limitations**

It should be noted that whilst every effort has been made to describe the features on site in the context of their suitability for roosting bats, this does not provide a complete characterisation of the site. Where only four figure grid references are provided for bat records, it is not possible to determine their precise location as they could be present anywhere within the given 1km x 1km National Grid square.

This survey provides a preliminary view of the likelihood of bats being present. This is based on suitability of the habitats on the site and in the local area, the ecology and biology of bats as currently understood, and the known distribution of bats as recovered during the desk study.

No site-specific limitations were recorded during the survey, with full access to all areas of the site.

# 3.0 Results and Evaluation

# **3.1 Desk Study Results**

A summary of desk study results is provided below; further details are included in Appendix 5.

# 3.1.1 Designated sites

The MAGIC database suggests there is one statutory designated site and none non-statutory sites within 2km of the site (the study area). Their location and extent are illustrated in Appendix 5. Table 3 provides details of the designated sites including their reasons for notification.

Designated Site Name	Distance and direction from Site (approx.)	Reasons for Notification and integral value (Natural England Citation)
Statutory Sites		
Blackdown Hills Area of	1.8km south-	Designated in 1991 The plateau is dominated by hard chert
Outstanding Natural	east	bands of Upper Greensand with some remnants of chalk
Beauty		and is cut through by river valleys. The hills support an
		extensive range of wildlife
Non-statutory Sites		
None		

#### Table 3: Designated sites within 2 km of the site

### 3.1.2 Landscape

The eastern part of the search area beyond 1.5km is within the Blackdown Hills AONB designated area.

The MAGIC database shows three numerous patches of deciduous woodland scattered throughout the 2km search area. A number of traditional orchards are present within the search area. The closest of which are found ~1km to the southwest of the site. Several scattered areas of deciduous woodland can be found across the local landscape with the largest patch of deciduous woodland 1.6km south of the site. Small areas of lowland heathland and lowland fen are found at 2km and 1.8km distance respectively from the site.

A review of aerial photographs (Figure 1) and OS maps shows how the site is situated in relation to the wider landscape.



Figure 1: Aerial photo of site, showing landscape structure

# 3.1.3 European Protected Species Licencing

The MAGIC database shows two granted European Protected Species Mitigation Licences (referring to bats) within 2km of the site. The details of these are shown below:

Case reference	Approx.	Bat Species	Licence	Licence	Impacts allowed by
of granted	distance	Effected	Start Date:	End Date:	licence
application	from site				
EPSM2011-3722	1km south	C-PIP; S-PIP;	16/11/2011	31/10/2013	licence allow
		BLE; WHISK			destruction of
					breeding site.
2016-22024-	1.7km south-	BLE, C-PIP	01/04/2016	31/03/2021	licence allow
EPS-MIT	east				destruction of a resting
					place

#### Table 4: Granted EPSML's within 2 km of the site

# 3.1.4 Historical records

The Devon Bat Group were not contacted to provided bat records for within 2km of the site. This was primarily due to the small scale of the proposed development.

## **3.2 Survey Results**

### 3.2.1 Weather parameters

The weather conditions during the survey are detailed in the table below.

 Table 6: Environmental variables during survey

	26/09/2022
Temperature	14°C
Relative Humidity	72%
Cloud Cover	100%
Wind	1/8
Precipitation	None

### 3.2.2 Building description

The building within the survey area comprised of one modern agricultural building currently used for offices and storage. Each building or structure is referenced, as illustrated in the map in Appendix 1.

### B1 – Modern Barn

### **Building description**

- The barn is of modern construction with a metal girder framework supporting side panels and roofs of corrugated asbestos/cement panels. There are six skylight panels in the roof providing plenty of daylight to the atrium of the barn. The barn is ~13.5m long by ~11m wide and ~ 5m high at its central apex. The bottom of the barn walls is constructed of a 1m high breezeblock construction which are not covered by the side panels (see Appendix 3, photo 1). The side panels extend to below the roof and the 'corrugations' of the roofing panels are open to the elements providing good airflow to the barn but not security against small mammals such as mice, squirrels, and bats.
- At the eastern end are wooden sliding doors giving access to a large open space currently used for storage (see Appendix 3, photo 2). The western end on the ground floor is currently used for offices (see Appendix 3, photo 3) with a storage area above these. Windows and doors are of

uPVC construction and are in good condition. The western walls are covered in a Virginia creeper type plant. The north and south walls of the barn are not covered by plants but shielded by some rose bushes on the south side and other garden bushes on the north side.

- Within the open part of the barn the asbestos panels have no covering and there is no insulation within the roof space- this area is also very light due to the skylights (see Appendix 3, photo 4).
- The office at the western end is self-contained with its own doors to the outside and to the inside part of the barn. The office has windows, carpets, and an insulated roof (photo 5) to the floor above. There is no access and no suitable roost features within this office space.
- The storage area above the office (see Appendix 3, photo 6) is accessed via a wooden stairway to its open door. Its outside walls are insulated against the asbestos panels and roof sheets. A few of the insulation sheets in this area are not quite tight with the wooden supports (see top of side panels in Appendix 3, photo 4). The insulation sheets have very slippery aluminium covering; a few of these have been damaged from squirrels getting into the roof (see Appendix 3, photo 7).
- Mice droppings were also found at the base of one of the girders in the large open space (photo 8)

# Evidence of bats

Bat droppings in an internal storage space above the office were found on a parachute (photo 6) that had been placed on the floor to protect the floor from condensation dripping from the roof.

- Four small droppings (<10mm long), <3mm wide) per 44m<sup>2</sup> area were scattered randomly on the parachute (see Appendix 3, photo 10) placed on the floor in the upper storage room above the office.
- The four droppings were brown/black of fine insect fragments and as two were black indicating they were this summer rather than old; they are of a size and shape indicating pipistrelle or small myotid species.
- Two of the droppings were crushed to show the client, but two have been retained for DNA analysis if required.
- There is no concentrated pile of droppings, indicating a roost site continually used either sporadically or constantly. It appears likely that the four droppings that were found randomly on the parachute potentially indicate a more exploratory visit by a bat, which can easily access the building via multiple locations (see Appendix 3, photo 11).

# 3.2.3 Breeding birds and other incidental observations

No evidence of breeding birds was recorded in or on the building during the survey.

# 3.3 Evaluation - Likelihood of bats being present

Taking the desk-based assessment and site survey results into account, the following value for roosting bats has been placed on each building.

Reference	Value for / Likelihood of bats using the building for roosting	Brief summary of justification
B1	Negligible	Open building with high thermal and humidity fluctuation which appears to not be attractive to roosting bats. Some crevices within insulation which were checked. No indication of bat presence within these areas (no droppings, or stains) and these were accessible to squirrels. The insulation panels would also be extremely difficult for a bat to gain purchase, due to the slippery aluminium covering.

## Table 7: Evaluation of buildings/structures on site

# 4.0 Conclusions and Recommendations

### 4.1 Conclusions and Impact Assessment

The PRA concludes that building B1 has had a bat within the building, which deposited four droppings on the parachute cover identified in the storage area. Insulation covers any crevices in the storage area and also somewhere near the apex a grey squirrel has entered the roof area and has damaged the insulation panel. It is unlikely a bat would find this insulation easy to roost on, especially considering how slippery the aluminium cover is on the insulation. Within the immediate area there are a number of buildings and houses with roman type roofing tiles which might provide more suitable roosting opportunities.

The proposal to install some living accommodation is using the current space, with no change to the roofing materials. The roof will have new insulation material fitted to the available corrugations of the roof panels which will stay in place.

It is highly unlikely that bats are present in any type of roosting situation, as the main building area would have high thermal and humidity fluctuations. The above office storage area has insulation right under the corrugations which would be difficult for any bat to use as a potential roost area. No evidence has been gathered to suggest the structure is being used as a night/feeding roost.

However, as a precautionary measure, an additional inspection of the building should be undertaken by a licenced ecologist, to ensure the continued absence of roosting bats immediately prior to works being undertaken. Should further evidence internally be recorded, further evaluation will be required to characterise any roost present and to inform a European Protected Species Mitigation Licence (if required).

Bats are protected under the Wildlife and Countryside Act and Conservation Regulations; see Appendix 4 for a summary of legislation protecting bats in the UK.

# 4.1.1 Breeding birds and other incidental observations

No active or historic bird nests were recorded during the survey. As such, it is unlikely that birds would be utilising the building. However, care should be given if nesting activity is observed during the development, then advice should be sought from a suitable experienced ecologist. Legislation protects all wild birds whilst they are breeding, and prohibits the killing, injuring, or taking of any wild bird or their nests and eggs. Certain species of bird, including the barn owl, are subject to special provisions; it is an offence to disturb any bird or their young during the breeding season.

### **4.2 Recommendations**

#### 4.2.1 Survey and assessment

Best practice survey guidelines (Collins, J. 2016) recommend additional surveys for all buildings assessed as having low to high suitability for roosting bats. The survey effort recommended at this stage is iterative and if bats are recorded emerging from the buildings, the survey effort should be adjusted to provide sufficient information to inform European Protected Species Mitigation licensing (EPSML). Buildings assessed as comprising negligible suitability for roosting bats do not normally require further surveys. Appropriate justification for this assessment is provided in Section 3.0 and Table 7 of this report. Those known to support roosting bats may require further survey to inform a EPSML application, depending on the proposed works and assessment of impacts, and the species present/likely to be present

However, if bats are found during any stage of the development, work should stop immediately, and a suitably qualified ecologist should be contacted to seek further advice.

Careful consideration should be given to any future lighting across the site. Although not confirmed, it is likely that bats are using the southern/northern boundaries of the site for foraging/commuting. As such, a dark corridor should be maintained along these areas. Any future lighting should be kept to a minimum, and in like with guidance produced by the Bat Conservation Trust and Institute of Lighting Professionals: https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/.

Recommendations for further survey or assessment associated with each building are provided in Table 7.

Building Ref	Value for / Likelihood of supporting roosting bats	Recommendations
B1 – Modern	Negligible Habitat	No further surveys or mitigation is required. However, site
Barn	Value	enhancements are recommended.

#### Table 7: Survey recommendations

# 4.2.2 Breeding birds

No evidence of breeding birds was recorded during the survey.

# 4.2.3 Enhancements

The installation of a single Schwegler 1FF or 2FN bat box could be considered; erected on the existing dwelling or any suitable trees on site. This should be installed facing a southerly direction, approximately 3-5m above ground level. Such a box would provide additional roosting habitat for bats present within the local area.

# 5.0 Bibliography

- British Trust for Ornithology (2022) <u>https://www.bto.org/how-you-can-help/providing-birds/putting-nest-boxes-birds</u>
- Collins, J. (ed.) (2016). Bat Surveys for Professional Ecologists —Good Practice Guidelines, 3<sup>rd</sup> edition, Bat Conservation Trust, London.
- Garland & Markham (2008) Is important bat foraging and commuting habitat legally protected?
- Google Earth (2022) accessed on 26/09/2022.
- Magic database (2022) <u>http://www.magic.gov.uk/MagicMap.aspx</u> accessed on 26/09/2022.
- Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough.
- National Planning Policy Framework (2019) <u>https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_dat</u> <u>a/file/810197/NPPF\_Feb\_2019\_revised.pdf</u>
- Natural England Designated Sites View. Bucklands Pool/Backwell Lake LNR (2022) Available at: <u>https://designatedsites.naturalengland.org.uk/SiteLNRDetail.aspx?SiteCode=L1008788</u>

# **Appendices**

# Appendix 1: Survey Plan



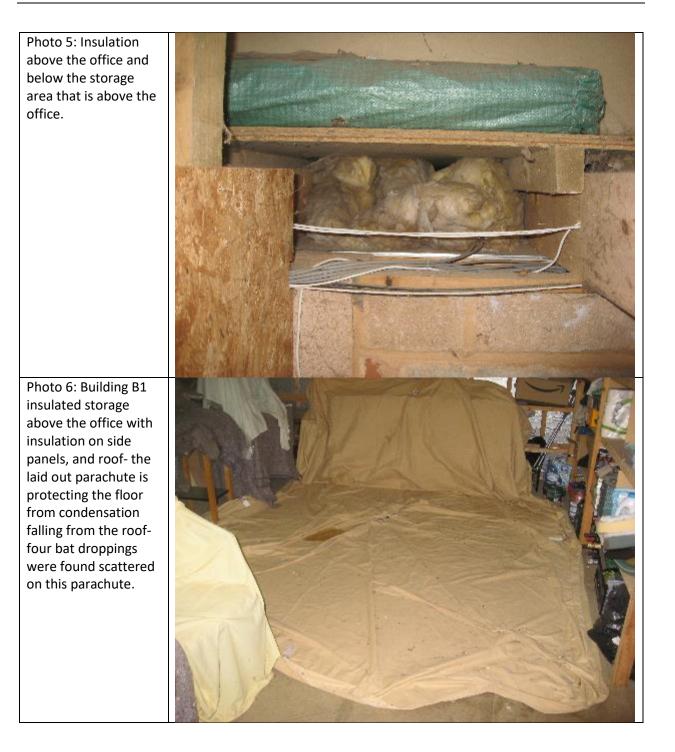
# Appendix 2: Proposed Site Plan

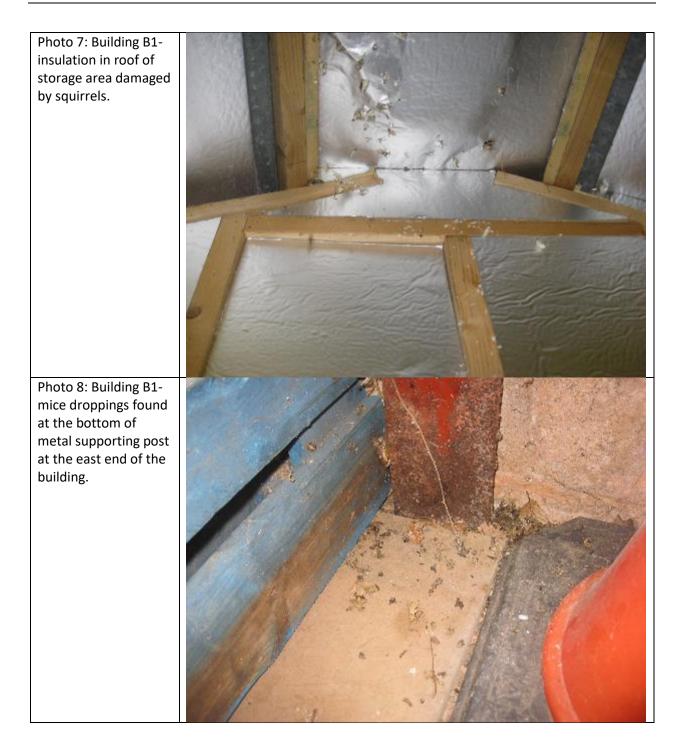
To be added upon receipt

# **Appendix 3: Photographs**









# **Appendix 4: Legislation and Planning Policy related to bats**

# **LEGAL PROTECTION**

All species of bat are fully protected under The Conservation of Habitats and Species Regulations 2017 through their inclusion on Schedule 2.

Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species (e.g. all bats)
- Deliberate disturbance of bat species as:

a) to impair their ability:

(i) to survive, breed, or reproduce, or to rear or nurture young

(ii) to hibernate or migrate

b) to affect significantly the local distribution or abundance of the species

• Damage or destruction of a breeding site or resting place

Bats are also protected under the Wildlife and Countryside Act 1981 (as amended) through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale

### Effect on development works:

A European Protected Species Mitigation (EPSM) Licence issued by the relevant statutory authority (e.g. Natural England) will be required for works likely to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficiency/success to be monitored.

The legislation may also be interpreted such that, in certain circumstances, important foraging areas and/or commuting routes can be regarded as being afforded *de facto* protection, for example, where it can be proven that the continued usage of such areas is crucial to maintaining the integrity and long-term viability of a bat roost (Garland & Markham, 2008)

#### **NATIONAL PLANNING POLICY (ENGLAND)**

#### National Planning Policy Framework

The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration and re-creation. The protection and recovery of priority species (considered likely to be those listed as UK Biodiversity Action Plan priority species) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; opportunities to incorporate biodiversity in and around developments are encouraged; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

### The Natural Environment and Rural Communities Act 2006 and The Biodiversity Duty

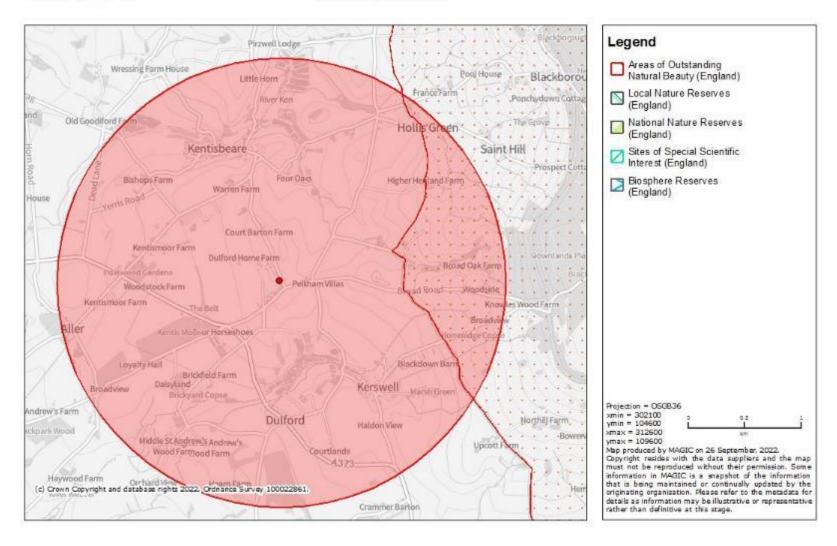
Section 40 of the Natural Environment and Rural Communities (NERC) Act, 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act (Section 42 in Wales) requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity.' This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

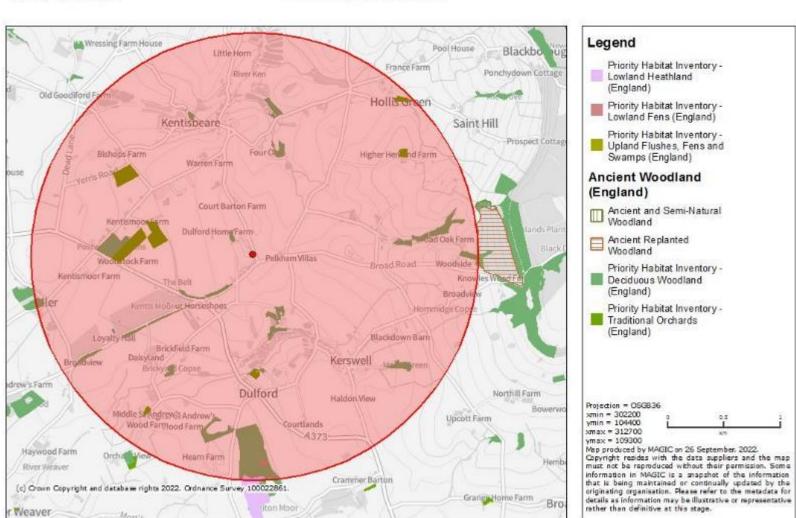
# **Appendix 5: Desk Study Information**

MAGIC

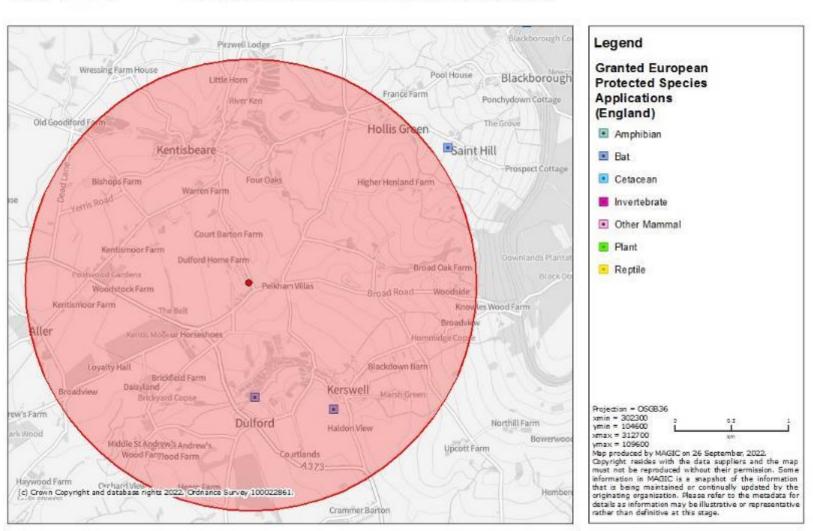
# Designations



MAGIC



# **Priority Habitats**



# MAGIC European Protected Species Licences

BACK PAGE

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